

Capital Works Management Framework

Guidance Note for Public Works Contracts

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Foreword

Background

As one of the measures arising from the Government decision in May 2004 to reform construction procurement in the public sector, five standard forms of contract have been developed for public works projects:

1. Public Works Contract for the Provision of Civil Engineering Works Designed by the Employer (*traditional contract*).
2. Public Works Contract for the Provision of Civil Engineering Works Designed by the Contractor (*design-and-build contract*).
3. Public Works Contract for the Provision of Building Works Designed by the Employer (*traditional contract*).
4. Public Works Contract for the Provision of Building Works Designed by the Contractor (*design-and-build contract*).
5. Minor Works Contract for the Provision of Building and Civil Engineering Works Designed by the Employer.

Forms 1, 3 and 5 above replace the employer-designed standard forms used previously on public sector projects. Forms 2 and 4 are new forms for works designed by the Contractor. Form 5 has been developed for use on non-complex low-value projects.

These contract reforms are part of a key value-for-money Government initiative that is wide ranging and will impact on all three stakeholders (the client, the consultants and the contractors) in the delivery process for capital projects.

While the choice of contract is to be made from one of these five forms, it will be determined by the nature, complexity and size of the project. No amendments to the standard forms of contract are permitted. The contracts are to be awarded on the basis of a lump-sum fixed-price to the greatest extent possible and to be awarded on a competitive basis in a tender competition.

Objectives

The strategic objectives of the Government's construction procurement reform measures are:

- Greater cost certainty at contract award stage;
- Value for money; and
- More efficient delivery of projects.

Provided there is adequate pre-contract design, the new contracts can enable these objectives to be achieved through the guiding principles which underpin the new contracts; these are:

- 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.

Continued on next page

Foreword, Continued

Objectives (continued)

The public sector client or contracting authority (as defined in the Department of Finance circular 33/06) is called ‘the Employer’ in the new public works contracts. The achievement of optimal risk transfer is dependent on the Employer providing complete detailed information in the tender documentation; then in responding to an invitation to tender, prospective contractors can assess the impact of the risks transferred and build the costs into their tender price.

Provisional Sum and Prime Cost Sum

Employers should note that Provisional Sum and Prime Cost Sum, formerly used in public works contracts, are no longer permitted under any of the current forms of contract.

A Provisional Sum was a sum provided for work or for costs that could not be entirely foreseen, defined or detailed, as a result of incomplete design by the Employer at the time the tender invitation was issued. There should be considerably less risk of this happening with the new contract forms where comprehensive design of the works is now a requirement for Employer-designed contracts and a fully detailed output specification and functional requirements for Contractor-designed contracts.

Prime Cost Sum is dealt with in 2.1.2 Procurement of Specialists – see page 36.

Purpose of this Guidance Note

This document is one of a number of guidance notes aimed at facilitating the implementation of the Government’s reforms in construction procurement.

The purpose of the document is restricted to giving practical advice to employers to help them administer the construction phase of a project in accordance with the provisions in the new standard public works contracts.

This document only applies to the five standard forms of contract that are developed for public works projects.

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

This document is not to be taken as a legal interpretation of (i) the contracts, or (ii) the provisions governing public procurement. All parties must rely exclusively on their own skills and judgement or upon those of their advisors when making use of this document.

The Government Construction Contracts Committee (GCCC), the National Public Procurement Policy Unit (NPPU) and the Department of Finance and any other contributor to this guidance note do not assume any liability to anyone for any loss or damage caused by any error or omission, whether such error or omission is the result of negligence or any other cause. Any and all such liability is disclaimed.

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Foreword, Continued

Updates to this Guidance Note

The Government Construction Contracts Committee (GCCC) will review the operation of the forms of contract periodically in the light of experience. Changes to contracts, practice and guidelines will be incorporated in an updated version of this document and published at regular intervals. In the interim any necessary updates will be collected in an addendum to this document and published in association with it on the website.

Terms used in this Guidance Note

Terms used in this Guidance Note are as defined in the following clauses of the Contract:

- Clause 1.1 Definitions; and
 - Appendix 1 to Clause PV2
-

Relationship with other Guidance Notes

This document is one of a suite of guidance notes governed by the Capital Works Management Framework (CWMF). (See figure 1 for a breakdown of process and associated guidance.) These include the following:

- *Project Management Structure*
 - *Project Definition*
 - *Budget Development*
 - *Procurement Strategy and Contract Type*
 - *Guidance Note for Public Works Contracts (the current document)*
 - *Public Works Contract forms (5)*
 - *Arbitration Rules*
 - *Model Forms*
 - *Consultants Appointment Process and Conditions of Engagement for Construction-related Services*
 - *Procurement Guidance Notes*
 - *Suitability Assessment for Consultants for Category 12 Services for both the open and the restricted procedures*
 - *Standard Conditions of Engagement*
 - *Design, Development and Procurement Process*
 - *Design Process*
 - *Suitability Assessment of Works Contractors for both the open and the restricted procedures*
 - *Procurement Guidance Notes for Works Contractors*
 - *Design Cost Control*
 - *Tender Process*
 - *Template: Public Works Tender Document*
 - *Construction Process*
 - *Construction Cost Control*
 - *Project Review*
 - *Analysis of Outturn costs*
-

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Foreword, Continued

Content

This document is divided into three major chapters and a number of appendices:

Chapter	See Page
1 Introducing the Contract Includes details of the key elements of public works contracts, and the characteristics of the different types of contract.	12
2 Managing the Pre-Contract Phase Outlines the procurement and related issues that employers need to consider in preparing tender documents.	32
3 Administering the Contract Describes how contract-related issues are administered during the course of the construction works.	98
Appendices These provide ancillary information referenced in the main body of the document, plus model forms and worked examples of the main contract documents.	174

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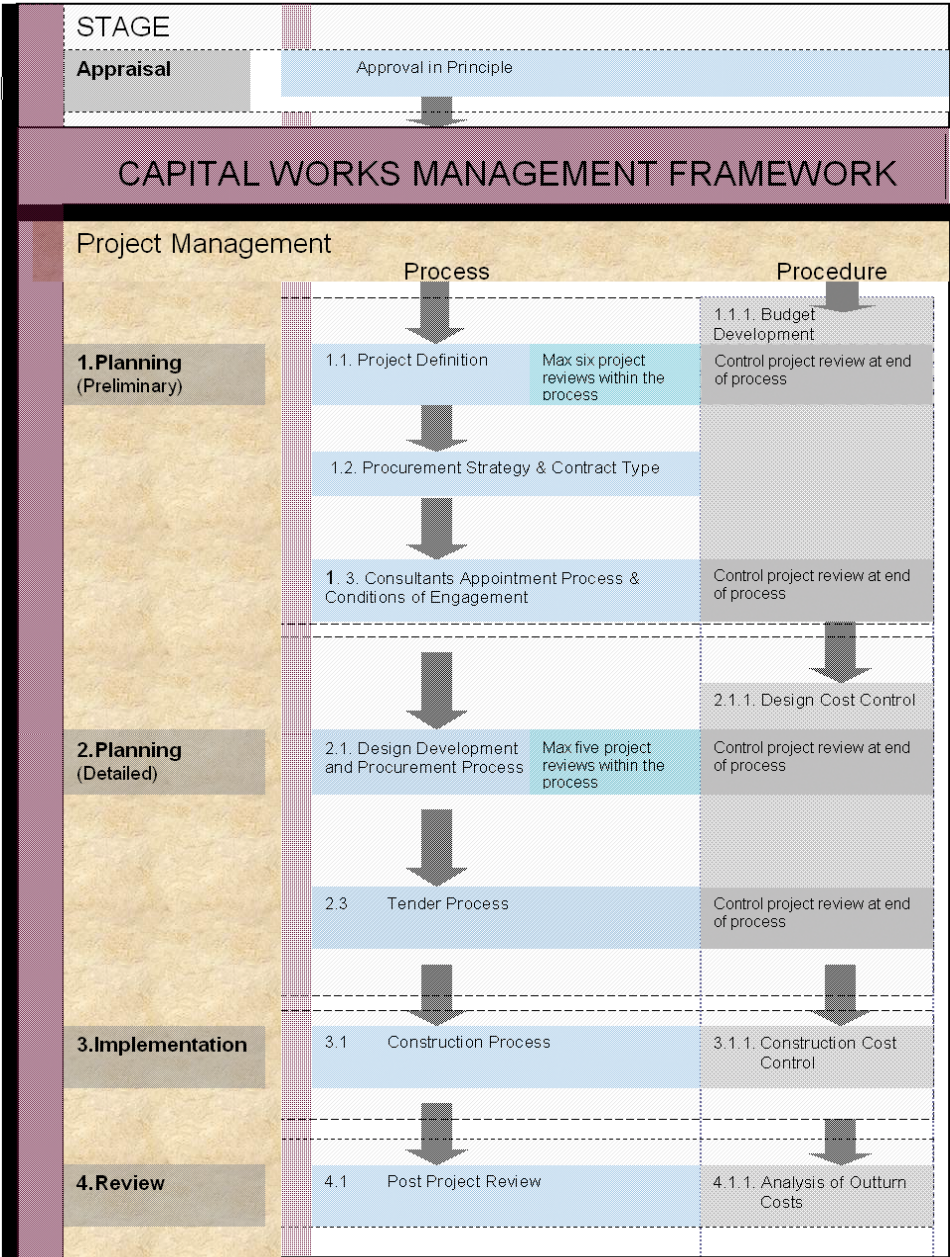


Figure 1. Guidance Notes under the Capital Works Management Framework

Chapter 1. Introducing the Contract

Overview

Introduction This chapter provides an overview of the key features of the public works contract.

In particular, it describes the main constituent parts of a public works contract, and the relationships between them. Also considered are the key dates that are indicated in the Contract, and a brief discussion of some of the legal issues that employers and contractors need to be aware of.

In this chapter This chapter contains the following sections:

Section		See Page
1.1 Key Elements of the Contract	Describes the main parts of the Contract.	13
1.2 Identifying Contract Type	Describes the differences between design-and-build, traditional, and minor works contracts.	24
1.3 Legal Issues Relating to the Contract	Covers some legal issues such as jurisdiction, interpretation and indemnity.	28

Section 1.1 Key Elements of the Contract

Overview

In this section This section contains the following topics:

Topic		See Page
1.1.1 What's in the Contract	Details of each of the Contract's constituent parts.	14
1.1.2 Key Contract Dates	Details of the key dates indicated in the Contract.	23

1.1.1. What's in the Contract

Overview

The parties to the Contract are the *Employer* and the *Contractor*.

The Contract consists of the following documents, in order of precedence:

1. Agreement;
2. Letter of Acceptance;
3. Schedule;
4. Contract Conditions;
5. Works Requirements;
6. Pricing Document; and
7. Works Proposals.

They are to be read as mutually explanatory if possible; otherwise in the event of an inconsistency between contract documents, the document with the higher precedence prevails.

Other than the Agreement, the remaining documents vary in form according to the project requirements. The Letter of Acceptance is included in the Model Forms document that is to be used for all contracts.

Each of the documents in the list is described below.

Agreement

The Contract Agreement is a signed and sealed agreement between the Employer and the Contractor, in which the Contractor agrees to execute the works in accordance with the Contract, and the Employer agrees to pay the Contract Sum that is identified in the Agreement and any adjustment to that Sum arising out of the contract.

Letter of Acceptance

The Letter of Acceptance is a letter issued by the Employer accepting the successful Contractor's tender. The issue of the Letter of Acceptance creates a binding contract between the Employer and the Contractor.

The completed Schedule should be appended by the Employer to the Letter of Acceptance and any post-tender clarifications should also be included.

Continued on next page

1.1.1. What's in the Contract, Continued

Schedule

The Schedule is the document that specifies the particular details relating to a particular contract. The Schedule refers to the detail contained in the Contract Conditions. The Schedule is in two parts:

- Part 1 is completed by the Employer; and
- Part 2 is completed by the Contractor.

Part 1 of the Schedule

The Employer completes Part 1 of the Schedule before tenders are invited and includes it in the tender invitation documents. Part 1 of the Schedule specifies the following:

- The identity of the Employer and of the Employer's designated representative (ER).
- The reference documents that define the nature of the works, including Works Requirements and Pricing Documents.
- The insurance requirements and minimum indemnity limits required.
- Details of any required performance bonds and collateral warranties.
- Dates when the works or sections of the works are to be substantially complete (unless these are to be entered by the Contractor in Part 2, see below).
- Retention reduction on substantial completion of sections of the works.
- Rate of liquidated damages for delay in delivery of the works or section of the works.
- Specification of the defects period that applies to the Contract.
- Details of the delay and compensation events that apply to the works.
- The price variation option selected, with an indication of which of the two Contract Conditions clauses (PV1 or PV2) is to be used on the project.
- Payment particulars, including details of the payment intervals.
- Conciliation procedures to be followed in the event of dispute.

Continued on next page

1.1.1. What's in the Contract, Continued

Schedule (continued)

Part 2 of the Schedule

Part 2 consists of information filled in by the Contractor and submitted with his tender. Part 2 of the Schedule specifies the following:

- The identity of the Contractor and contact details.
- Details of a Parent Company Guarantee (if required).
- Reference to the Works Proposals documents that form the basis of the Contractor's tender response.
- Dates for substantial and sectional completion (if required) – the dates for substantial completion for the whole of the works and for sectional completion is to be completed by the Contractor only if it is not already completed by the Employer in Part 1 of the Schedule.

Details of the Contractor's all-in tendered daily rates and percentages for materials and plant – to be used, if so decided, in the event of any necessary adjustments to the Contract Sum arising out of a compensation event.

Contract Conditions

The Contract Conditions document in any contract is one of the five different forms of generic standard document that have been developed for the five forms of public works contract. The particular standard chosen depends on the nature of the works being undertaken:

1. Public Works Contract for the Provision of Civil Engineering Works Designed by the Employer (*traditional contract*).
2. Public Works Contract for the Provision of Civil Engineering Works Designed by the Contractor (*design-and-build contract*).
3. Public Works Contract for the Provision of Building Works Designed by the Employer (*traditional contract*).
4. Public Works Contract for the Provision of Building Works Designed by the Contractor (*design-and-build contract*).
5. Minor Works Contract for the Provision of Building and Civil Engineering Works Designed by the Employer.

The Arbitration Rules document is referenced by the Contract Conditions and is standard for all forms of contract.

Note: The Contract Conditions document is often loosely referred to as 'the Contract'. More correctly, the Contract consists of the seven documents set out on page 14 above.

Continued on next page

1.1.1. What's in the Contract, Continued

Model Forms In addition to the five standard forms of contracts and the Arbitration Rules are a suite of 19 Model Forms which are available for use with the contracts, these forms are:

1. *Form of Tender*
2. *Form of Bid Bond*
3. *Form of Letter to Apparently Unsuccessful Tenderer*
4. *Form of Letter of Intent*
5. *Form of Letter of Acceptance*
6. *Form of Performance Bond*
7. *Form of Parent Company Guarantee*
8. *Form of Novation And Guarantee Deed*
9. *Form of Appointment of Project Supervisor For Construction Stage Only*
10. *Form of Appointment of Project Supervisor For Construction Stage And Design Process*
11. *Form of Appointment of Project Supervisor For The Design Process Only*
12. *Form of Professional Indemnity Insurance Certificate*
13. *Form of Collateral Warranty*
14. *Form of Novation Agreement*
15. *Form of Rates of Pay And Conditions of Employment Certificate*
16. *Form of Bond - Unfixed Works Items*
17. *Form of Retention Bond*
18. *Form of Conciliator's Agreement*
19. *Form of Bond – Conciliator's Recommendation*

There should be no amendments made to any of these documents, except to fill in the blank spaces provided. The Department of Finance's circular 33/06 7(a) states:

'In line with Government policy, the new Forms of Construction Contracts are to be the norm and no amendments should be made to them. In this context, the new Forms of Construction Contracts have been drafted in a way that better protects the public sector client's interest in order to achieve value for money outcomes from public expenditure on public works projects.'

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1.1.1. What's in the Contract, Continued

Works Requirements

The Works Requirements set out the Employer's requirements in relation to the proposed works. They define the scope of the Works.

The Works Requirements for a traditional (employer-designed) contract and those for a design-and-build contract differ primarily in that for the traditional contract, the fully developed design and detailed descriptive specifications are included as *input* specifications, while in the case of design-and-build the focus is on *output* specifications, standards and functional requirements. The content of Work Requirements is summarised in the following table:

Traditional Contract	Design-and-Build Contract
<ul style="list-style-type: none">▪ A fully-developed design (including, for example, construction quality drawings and bar bending schedules);▪ Plans and specifications; and▪ Any other documents the Employer regards as necessary to define the requirements.	<ul style="list-style-type: none">▪ Output specification setting out the functional requirements;▪ Details of the expected functional life and maintenance requirements; and▪ Any other documents the Employer regards as necessary to define the requirements – if a specimen design is provided it should be included.

The documents containing the Works Requirements provided by the Employer are identified in Part 1B of the Schedule and should include, for example, those items listed in Appendix I – see page 228.

Site investigation and archaeology reports may be provided as background information *or* they may be included in the Work Requirements. If they are included in the Works Requirements in Employer-designed contracts, the Employer carries the risk as to the accuracy of the information, as indicated in the Schedule Part 1K. For that reason, the Employer should ensure the site investigation contractor carries appropriate professional indemnity insurance and that he stands over the factual information in his report.

In the interests of achieving cost certainty at outturn cost stage, it is important that the project scope in the Works Requirements is not changed after the Contract has been awarded. However, details relating to project scope may be changed or supplemented by any additional information required by the Contractor to satisfactorily complete the works – the Employer or the ER provides such information by way of a *change order*. **The Works Requirements remain the property of the Employer and the Contractor can only use them for the sole purpose of executing the works.**

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1.1.1. What's in the Contract, Continued

Works Requirements (continued)

Changes to the Works Requirements

The scope of the Works defined in the Works Requirements should not change but some details may be subject to adjustment, as would be normal in any comprehensively designed project. The Works Requirements set out in the Contract can be revised by a *change order* issued by the ER (employer's representative) in relation to any matter concerning the works.

Not all changes to the Works Requirements result in compensation events – for example amendments resulting from a Contractor's fault are not compensation events. (Compensation events are detailed in the Schedule.)

Environmental Impact Statement

Where there is an Environment Impact Statement (EIS) it should not normally be included in the Works Requirements. Much of the content of an EIS is specifically written either in technical language, or is discursive and the language used is just not precise enough to be appropriate in a contract document. If parts of the EIS or other statutory consents are interpreted in the Works Requirements, care should be taken not to restrict unintentionally the Contractor's ability to make design proposals and take responsibility for their compliance with the consents. This may occur if specific steps from the EIS are brought forward to the Works Requirements.

The Contractor is required under clause 2.2 to comply with all Legal Requirements, which includes any EIS. It is not, therefore, necessary to include the EIS as a contract document. It can be provided as a reference document during the tender procedure. It should be noted that during the course of statutory procedures, a public authority will sometimes make commitments that are not specifically referred to in the EIS or other consents. It is important that these commitments are also passed on to the contractor. This may require including a schedule of these commitments, and perhaps the transcripts of oral hearings, in the Works Requirements

Continued on next page

1.1.1. What's in the Contract, Continued

Pricing Document

The Pricing Document required for the Contract is identified by the Employer in Part 1 of the Schedule and is supplied as part of the tender documents issued to tenderers. The Pricing Document enables the Employer to prescribe to prospective tenderers how they should break down their tendered lump-sum price. The Pricing Document issued to tenderers should be clearly labelled 'Pricing Document' so that it or any part of cannot be not confused with other contract documents, particularly the Works Requirements.

Purpose of the Pricing Document

Preferably, the breakdown in the Pricing Document should be given for each structure separately and for discrete elements of work, including milestones, and the detail should normally be sufficient to allow for the following:

- Evaluation of tenders;
- Valuation of Change Orders (where appropriate);
- Interim Payments; and
- Recording and classification of costs in accordance with the Cost Control documents in the Capital Works Management Framework.

Form of the Pricing Document

The Pricing Document may be one of the following, at the Employer's discretion:

- A comprehensive and fully measured list of quantities and specifications drawn up in a formal Bill of Quantities;
- A Pricing Schedule;
- A Contract Sum Analysis;
- A single page document, titled 'Pricing Document' containing a fixed-price lump-sum (with VAT shown separately) – see Note below;
- Any other detail or format that the Employer requires the Contractor to provide in relation to the proposed lump-sum price

Note: The single page Pricing Document should only arise on design-and-build contracts in exceptional circumstances. This is because such a document does not contain sufficient detail to enable the valuation mechanisms in clauses 10.6.1 and 10.6.2 operate when evaluating compensation events. The only mechanisms that can be used are the two remaining ones in clauses 10.6.3 and 10.6.4.

Lump-sum fixed-price tender

A lump-sum fixed-price tender in the context of the contracts listed on page 7 means one where the price is fixed except in very limited circumstances, including:

- The events listed as compensation events; and
- Price variation – for the recovery of labour and material price increases after the Base Date.

Continued on next page

1.1.1. What's in the Contract, Continued

Works Proposals

In the Works Proposals, the Contractor states how he proposes to carry out the works in response to the Employer's Invitation to Tender. Usually this will include method statements, contractor's design and any other information required by the Employer in relation to the carrying out of the Works. Works Proposals from the Contractor will vary depending on whether the Contract is traditional (employer-design), or design-and-build (contractor-design).

In a traditional contract the Works Proposals include details of the Contractor's initial management arrangements (including systems, methods, program, planning and other preparations for the extent, type and allocation of labour and other resources.

For example, in a civil engineering project, the Contractor could indicate how available working space might be deployed around structures, or show locations where excavated material might be safely stockpiled, or where concrete batching plant and aggregate stockpiles of materials or the like might be located.

Alternatively, the Contractor could outline other arrangements such as additional lands that might be obtained, or licences and permits that might be obtained in order to free up working space on a particularly congested site. The Contractor's approach to addressing the question of re-use of materials and disposal of C&D (Construction and Demolition) waste might also be indicated. If, for instance, it is considered that Road Closures are required to perform the works, the Contractor could outline their sequence, duration, alternative routes to be used, and so on. The Contractor might also state the proposed working methodologies to be used, including any measures for environmental or HSW (Health Safety and Welfare) protection.

In the case of a design-and-build project, the Contractor has responsibility for design, and the Works Proposals should include information similar to that described above for the traditional contract, but also design proposals, including design drawings of temporary and permanent works, finishes schedules, calculations and all necessary information to enable the ER to technically assess the proposal in Tender Evaluation.

Continued on next page

1.1.1. What's in the Contract, Continued

Bill of Quantities

A Bill of Quantities is a document that describes and quantifies in accordance with a standard method of measurement (amended where necessary) the work to be undertaken in the carrying out of a particular project. The Bill of Quantities provides work descriptions and quantities to tenderers to enable them to submit a lump-sum fixed-price tender¹.

In order to avoid increasing tenderers' overheads, employers should continue the practice of carefully considering the circumstances that warrant the use of a Bill of Quantities when using the minor works contract. Furthermore, the use of a Bill of Quantities helps to ensure a good response to the tender competition.

Are quantities part of the contract?

In Employer-designed contracts, the Employer specifies whether or not he wants quantities to be part of the Contract by entering **yes** or **no** in the Schedule Part 1K, item 17. See the sample Schedule on page 197.

Quantities do not form part of the Contract...	Quantities do form part of the Contract...
<p>Where 'no' is inserted in the Schedule Part 1K (item 17), under Compensation Event and either</p> <ul style="list-style-type: none">▪ A Bill of Quantities is provided as a Pricing Document; or,▪ A Bill of Quantities is provided, but not as a Pricing Document. <p>The risk of errors is borne by the Contractor.</p>	<p>Where 'Yes' is inserted in the Schedule Part 1K (item 17), under Compensation Event and a Bill of Quantities is provided as a Pricing Document.</p> <p>The risk of errors is borne by the Employer, above the first €500 threshold for each item.</p>

Note: If the Schedule Part 1K item 17 has no entry, the default is 'No'.

Note: as in all decisions relating to whether to allocate risk to the Contractor or the Employer, the Employer should give due consideration to value for money and the possibility that the Contractor will attach a price to the risk.

¹ Traditionally there was a provision included in the Bill of Quantities for cash discount for prompt payment to nominated subcontractors. Nominated subcontractors are replaced with Specialists for which the Contractor is fully responsible and therefore this provision is no longer necessary and the practice should cease.

1.1.2. Key Contract Dates

Dates defined in the Contract

The following key dates are identified in the Contract:

Date	Description	
Contract Date	The date the Employer issues the Letter of Acceptance.	
Starting Date	The date on which the Contractor proposes to start the works. This must be within the time limit set in the contract.	
Date for Substantial Completion²	The date by which the works, or part of the works (a section), must be ready to be taken over and used by the Employer.	
Defects Period	The dates that define the period after substantial completion during which any defects must be rectified – this usually lasts 12 months.	
Designated Date	The date 10 days before the last day for receipt of the Contractor's tender for the works.	
Recovery Date	The Designated Date adjusted by the period of delay to the Starting Date that results from the actions or omissions of the Contractor.	
Base Date	Depends on which price valuation method is used:	
	PV1 The first day of the 31 st calendar month after the Contract Date	PV2 The date of the first day of the 37th calendar month after the Designated Date/Recovery Date

The Contractor's time for completion of the works (unless it is a fixed date) runs from the date when the Letter of Acceptance is issued.

Note: The Base Date is only applicable to contracts that are longer than 36 months duration from the Designated Date/Recovery date in the case of PV2, or contracts that are longer than 30 months duration from the Contract Date in the case of PV1. The Contract, Designated, Recovery and Base Dates have a specific meaning in relation to the Price Variation clauses. See 2.5.2 Managing Price Variation on page 70 for more information about price variation.

² This has traditionally been referred to as the date for Practical Completion on building contracts.

Section 1.2 Identifying Contract Type

Overview

The decision The Capital Works Management Framework has developed five generic sets of Contract Conditions for use in different circumstances. Before embarking on a public works project, the Employer needs to identify the contract type that is most suitable.

Nature of Works	Contract Type	Contract
Civil Engineering	Traditional	1. Public Works Contract for Civil Engineering Works Designed by the Employer
	Design-and-Build	2. Public Works Contract for Civil Engineering Works Designed by the Contractor
Building Works	Traditional	3. Public Works Contract for Building Works Designed by the Employer
	Design-and-Build	4. Public Works Contract for Building Works Designed by the Contractor
Minor Works	Traditional	5. Minor Works Contract for Building and Civil Engineering Works Designed by the Employer.

In this section This section presents an overview of each of the project types:

Topic	See Page
1.2.1 Design-and-Build Contracts Describes contracts where the Contractor undertakes to design and build the works (types 2 and 4).	25
1.2.2 Traditional Contracts Describes traditional (employer-designed) contracts where the Contractor builds to a design already provided (types 1, 3 and 5).	27

1.2.1 Design-and-Build Contracts

Definition of design-and-build

A design-and-build contract is one where the Contractor offers to design and build the required works. The Works Requirements should include an outline functional specification setting out the Employer's detailed requirements against which prospective contractors can frame their bids.

Tender content

In design-and-build contracts, the Employer includes a detailed output specification as part of the invitation to tender documents. This sets out the functional requirements for the works, but does not normally include any detailed designs as these are best provided by tenderers, so maximising the benefits of the design-and-build approach.

- If the tender documents indicate partly developed designs and these designs are described as being for illustration purposes only, then they should be provided as background information (not Works Requirements) and tenderers need only have regard to these designs in any tender proposal.
 - Otherwise, the designs are not subject to change and are to be regarded as input specifications and tenderers must ensure that these designs are an integral part of any tender proposal.
-

Tender process

There is no financial threshold at which a design-and-build contract should be used. The only limiting factors are scale and tender costs. Employers should be aware that the evaluation and award process for design-and-build contracts can be more complex than for traditional contracts. This increased complexity gives rise to greater risks regarding transparency and objectivity in determining the most acceptable submission in accordance with the most economically advantageous award criteria.

Allocation of risk

Design-and-build contracts allocate a greater degree of risk to the Contractor than traditional contracts.

The design-and-build contract specifies the compensation events that are allowed. With the exception of three optional risks in Schedule Part K1 these events are always retained by the Employer. In relation to the optional risks *included in the Contract* the Contractor may seek compensation from the Employer in the event that one or more of these risks (which the Employer is carrying) is realised. However delay costs will only be paid if the Date for Substantial Completion is moved out as a result of a compensation event and then in degrees depending on which Programme Contingency threshold has been used up – see 2.6.2 Completing the Schedule on page 81.

Continued on next page

1.2.1 Design-and-Build Contracts, Continued

Where design-and-build is unsuitable

There are particular projects that are not suited to the use of design-and-build contracts:

- Specialists works;
 - New build projects of insufficient scale to attract an economic response to tender;
 - Projects based on generic or repeat designs;
 - Major alteration or refurbishment projects; and,
 - Most maintenance projects.
-

1.2.2 Traditional Contracts

Which traditional contract to use

In a traditional contract, the Employer includes detailed designs in the tender documentation, and prospective contractors bid for the build element of the Contract only.

In deciding which traditional contract to use, the Employer should consider the complexity of the project and the value threshold for minor works contracts (contract No. 5).

If the project is ...	and the works are ...	Then use ...
Worth less than €5 million (including VAT)	Civil Engineering – or – Building Works	Contract N° 5
Worth less than €5 million (including VAT) and there are exceptional circumstances (see note on <i>Exceptional Circumstances</i> below)	Civil Engineering	Contract N° 1
	Building Works	Contract N° 3
Worth €5 million (including VAT) or more	Civil Engineering	Contract N° 1
	Building Works	Contract N° 3

Note: The project budget should be well established at Definitive Project Brief stage. It is at this stage that the contract value will also be known.

Exceptional Circumstances

On projects valued below €5 million, it is more usual to use the Minor Works Contract (Contract N° 5). In certain exceptional circumstances, where the Employer deems the Contract to be sufficiently complex, a Major Works Contract (Contract N° 1 or Contract N° 3) may be used. In certain exceptional circumstances, where the Employer deems the Contract to be sufficiently complex, a Major Works Contract (Contract N° 1 or Contract N° 3) may be used for works with a value of not less than €1 million – see Appendix A: Comparison of Minor Works Contracts and Traditional Contracts on page 175.

Allocation of risk

In a traditional contract the Employer retains the design risk and may also retain a greater degree of risk overall. The contract specifies the compensation events that are allowed. These are events for which the Employer retains the risk. The Contractor may seek compensation from the Employer in the event of one of the optional risks *included in the Contract* that the Employer is carrying being realised.

Section 1.3 Legal Issues Relating to the Contract

Overview

Introduction The contract is legally binding on both parties to it, and its terms and conditions have to be fully respected. Therefore both the Employer and the Contractor should be fully aware of their obligations under the Contract and of the consequences of their actions.

In this section This section contains the following topics:

Topic	See Page
1.3.1 Main Points of Law Summarises the main points of law relating to the Contract	29
1.3.2 Indemnities Deals with the Contractor's and the Employer's requirements to provide indemnities	31

1.3.1 Main Points of Law

Interpretation and jurisdiction

Irish law governs the Contract and its interpretation. The arbitration rules apply in relation to disputes referred to arbitration. The jurisdiction of the Irish courts applies in relation to the referral of any point of law arising out of arbitration proceedings about the Contract or the works.

Certain words, phrases, periods and times should be interpreted in accordance with how they are defined in the Contract.

Unless otherwise stated, all documents must be in English.

Legal opinion

If the Contractor or any person executing a bond, guarantee, warranty or other deed or agreement required by the Contract is not an individual or a company incorporated in Ireland, then the Contractor must provide to the Employer, at his own expense, a legal opinion to the effect that:

- The Contractor is an entity duly incorporated under the laws of its place of incorporation.
 - The Contractor is a separate legal entity, subject to being sued in its own name.
 - The Contractor is validly existing under the laws of that place and no steps have been taken or are being taken to appoint a receiver, examiner, administrator, liquidator, trustee or similar over it or to wind it up.
 - The Contractor has the necessary power and authority, and all necessary corporate and other action has been taken, to enable it to execute, deliver and perform the obligations undertaken by it under the Contract.
 - The contract has been duly executed by the Contractor, or on its behalf, and is binding on it under the laws of the place where it is incorporated.
 - A judgment of an Irish Court will be enforceable against the Contractor (or other counterparty) in its place of incorporation.
-

Joint and several liability

If the Contractor consists of a joint venture, consortium or other unincorporated grouping of two or more persons, each person is jointly and severally liable to the Employer for the performance of the Contract.

It should be noted that the project supervisors for the design process and the construction stage must each be an individual (i.e. a human person) or a body corporate.

Assignment

The Contractor may not assign the benefit of the Contract, or any part of it, without the Employer's consent.

Continued on next page

1.3.1 Main Points of Law, Continued

Ethics in Public Office

As regards compliance with the Ethics in Public Office Acts, 1995 and 2001, and the Prevention of Corruption Acts 1889 to 2001, the Contractor is required to warrant that:

- Neither he, nor any of his associates or representatives, has or will offer a gift of any kind in relation to the Contract.
 - Neither he, nor anyone acting on his behalf, has or will commit an offence under the Acts in relation to this specific contract.
 - No public servant or Minister shall have a material interest in any aspect of the Contract.
 - Persons, except for novated specialists, who worked for the Employer in the previous 12 months will not be engaged by the Contractor, unless the Employer agrees otherwise.
-

Other points

The following points should also be noted:

- The Employer is responsible for obtaining the consents stated in the Works Requirements; the Contractor is responsible for obtaining all other consents. See Appendix B (page 177) for a checklist of consents that may be required for the works.
 - The Contractor must pay all taxes, fees and charges in accordance with legal requirements.
 - If stated in Part 1C of the Schedule, ownership of, and all copyright and other intellectual property rights in, contractor's documents prepared for the works transfer to the Employer when he receives them. Ownership of works proposals transfers to the Employer at the Contract Date.
 - The Employer may copy, modify and use the Contractor's documents for any purpose in connection with the Works.
-

1.3.2 Indemnities

Overview

The Employer and the Contractor are each responsible for indemnifying each other against any liability that might arise from their negligence.

The particular indemnities that the Contractor and the Employer must provide are described below. For more information on indemnities, see Section 2.4 Insurance Provisions on page 58.

Contractor's Indemnity

In general terms, the Contractor indemnifies the Employer against liability resulting from infringements of property rights (including intellectual property rights) resulting from the works and against other liability resulting from the works (such as third party claims for property damage, personal injury or nuisance).

The Contractor must indemnify the Employer and his employees against liability and loss of or damage to his property, including the site, arising in the course of or as a result of providing the works.

The Contractor's indemnity for liability for the death, injury or illness of any of his personnel must apply regardless of whether the death, illness or injury was caused wholly or in part by the negligence or other fault of the Employer or any of his personnel where the Employer has personnel on the site at the same time – for example other contractors on the site employed by the Employer.

The Contractor's obligation to indemnify the Employer is reduced proportionately if the liability or loss is covered by the Employer's indemnities in the Contract.

Employer's Indemnity

The Employer indemnifies the Contractor against liability for infringing property rights (including intellectual property rights) resulting from the unavoidable use of the Works Requirements and Employer's things, or from the use or occupation of the site to provide the works in accordance with the Works Requirements.

The Employer also indemnifies the Contractor against liability caused by the Employer's negligence (for example, an employee of the Employer damages the property while doing a test) and in respect of unavoidable property damage. This indemnity does not extend to claims by Contractor's personnel, who are the Contractor's responsibility.

The Employer is required to indemnify the Contractor against liability he incurs in the course of or as a result of providing the works, to the extent that it is caused by the negligence of the Employer, or for damage which is the unavoidable result of providing the works in accordance with the Works Requirements. This indemnity does not cover liability for death, injury or illness of the Contractor's personnel.

Chapter 2: Managing the Pre-Contract Phase

Introduction

Overview

This chapter covers procurement and related issues to be considered by the Employer in preparing the tender documents. The issues will vary depending on the procurement strategy and contract type adopted by the Employer. The strategy in one instance may be that the Employer designs the works and a contractor constructs it using an ‘Employer-Designed Contract’ (or ‘Traditional Contract’), or in another instance a contractor may design and construct the works using a ‘Contractor-Designed Contract’ (or ‘Design-and-Build Contract’).

While detailed guidance on conducting the award process is beyond the scope of this guidance note, there are aspects of the procurement and award process that can have an effect on the risk allocation and final form of the public works contract. These matters need to be understood and addressed during the pre-contract phase.

The Employer should be familiar with the detailed guidance on conducting the procurement and award process as set out in the relevant documents:

- *Procurement Strategy and Contract Type;*
- *Procurement Guidance;*
- *Suitability Assessment of Works Contractors;*
- *Tender Process.*

Continued on next page

Introduction, Continued

In this chapter This chapter contains the following sections:

Section		See Page
2.1 Suitability Assessment and Procurement of Specialists	Deals with suitability assessment of contractors and with the various options in the procurement of specialists.	35
2.2 Pre-Tender Reports	Describes the reports to be considered prior to and during the preparation of the tender invitation.	44
2.3 Bonds and Guarantees	Explains the options the Contract provides regarding bonds and guarantees.	51
2.4 Insurance Provisions	Outlines the Contract requirements for insurance on the project.	58
2.5 Risk Management	Explains how to define and allocate risks, and how to set up the conditions and limits within which we allow changes to the Contract Sum.	66
2.6 Preparing to Invite Tenders	Summarises what the Employer has to do before publishing the Invitation to Tender	77
2.7 Evaluating Tenders	Deals with considerations and calculations the Employer has to make during the evaluation of the tender documents in relation to rates and prices.	85

Section 2.1 Suitability Assessment and Procurement of Specialists

Overview

Introduction This section deals the suitability assessment of contractors and also with the various options open to employers in the procurement of specialists.

Purpose Decisions taken in this area of procurement must be reflected in the Invitation to Tender and subsequently detailed in the Contract itself.

In this section This section deals with the following topics:

Topic		See Page
2.1.1 Suitability Assessment of Contractors	Outlines the procedure of suitability assessment for main contractors	35
2.1.2 Procurement of Specialists	Details the options and procedures used for the procurement of specialists	36

2.1.1 Suitability Assessment

Suitability Assessment procedure

The suitability assessment procedure involves inviting applicants (in an open or restricted procedure) to submit information about themselves (and their specialist subcontractors) in the form of a questionnaire. The Employer should then use this information to determine which applicants (under a restricted procedure) or which tenderers (under an open procedure) meet the suitability standards and which do not.

Under the EU rules the route taken for a restricted procedure is for the Employer to publish a Contract Notice in the OJEU and, when all suitable applicants have been selected in advance, to hold a tender competition at a later stage inviting only those applicants. An open procedure differs from this in that any suitability submission is combined with the tender submission and the suitability selection takes place along with tender evaluation. In both cases once an award is made and an Award Notice is published in the OJEU, the procedure ends.

Substitution

In the case of a restricted procedure, if a contractor who has passed the suitability test with a named specialist subcontractor proposes to replace that specialist with another at any time after the suitability assessment is complete, such a substitution must first be approved by the Employer, based on the initial suitability criteria.

2.1.2 Procurement of Specialists

Introduction

This section relates to specialists as designated under the Contract. These are more commonly used on building projects than on civil engineering works.

Employers should note that Prime Cost Sums, formerly used in relation to the procurement of specialists, are no longer permitted in any of the current forms of contract. A Prime Cost Sum was a sum provided for work or services to be executed by a nominated subcontractor or for materials or goods to be obtained from a nominated supplier. Specialist works must now be covered in sufficient detail to allow the Contractor to price them in their tender submission as no Prime Cost Sums can be included under the new contracts.

Before inviting tenders, the Employer may decide to require the Contractor to use specialists for any element of the Works (including design of the project).

The contract requires that tenderers must confirm that specialists identified in the tender documents or in their tender works proposals to provide goods, products or materials or to do specialist works are those that will be engaged if the tenderer is awarded the Contract. Specialists to be employed to do specialist work are those that relate to particular areas of work identified by the Employer in Part 1F of the Schedule.

Procurement options

There are particular areas of work where input from approved competent specialists is required so that an Employer is confident that appropriate standards of quality and workmanship can be achieved in relation to that work. It is a matter for the Employer to identify the areas of work that require specialist input. Such areas should be identified in the Works Requirements.

It is important in the selection of specialists not to compromise the principle of single point responsibility resting with the main Contractor. The new forms of contract have been developed on the basis of retaining this principle. As a result a number of options which fulfill this objective and are open to the Employer have been identified. Some of these involve Employer input only while others involve Employer and Contractor input, or just Contractor input. The options are outlined below and dealt with in more detail beginning on page 38.

Contractor Input Only

1. Specialists are named by the Contractor in the Works Proposals.

Employer Input Only

2. Specialists are named by the Employer in the Works Requirements under the exemption rule of the EU Directive 2004/18/EC and SI No 329 of 2006 (no separate tender competition is required).
 3. Specialists are named by the Employer in the Works Requirements for projects under the EU threshold (no separate tender competition is required).
 4. Specialists (other than those covered by option 2) are named by the Employer in the Works Requirements for projects over the EC threshold (separate tender competition).
-

Continued on next page

2.1.2 Procurement of Specialists, Continued

Procurement options (continued)

5. Specialists named by the Employer in the Works Requirements that are to be novated to the Contractor.
6. Specialist are employed by the Employer under a separate contract and are so identified by the Employer in the tender documents.

Contractor and Employer Input

7. Specialists are named by the Contractor in Works Proposals, in relation to options 2, 3 or 4 above, where the Employer has permitted alternative Specialists to be proposed by the Contractor.

All the options involve specialists being employed by the Contractor, except for option 6 above. Option 1 should be the norm for Contractor-specified specialists, and option 3 for Employer-specified specialists on projects whose value is below the EU threshold. The other options should be used only in exceptional circumstances. It is, however, possible for a combination of the options to be used on a project. Appendix K (page 234) gives an illustration of this. The seven options are described in greater detail beginning on page 38.

Catering for Specialists' Needs

Employers should consider the problems and difficulties associated with employer-named specialists and the precautions to be taken, without compromising on the principle of single point responsibility.

For example, firms in a specialist area may have special contractual terms and other needs, and the specialist tender documentation should adequately reflect these needs. However, such terms should not go so far as to include for direct payments from the Employer in any circumstance as this would compromise the principle of single point responsibility. It is important that the Employer should research such needs in advance of preparing the specialist tender documentation so that the tender competition is not spoiled with subsequent incomplete or qualified tenders.

The specialist tender and the main works tender should include the contract terms for which the specialist is asked to tender – otherwise, there could be a mismatch between the main works contract and the specialist contract.

What Needs to be Included in Main Works Tender

The main contract tender documents should inform tenderers that the pricing of specialist works by main works tenderers is to include for any special contractual terms the specialist is looking for or for any general or special attendance such as special scaffolding, special transport, storage, security, protection, insurance or any other requirements that may arise.

The specialist terms and conditions must be included in the Works Requirements for the main works tender.

Tendering Time for Main Works

It is important that the Employer allows sufficient time to tenderers for the main works so that they can price specialist works correctly.

Continued on next page

2.1.2 Procurement of Specialists, Continued

1. Specialists named by the Contractor

Open procedure

In an open procedure the Employer may require tenderers to name in their tender the specialists they propose for specific areas of specialist works, with at least one nomination for each piece of specialist work. Tenderers should include suitability assessment material specified by the Employer in the tender documents – as this will allow assessment of the specialists' suitability to determine if a tenderer goes forward to the tender evaluation stage.

The Invitation to Tender should make it clear that specialists named in works proposals for specific areas of specialist works will be evaluated to see if they meet the minimum qualification criteria. Only if the applicant passes this evaluation (meaning that at least one nomination for each piece of specialist work must pass) will the rest of a tender be evaluated.

Restricted procedure

In this type of restricted procedure the Employer states in the tender documents that tenderers for the main works must identify in their tender submissions those specialist contractors that were selected under a separate suitability assessment procedure along with the tenderer for the main works. If this route is taken, the following points should be noted:

- The tender documents should make it clear that tenderers must confirm in their tender proposals that the specified specialist work will be carried out by those specialists who were named and had passed the suitability assessment with the tenderer for the main works.
- The Employer's approval should be sought in advance if a tenderer proposes changing or adding a proposed specialist. Any changes should be assessed by the Employer (on the same criteria as the original suitability assessment submission) before tender submission – otherwise there is a risk of the tender being rejected.

Continued on next page

2.1.2 Procurement of Specialists, Continued

2. Specialists named by Employer – Exempt Rule

Under EU Directive 2004/18/EC and SI No 329 of 2006, specialist work can be exempt from the requirement to hold separate tender competitions. To qualify for such exemption, the following conditions apply:

- The value of the specialist work must not exceed €1m (excluding VAT); and
- The aggregate value of all such specialist areas must not exceed 20% of the total project costs (excluding VAT).

In such cases, the Employer must ensure that the principles of transparency and non-discrimination apply. Employers can list a firm or panels of firms capable of carrying out specialist works in the tender documents (as background information). Tenderers when submitting their tenders (Works Proposals) will be required to identify which of the firms listed in the tender documents they propose to use as subcontractors if they are awarded the contract.

3. Specialists named by the Employer – without a separate tender competition

Also under EU Directive 2004/18/EC and SI No 329 of 2006 where a project has a value less than €5,278,000 (excluding VAT)³, the Employer may name the specialists to be employed by a contractor to do specialist works, without holding a separate tender competition. However, even in this situation the specialists named by the Employer and included in tender documents should be chosen by a competitive process using objective, non-discriminatory and transparent suitability criteria – for example, via advertisement on the tenders website. In this case, there is no percentage limit to the value of the specialist work portion of the project.

Tenderers when submitting their tenders (Works Proposals) are required to identify which of those firms listed in the tender documents they propose to use as subcontractors if they are awarded the contract.

4. Specialists named by the Employer – separate tender competition

In exceptional circumstances, the Employer may conduct a separate competition for the selection of specialists (for example demolition, or restoration/conservation work). This option may be used only where a very high level of performance is considered essential.

Such a specialist should be selected before the Invitation to Tender documents for the main contract works are issued. The details of the named specialist, including their contract terms, tender price and other requirements, must be included in the tender documents (i.e. Works Requirements) for the main contract.

Continued on next page

³ This figure is applicable from 1st January 2006 to the 31st December 2007 at which time it will be reviewed in line with the EC review of the threshold value every two years.

2.1.2 Procurement of Specialists, Continued

4. Specialists named by the Employer – separate tender competition (continued)

This approach obliges tenderers for the main works to employ these specialist firms and to include all costs associated with specialist works in their tenders as if these costs were their own.

Note: Although the specialist in this case is named by the Employer, the competition for that specialist is not considered closed until a Contractor is awarded a contract – the award ends the competition.

An employer should carefully consider if the circumstances warrant that a list of all the tender prices of the specialists that participated in that competition should be disclosed in the main works tender documents without their names being disclosed.

5. Specialists novated to the Contractor

What is novation?

Novation is where the Contractor takes over the role and responsibilities of the Employer in relation to a contract that the Employer has with another party. This arises where an Employer enters into a contract with another party with the intention that at some time during that contract a main Contractor will replace the Employer through a novation arrangement.

The Contractor effectively takes over the contract that the Employer has with the other party by stepping into the Employer's shoes at the such time the Employer's rights and liabilities are extinguished. The novation agreement together with the original contract with the other party is all that is necessary – there is no need for a new separate contract between the main Contractor and the other party.

The procedure here is very similar to the Employer-named approach described above. Again, the Employer conducts a separate competition for the specialist works (for example, professional designers under a design-and-build contract) but then enters into a contract with the specialist.

Examples of novation

An example would be where the Employer appoints a specialist contractor for a specified area of work before the main contract is awarded. Here the Employer awards a contract for advance works to a Specialist on the basis that when a main contractor is appointed the Specialist will switch employers through a novation agreement and then work for the main contractor. The details of the specialist's contract must be included in the tender documents (i.e. the Works Requirements) for the main Contract with an expressed provision that the specialist is to be novated to the main Contractor. It is important in any novation that the initial contract for specialist works allows for its subsequent novation to the main Contractor.

Continued on next page

2.1.2 Procurement of Specialists, Continued

5. Specialists novated to the Contractor (continued)

Novation arrangements are also appropriate, for example, for contracts with long lead times for delivery of goods and materials in a traditional contract, or for design and other professional services in a design-and-build contract.

Timing of novation

Following a tender competition where tender documents expressly state that certain specialists are to be novated to the main contractor and when the main contract works are awarded, the specialist contract should be novated at the same time to the main Contractor, who is contractually obliged to accept it.

In relation to the novation of specialists with design responsibility in a design-and-build contract, the Employer conducts a separate competition for selection and appointment. The scope of the work tendered and awarded for the specialist works should run to Substantial Completion (where applicable).

6. Separate contract option

There may be cases where employers consider it preferable for specialists' works to be separated from the main works contract and carried out at the same time as the main works as part of a separate contract. In this case the specialist contractors that the Employer intends to use should be listed in the tender documents for the main Contract, the scope of their works should be clearly defined, and any requirements that the main Contractor is to provide should be stated.

Employers should be aware that interference by one contractor with another's work may be a compensation event.

7. Employer-named approach – allowing Contractor input

The Employer-named approach can include an added feature where the Contractor is permitted, in a tender submission, to propose alternative specialists to those listed by the Employer in the tender documents. This applies to procurement options 2, 3, and 4, but not where there is a novated specialist (option 5) or where the specialist continues to be contracted separately (option 6).

Alternative Named Specialists – Best Practice

In this case, it is necessary to make it clear in the tender documents that tenderers for the main works are allowed to put forward (in their Works Proposals/tender documents) suitable alternative specialists to those listed in the tender documents. This approach requires careful management, and best practice requires the following:

- The Employer must make it clear in the tender documents that tenderers have the option of proposing alternative specialists;
 - The suitability questionnaire used by the Employer for its named specialists must be included in the tender documents; and
-

Continued on next page

2.1.2 Procurement of Specialists, Continued

7. Employer-named approach – allowing Contractor input (continued)

- The tenderer's completed questionnaire and backup information must be submitted in a sealed envelope, marked 'Suitability Assessment Material'. This should be separate to the financial and other data that makes up a tender proposal.

Then, when the evaluation of tenders is about to commence, the suitability of the alternative specialists can be first evaluated without sight of the rest of the tender submission. This will require instructions to be included in tender documents asking for the financial and other parts of a tender submission to be submitted in a separate envelope. The Suitability Assessment Material should be examined first before the tender bids are opened.

There are differences in the way that tenders using the different procurement options are dealt with:

Options 2 and 3	<p>In the case of options 2 and 3 if any of the specialists put forward by a tenderer do not satisfy the suitability criteria, the tender (main works) should be rejected as non-compliant.</p> <p>In this case, the tenderer is offering a price based on the alternative named specialist only – if that specialist does not meet the suitability criteria, the entire tender is deemed to be non-compliant.</p>
Option 4	<p>In the case of option 4, as a tender competition has been conducted by the Employer, and all details of the leading specialist's tender (including pricing) and other information are included in the main works tender documentation, it is important that tenderers are informed a variant procurement option may be used and that they may propose alternatives to the Employer-named specialists. If this is not stated in the main works tender documents, it cannot be introduced subsequently.</p> <p>It should also be made clear to tenderers that they are to submit tenders on the basis of the specialists named in the tender documents but with a separate price (included in the tender proposal envelope) for their proposed alternative named specialist. In this case, if a specialist proposed by the tenderer does not satisfy the suitability criteria set by the Employer, the price tendered for that specialist is non-compliant and should be excluded from the tender evaluation. The rest of the tender, however, may be evaluated on its merits.</p>

Continued on next page

2.1.2 Procurement of Specialists, Continued

Collateral Warranties and Specialist Contractors

The Employer should state in the Works Requirement tender document for a design-and-build contract that collateral warranties will be required for all specialist work including design services. The tender documents should go on to say that the specialist categories of work in the successful tenderer's submission will be identified when designs are finalised before the contract is awarded. As a first step the Employer should include in the tender documents a standard list of specialist categories of work that are likely to arise in any design solution that a tenderer might produce together with a financial amount attached to each one.

The form of collateral warranty that is to be used should be Model Form 13. This form should be included in the Works Requirements tender document. Where design services are being novated, the standard required of the design specialists should be as outlined in the *Consultants Conditions of Engagement* which is 'to exercise the standard of skill, care and diligence reasonably to be expected of properly qualified persons providing.....services..... comparable in value, size, scope, complexity and quality to that required under the contract'. The standard for all other specialist areas of work should be of it being '....fit for its intended purpose as described in the Contract'.

Section 2.2 Pre-Tender Reports

Overview

Introduction This section describes the reports the Employer has to consider prior to and during the preparation of the tender invitation documents and also during the tender period itself.

Purpose The Employer will be required to publish some reports with the Invitation to Tender and the content of the reports will influence the form of contract used when the tender is awarded.

In this section This section deals with the following topics:

Topic	See Page
2.2.1 General Requirements Outlines what kind of surveying is required.	45
2.2.2 Archaeology and Special Interest Areas Provides advice on dealing with sensitive areas.	46
2.2.3 Site Investigation Details requirements under current contracts.	47
2.2.4 Ground Conditions Highlights some considerations for the presentation of information on ground conditions.	49
2.2.5 Utilities Describes the costs and risks associated with utilities.	50

2.2.1 General Requirements

Site Reports For both traditional and design-and-build contracts the Employer should carry out preliminary site and archaeological investigation works at his expense.

Traditional contract In a traditional contract, the Employer should make available in the Works Requirements detailed design information and all known information where appropriate as background information in relation to any potential risk. This enables the Employer to transfer risk to the Contractor at an economical cost.

Design-and-build contract In the case of a design-and-build contract, the level of detail contained in the site reports is not as great as that for traditional contracts. The output specification setting out the functional requirements of a facility that is required, together with a preliminary site investigation and archaeology report (where appropriate) given as background information, will usually be sufficient. The Contractor controls the development of the design as well as the construction activity on site, and is therefore better placed to manage, control and/or mitigate through avoidance, the impact of any site-related risks.

2.2.2 Archaeology and Special Interest Areas

Expert advice Employers are strongly advised, at feasibility stage, where the works are to be located in archaeological sensitive locations, to seek expert advice and make contact with the National Monuments Section (NMS) of the Department of the Environment, Heritage and Local Government, which is responsible for the identification and designation of sites through the Archaeology Survey of Ireland. The NMS is also responsible for the implementation of protective and regulatory controls (including the licensing of excavations) under the National Monument Acts.

In the event that the works might affect a designated site or area of archaeological potential, employers should take account of the NMS *Framework Document on the Principles for the Protection of the Archaeological Heritage*. Where the NMS requires it, a preliminary archaeological assessment should be undertaken. A site investigation should also be carried out if this is considered necessary.

**National
Monuments
Section**

The NMS contact details are:

National Monuments Section
Department of the Environment, Heritage & Local Government
Dún Scéine
Harcourt Street
Dublin 2

Telephone: (01) 411 7100

**Licensing/
planning
requirements**

The Employer and the Contractor, in consultation with the NMS, must comply with whatever licensing or planning requirements are in force.

**Archaeologi-
cal risk**

The Employer should allocate archaeological risk to the Contractor when the Employer, having completed a preliminary site investigation in compliance with the NMS Framework, decides that there is no risk, or that the risk can be easily assessed and priced. Where practicable, archaeological sites should be assessed by way of separate contracts in advance of the main contract.

**Areas of
special
interest**

An employer should at feasibility stage have regard to all other areas of special interest designated by other statutory authorities and consult with those authorities to establish any constraints that apply.

2.2.3 Site Investigation

Traditional contract

In traditional contracts where excavations are required, the project should be subjected to a site investigation that is carefully designed, executed and documented.

Investigations should take place as early as possible to enable designs to be comprehensively defined and detailed, and based on factual ground information.

Design-and-build contract

In Design-and-build contracts, the primary purpose of site investigations is to facilitate design. The scope of the site investigation should be proportional to the scale of the works involved and should be based on sound cost–benefit analysis. The scope and techniques employed in site investigation programmes will vary according to the works and the variability of local ground conditions and will always be site specific.

Standards, staffing and supervision

All tests, descriptions and reporting procedures should be in accordance with current relevant codes of practice and should be clear and unambiguous.

In all but the smallest projects, the Employer should use experienced specialist site investigation contractors and should select them by competitive tender. Selected site investigation contractors should only employ trained and experienced operators and supervisory staff to ensure quality and integrity of information.

Site investigations are normally carried out by specialist site investigation contractors on the basis of specification documentation prepared by the design engineer. Serious consideration should be given to having these investigations supervised by the Employer's representative (ER) or another suitably qualified and competent person. Particular attention should be paid to correctly recording factual information in the log book to ensure that the quality and integrity of the information is maintained. The investigation work should be the subject of a separate contract.

Site investigation works should be properly supervised by the site investigation contractors in the first instance.

2.2.4 Ground conditions

Traditional contract

Employers should be careful how below-ground design information is presented in tender documentation, particularly in relation to depths or datum levels for strata to be encountered. Such information could be provided as background information (for example, as an *aide memoire* annexed to the Invitation to Tender).

Design-and-build contract

In a design-and-build contract the site investigation report, supplied as background information by the Employer, is only a preliminary report and, if necessary, may be augmented with additional information obtained by the tenderers so that they can reasonably predict the ground conditions to be encountered.

2.2.4 Ground Conditions

Traditional contract

Employers should be careful how below-ground design information is presented in tender documentation, particularly in relation to depths or datum levels for strata to be encountered. Such information could be provided as background information (for example, as an *aide memoire* annexed to the Invitation to Tender).

Employers should be careful how below-ground design information is presented in tender documentation, particularly in relation to depths or datum levels for strata to be encountered. Such information could be provided as background information (for example, as an *aide memoire* annexed to the Invitation to Tender).

2.2.5 Utilities

Survey results The site surveys/investigations will normally identify electricity transformers, cables and connections, gas mains and pipes, telecommunications cabling and water and waste water pipes. Where utilities have to be diverted, the work should be identified in the Works Requirements and the cost (as priced by the Contractor or utility company) should be included in the tender price.

Traditional contract In the case of traditional contracts the Employer assesses the results of site survey/investigations and decides how to allocate the risk of unforeseeable utilities arising on the site.

This decision is documented in the Schedule (Part 1K) indicating whether the presence of unforeseeable utilities is to be a compensation event or a delay event only. Likewise, (except in the Minor Works contract) the Employer must state in the Schedule whether delay by the owners of utilities on the site in relocating or disconnecting the utilities is to be a compensation event, or just a delay event. Employers should adopt a practical approach to the issue of utilities. In some cases, a separate enabling works contract to relocate utilities in advance of the main contract may be advisable.

Design-and-build contract In design-and-build contracts the Contractor should assess the site survey/investigation for unforeseeable utilities as the Contractor carries the financial burden of this risk if it materialises. The Employer must identify in the Schedule (Part 1K) whether the costs risk of failure or delay by the owners of utilities to relocate or disconnect the utilities is to be passed to the Contractor.

Section 2.3 Bonds and Guarantees

Overview

Introduction The contract provides for a number of options regarding the following bonds and guarantees:

- Bid Bond;
 - Parent Company Guarantee;
 - Performance Bond; and
 - Retention Bond.
-

Purpose The Employer needs to consider these options before tenders are invited. Decisions made in relation to bonds and guarantees affect the way the tenders are invited and also the way the Contract is formed.

In this section This section deals with the following topics:

Topic	See Page
2.3.1 Bid Bond Explains how and when to employ a guarantor who pays damages to the Employer if the Contractor does not honour his tender.	52
2.3.2 Parent Company Guarantee Explains how and when to employ the backing of a Parent Company.	53
2.3.3 Performance Bond Explains how to employ a guarantor who pays damages to the Employer for losses sustained due to non-performance by the Contractor.	54
2.3.4 Retention Bond Explains how payment part of a construction Contract Sum is retained and how to use a Retention Bond.	56
2.3.5 Regulations and Models Describes the regulations governing approval of bonds and where to find Model Forms.	57

2.3.1 Bid Bond

What is a Bid Bond?

A bid bond is effectively a contract of guarantee whereby the guarantor or surety (authorised to do guarantee business) undertakes to pay damages to a second party, in this case the Employer, when the Contractor does not honour his tender. In essence, the guarantor undertakes to be answerable for losses suffered by the Employer if the Contractor withdraws following a bid.

The Employer does not need to prove loss before calling in this bond. When a bond is called in, the Employer has a guarantee that funds up to the amount of the bond will be available to defray the Employer's losses resulting from the Contractor's default.

How is a Bid Bond used?

Employers should consider the option of requiring bidders to submit a bid bond with their tenders. A bid bond may be required, for example, where a contractor is to carry out works that are a critical part of a larger project, or if there is a concern that bidders might not honour their tenders. Furthermore a bid bond could be sought in circumstances where an employer suspects that one of the tenderers on the list, if found to be the preferred bidder, is likely to pull out late in the process when there are no remaining tenderers, leaving the Employer to face a rerun of the tender competition.

However, employers should note that bid bonds should be the exception rather than the rule.

Requirements

Any requirements in relation to a bid bond should be clearly stated in the Invitation to Tender documents. It is recommended that the bid bond should cover 10% of the tender sum for the works.

2.3.2 Parent Company Guarantee

What is a Parent Company Guarantee?

A parent company guarantee assures the Employer recourse to the parent company's financial standing, technical capability and resources. For example, if the partners in a joint venture propose to incorporate a new joint venture company (in a single purpose company) as the Contractor, but have been assessed suitable for selection on the basis of the partners' financial standing and technical capability and resources, such a guarantee should be required.

If a tenderer's parent company's financial capacity and technical capability and resources has been taken into account in a suitability assessment process and the tenderer does not offer a guarantee from that parent company the tender should not be accepted. The instruction to tenderers must make this clear.

How is a Parent Company Guarantee used?

If tenderers seek to rely on their parent companies' financial standing or technical capability and resources for the purposes of meeting the suitability criteria either at suitability assessment stage in a restricted procedure, or at tender stage in an open procedure, it is recommended that the parent company should be required to provide a guarantee.

It is not envisaged that parent company guarantees would be required of a tenderer assessed suitable on the basis of its own financial standing and/or technical capability and resources.

A parent company guarantee should not be used as a substitute for a performance bond.

Requirements

If a parent company guarantee is required, the Employer should be in possession of such a guarantee before the Starting Date. It should be executed by the guarantor named in the Schedule, Part 2B.

2.3.3 Performance Bond

What is a Performance Bond?

A Performance Bond is effectively a contract of guarantee whereby the guarantor or surety (authorised to do guarantee business) undertakes to pay damages to a second party, in this case the Employer, arising from a breach of contract, for losses sustained by the Employer due to non-performance by the Contractor. In essence, the guarantor undertakes to be answerable for losses suffered by the Employer if the Contractor's obligations are not performed in accordance with the Contract.

The guarantor or surety will recoup the Employer only for proven losses under the Contract. When a bond is called in, the Employer has a guarantee that funds up to the amount of the bond will be available to defray the Employer's losses resulting from the Contractor's default.

How is a Performance Bond used?

Performance bonds will be required for all contracts with an estimated value in excess of €500,000 (including VAT).

The Employer may also require a performance bond in respect of contracts below €500,000 if he believes that there would be a significant risk to the Employer if such a bond were not in place. Where an employer has one or more current contracts with the same contractor and the award of a further contract would bring the cumulative value above €500,000, the Employer should carry out an assessment to make sure the Exchequer's financial interests are adequately protected.

The bond will also cover the situation where the Contractor becomes insolvent during the Contract. Therefore it is essential for the Employer to ensure that an adequate bond is in place for the duration of the works.

Requirements

Performance bonds should be delivered by the Contractor to the Employer before the Starting Date unless the Schedule (Part 1E) states that no bond is required. The Employer may require the Contractor, by way of a Letter of Intent, to provide a performance bond prior to issuing the Letter of Acceptance. This should be stated in the tendering instructions.

The institution providing a bond must, if it is an insurance company, be authorised by the Financial Regulator to write guarantee business in Ireland or passported into Ireland.

Continued on next page

2.3.3 Performance Bond, Continued

Recommended cover The following are the recommended levels of cover:

Contract Sum (€m)	Performance Bond Cover Level
Less than €2.5	25%
€2.5 to €6.3	20%
€6.3 to €9.5	17.5%
€9.5 to €12.7	15%
Over €12.7	12.5%

If considered prudent, and following a careful assessment of the risks, an employer may reduce the cover level to 10% in respect of Contract Sums in excess of €12.7 million. It may also be necessary as an exception to depart from the normal rules of complying with the recommended levels of cover referred to above.

After Substantial Completion of the Works the cover level is reduced by half for the period stated in the Performance Bond. The default in the Contract is 25% up to Substantial Completion and 12.5% for 15 months thereafter.

Note: The Government Construction Contracts Committee (GCCC) will keep this guidance under review.

2.3.4 Retention

What is Retention?

It is usual for construction contracts to provide for the retention of part of the Contract Sum until the completion of the Defects Period stipulated in the Contract. The Employer retains a proportion of the value of work done as security for the cost of repairs to defects which become evident before the end of the defects period. The Employer deducts from any interim payment to the Contractor the retention percentage stated in the Schedule.

Upon issue of the certificate of Substantial Completion of the works, the Contractor will invoice the Employer for half of the amount so retained. Upon the issue of the Defects Certificate at the end of the Defects Period, the Contractor can invoice the Employer for the balance of the money so retained.

Requirements

Retention limits are set at a level appropriate to the value of the Contract. The recommended levels of retention in relation to public works are as follows:

Contract Cost	Retention Value
Under €200,000	10%
Between €200,000 to €3,000,000	Sliding scale between 10% and 3% <i>pro rata</i> to the nearest whole number
Over €3,000,000	3% minimum (special circumstances may require higher retention)

Note: The GCCC will keep these limits under review on a periodic basis and may alter the threshold values from time to time.

Retention bond

If, within 10 working days of the issue of the certificate of Substantial Completion, the Contractor provides to the Employer a retention bond for the amount retained by the Employer (i.e. the second moiety) and executed by a surety approved by the Employer, the Employer should release the balance of retention held on such substantially completed works, less any amount the Contractor owes to the Employer.

2.3.5 Regulations and Models

Approval

The Employer should ensure that any required bond (i.e. Bid Bond, Performance Bond or Retention Bond) is provided by an approved financial institution authorised by the Financial Regulator to provide such bonds in Ireland. The Financial Regulator can be contacted at:

The Financial Regulator
PO Box 9138
College Green
Dublin 2

Telephone: (01) 410 4000
Email: infor@financialregulator.ie
URL: www.ifsra.ie

Employers should not accept personal sureties instead of bonds.

Model Forms

Forms for all bonds and guarantees described in this section can be found in the Public Works Model Forms publication. The Forms used on a particular project should be included as part of the tender documents (Works Requirements).

Section 2.4 Insurance Provisions

Overview

Introduction Clauses 3.3 – 3.9 of the Contract outline the insurance requirements for the project. These are supplemented by the insurance clauses in the Schedule.

Purpose There are a number of important requirements in this area that should be addressed at tender stage. The required insurance cover will need to be determined and described in the tender invitation documents.

In this section This section deals with the following topics:

Topic	See Page
2.4.1 Insurance Requirements Outlines the types of insurance required by public works contracts.	59
2.4.2 Insurance: Filling in the Schedule Details the insurance-related information included in the Schedule.	61
2.4.2 Insurance Details Details the insurance information required by the Contract.	63

2.4.1 Insurance Requirements

Summary of type

The following table summarises the insurance types:

Insurance Type	Description
Works Insurance	The Contractor is required to take out insurance to cover the works, documents and other risk items against loss and damage.
Public Liability Insurance	The Contractor is required to take out public liability insurance covering any accidents that might happen in the course of the project.
Employer's Liability	The Contractor is responsible for maintaining employer's liability insurance to cover the death, injury or illness of his personnel.
Professional Indemnity	Where it is requested, the Contractor is responsible for maintaining professional indemnity insurance in relation to design negligence. It may be required on traditional contracts where there is a large amount of Contractor or Specialist design, and it is always required on all contractor-designed projects.

Other special types of insurance policies may be required, depending on the nature of the works, including, for example, marine hull insurance. In situations where the Employer is dealing with a typical works project, expert insurance advice should be sought from a source recommended by the construction consultants or the Employer's insurers.

Co-insured

The Contractor's insurance shall name the Contractor, the Employer and any other person the Employer requires as co-insured. This means that the Employer and any other person the Employer requires as co-insured has direct access to the insurer in relation to a claim and does not have to go through the Contractor.

Subrogation

The fact that subrogation rights have been waived means that the insurer, having paid out on a claim to a third party, cannot pursue the insured parties to recover its loss.

Cross-liability

If two parties jointly insure a property and a claim is made by one because the other has damaged it, the insurer cannot escape liability by arguing that 'you cannot claim against yourself' and must pay the claim.

Continued on next page

2.4.1 Insurance Requirements, Continued

Employer approval

It is a condition of the Contract that the Contractor may take out insurance only from companies licensed to trade in Ireland.

Period of cover

As the Contractor's insurances do not start until the Starting Date, the Employer should have his own cover up to that date and as most of the insurance (i.e. the insurance for the works) which the Contractor is required to arrange only applies until the Date of Substantial Completion, the Employer should have appropriate cover in place from the Date of Substantial Completion. After the Employer takes over the works, the Contractor's own activities will continue to be covered by the Contractor's insurance (Public Liability, Employer Liability up to the date of the Defects Certificate and Professional Indemnity until the sixth anniversary of the issue of the certificate of Substantial Completion). If the Contractor returns to the site after the Defects Certificate issues, he must have full insurance cover while he is working on the Employer's property.

2.4.2 Insurance: Filling in the Schedule

Insurance details in the Schedule

The Schedule (Part 1D) sets out:

- Minimum indemnity limits for public and employers' liability insurance;
- Maximum excess limits for insurance;
- Permitted exclusions; and
- Optional insurance provisions.

The Schedule allows for a range of options relating to public liability for loss or damage due to design.

It should be noted that the Schedule allows for a total exclusion of loss or damage due design from the public liability policies, and many contractors' policies have this exclusion. In appropriate cases, such as when there is a high risk of third party claims for bodily injury, employers may consider requiring a narrower exclusion, for example:

- If there is design of temporary works or other contractor design, the existing exclusion may be substituted by inserting 'Design for a fee'; or
- If the design involves the Contractor engaging consultants to whom fees are payable, the wording of the exclusion may be amended as follows: 'Defective workmanship, materials or design but including the consequences thereof'.

Where a narrower exclusion is required, the Employer must amend the relevant exclusion in Part 1D of the Schedule. The Works Requirements should bring to tenderers' attention the requirement to have this cover in place for design-related third-party claims for bodily injury and loss or damage to third-party property. Employers should note, however, that such cover is not always easy to get, and by demanding it, they may limit the number of prospective tenderers or, depending on project size, no tender responses at all.

Note: for Professional Indemnity policy wordings do vary and some wordings may exclude bodily injury to third parties and loss or damage to third party property so that the insurance only covers the damage to the structure itself and consequential loss resulting from it. Provided that the Professional Indemnity insurance only has the permitted exclusions, the insurance will cover both third party bodily injury and property damage claims. However, limits of indemnity under Professional Indemnity insurance in Ireland are generally low and may not be sufficient to cater for such third party exposure in which case the Public Liability cover would be required.

Continued on next page

2.4.2 Insurance: Filling in the Schedule, Continued

Limits

The Employer should set the limits of insurance required in the Schedule. Increased limits for Employers' Liability and Public Liability insurances can be obtained at relatively low cost. Increased limits for Professional Indemnity can be costly as the increase must operate from commencement of design until at least the sixth anniversary of Substantial Completion.

Note: defence costs can seriously erode the indemnity limit in legal and other expenses leaving a significantly depleted residue to address the risk insured. Professional Indemnity normally includes defence costs which means that those costs can be offset against the indemnity limit. If the Employer on a particular project does not require defence costs to be part of the indemnity limit for liability claims, he should investigate the insurance market in advance of tenders being sought to see if such cover is available. If it is, he can specify its requirements in the tender documents (Works Requirements).

Exclusions

Asbestos is listed as a permitted exclusion. If there is a risk of asbestos being encountered, the exclusion should be deleted. In that case, the Contractor will have to employ a specialist to remove asbestos, and a collateral warranty should be required. The date by which the collateral warranty is to be provided should be stated in the Schedule (Part 1F). It should be noted that the cover available for this risk is under rectification/remediation including a reduction in the value of the property cover. Furthermore cover is available on an aggregate basis only and for relatively low limits – for example, in the range €250,000 – €500,000.

Terrorism is listed as a permitted exclusion. If the Employer decides that terrorism cover is required, then terrorism must be deleted from the list of permitted exclusions in Part 1D of the Schedule. If not deleted, the Employer carries the risk of terrorism damage to the works. This cover is only available for relatively low limits similar to the limits for asbestos.

Optional insurance provisions

The indemnity limit of the insurance in respect of the works, documents and things (except for the loss of or damage to Contractor's things) should be set down and professional indemnity insurance should be completed as appropriate by the Employer in Part 1D of the Schedule.

Required extensions to insurance

If required in the Schedule, any section of the works taken over shall continue to be covered by the Contractor's insurance until the whole of the works have reached Substantial Completion. This requirement should be imposed on the Contractor if independent contractors are engaged to carry out fit-out or other works before Substantial Completion. Where an extension to the Contractor's insurance is required for a section of the work, this should be stated in the tender documents and listed in Part 1D of the Schedule. The extension should run until the ER issues a certificate of Substantial Completion for the whole of the Works. Normally, once a section of the works is taken into use, it is no longer insured by the Contractor.

2.4.3 Insurance Details

Employers' liability insurance

The Contractor is responsible for maintaining employers' liability insurance (for death, injury or illness of his personnel) from the Starting Date until the date the Defects Certificate is issued. Subcontractors should also maintain similar cover.

Professional indemnity insurance

Professional Indemnity insurance (PII) will normally be required in all contractor-designed contracts. It also may be required in an employer-designed contract when there are significant contractor (or specialist)-designed work items.

There may be circumstances where an employer has good reasons why it is not appropriate to have PII cover in contractor-designed contracts. In such circumstances the requirement in relation to PII in Part 1D of the Schedule is completed accordingly.

Professional indemnity requirements

The Contractor must provide evidence to the Employer, annually at the anniversary of the policy renewal, that the required insurance policy has been effected for the following year. This requirement recognises the fact that the Contractor may not be able to secure six-year cover with one premium payment or that the cost of the premium for such a policy would not represent value for money.

Professional Indemnity insurance must cover and indemnify the Contractor for liability arising from the performance or non-performance by the Contractor of his duties as project supervisor for the construction stage, and for the design process in the case of a design-and-build contract, in relation to the works under the Construction Regulations. The Professional Indemnity insurance does not cover the professionals contracted by the Employer.

When Professional Indemnity insurance is taken out it should include a retroactive provision with a date from when design of the works or works items started or earlier. Where a policy is to be renewed the retroactive date will normally not change. However, if a new policy is to be taken out (for whatever reason), it is important that the retroactive date of the policy reaches back to the design period of the project in question – to ensure continuity of cover over six years.

Collateral warranties required from specialists will include a requirement to carry professional indemnity insurance if the specialist is involved in design. The same requirements apply to the specialist's professional indemnity insurance as outlined for the Contractor above and similar procedures should be followed for vetting the insurances.

Continued on next page

2.4.3 Insurance Details, Continued

Professional indemnity limitations

If the Contractor is required to maintain a Professional Indemnity insurance policy, it may be on an 'each and every claim' basis or on an aggregate claim basis. In the present insurance market contractors or subcontractors are unlikely to obtain Professional Indemnity insurance on an 'each and every claim' basis and the insurance will more likely be subject to an aggregate limit in respect of all claims during each insurance year, normally 12 months. In this context careful consideration should be given to the level of the cover being sought. Furthermore, as defence costs are normally paid out of the indemnity limit this factor should also be taken into account when deciding on level of cover.

It should be noted that cover for claims relating to pollution/contamination, date recognition and asbestos are generally subject to an aggregate limit. However, the Employer should be aware that some contractors may only be able to obtain professional indemnity cover which excludes claims for pollution/contamination, date recognition and asbestos.

There is a choice in the Schedule for the Employer to decide whether to look for professional indemnity insurance on an 'each and every claim' or on an annual aggregate limit basis. For a contractor the normal cover available in the market is on an annual aggregate limit basis, therefore employers should choose this option in all but exceptional cases where an employer is satisfied that the insurance market can provide the cover on an each and every claims basis.

Insuring existing facilities

When the project involves work on the Employer's existing facilities, the Employer has a number of options in relation to the risk of damage to these facilities. He can require the Contractor to arrange all risks insurance in respect of the facilities. He can also require the Contractor to bear the risk of damage to the Employer's facilities. Even if the all risks insurance is not extended to cover the existing facilities, the Contractor's public liability insurance should cover loss or damage caused by the Contractor's negligence.

The Employer can elect to bear the risk of damage to the facilities caused by certain perils. The Employer will need to take insurance advice in making this selection. If there is no work on existing facilities, the Employer should retain the default option, which is that damage to existing facilities is at the Contractor's risk, but (except for damage caused by Contractor negligence) the existing facilities do not have to be insured in the Contractor's all risks insurance for the works.

Continued on next page

2.4.3 Insurance Details, Continued

Valuing Employer's facilities

The replacement value or the indemnity value of the Employer's facilities and properties should be provided to the Contractor in the tender documents. In determining the replacement value, the value should be calculated on the basis of the Contract Sum plus a sum for professional fees, removal of debris and inflation. The required cover for professional fees is specified by the Employer in the Schedule, Part 1D; the default is 12.5%. If cover is required on an indemnity basis, for example, where the item would not be replaced if destroyed or damaged, the value should be calculated on the current cost price, less depreciation.

Another scenario is the case of a building which if damaged would not be reinstated, for example, a contract for short-term remedial work to an unsafe dilapidated building. It may be appropriate to require insurance for the costs of demolition and site clearance only. The Contractor must be advised of the basis on which cover is required. The Contractor must also be given a full description of the facilities to enable him to obtain quotations, for example, in the case of a building, details of the construction of floors, walls and roof, occupation, fire extinguishing appliances, security provisions and so on. Any subsequent change in the information provided to the Contractor prior to Substantial Completion must be immediately notified to the Contractor.

Owner- controlled insurance

If the Employer considers that it would be more appropriate for the Employer to control the project insurances, this must be clearly stated in detail as an option in the Works Requirements.

This is normally referred to as *owner-controlled insurance*. Where owner-controlled insurance is being considered, tenderers should make their submissions on the basis of excluding the cost of providing certain insurances, but should show separately the extra cost of providing those insurances should the Employer decide not to exercise the option of taking out separate insurances. The extra cost should be an all inclusive cost – for example, premiums, compounds, fencing, lighting, guards, guard dogs and any other security requirements. More details on owner-controlled insurance are set out in

2.7.4 Insurance Options – see page 93.

Section 2.5 Risk Management

Overview

Introduction

Up-front risk management is an important part of modern project management.

In a fixed-price lump-sum contract (as defined in Chapter 1) the Contractor accepts the risk of increases in the cost of labour and materials during the construction period (the inflation risk), as well as certain risks of changes in law.

The Contractor also accepts the Employer's definitions of delay and compensation events. Compensation events are those that may result in an adjustment to the Contract Sum as opposed to delay events that do not result in an adjustment to the Contract Sum.

Purpose

Decisions in relation to price variation options and compensation event options must be taken prior to the publication of the tender invitation. The result of those decisions will dictate what payments can be made outside of the fixed price.

In this section

This section deals with the following topics:

Topic	See Page
2.5.1 Managing Delay and Compensation Events How to define events, and plan for management of the risk and compensation associated with risk realisation.	67
2.5.2 Managing Price Variation How to define price variation and plan for management of the risk and compensation associated with risk realisation.	70

2.5.1 Managing Delay and Compensation Events

Identifying compensation events

If a compensation event, as listed in the Contract, occurs in the course of the project, there may be an adjustment to the Contract Sum. The Contract sets limitations through procedures and valuation principles on when the Contract Sum can be increased for compensation events. There are a number of delay events that are optional compensation events in the Contract. The Employer has to decide before inviting tenders whether those delay events categorised as 'optional' on the Contract are:

- Flagged as compensation events in addition to being delay events, or
 - Remain just as delay events (default).
-

Traditional contracts

Delay events considered for compensation status in a traditional contract are:

- An instruction from the Employer to deal with an item of archaeological interest or human remains found on the site;
 - The presence on the site of unforeseeable ground conditions or a man-made obstruction in the ground other than utilities;
 - The presence on the site of unforeseeable utilities; and
 - Unforeseeable failure or delay of owners of utilities on the site in relocating utilities in accordance with the Works Requirements, when the Contractor has complied with their procedures and the procedures in the Contract.
-

Design-and-build contracts

Delay events considered for compensation in a design-and-build contract are:

- An instruction from the Employer to deal with an item of archaeological interest or human remains found on the site; and
 - Unforeseeable failure or delay of owners of utilities on the site in relocating utilities in accordance with the Works Requirements, when the Contractor has complied with their procedures and contract procedures.
-

Identifying delay cost option

The Employer should state in the tender documentation (Part 1K of the Schedule) how delay costs are to be dealt with, either as:

- Tendered daily rate(s), or
- Actual direct costs incurred.

If the Employer selects the tendered daily rate(s), it should then be tendered by all competing firms and entered in Part 2E of the Schedule. Employers cannot change their minds post-tender how delay costs are to be dealt with.

Continued on next page

2.5.1 Managing Delay and Compensation Events, Continued

Tender submission requirements

It should be made clear by employers in the tender documentation for the project that, in addition to the tender price, individual tender rates and percentages are to be submitted by tenderers for the purpose of valuing compensation events, as follows:

- A daily rate(s) of delay cost (if selected in tender documents);
 - Hourly rates for craftspersons, general operatives and apprentices (and possibly other categories);
 - Percentage additions to cost of materials; and
 - Percentage addition or deduction to cost of plant.
-

Evaluating rates

The hourly rates for delay should be the appropriate rates applying to each category of worker and should be based on wage rates not less than those provided by the most recent Registered Employment Agreements (REAs), or the National Minimum Wage, whichever is applicable.

Where an employer is asking for a tendered daily rate for delay, there is a choice, either to seek:

- A single daily rate; or
- Three different daily rates, each to be applied at different times during a contract (not available in the Minor Works Contract).

In both cases, the single or the three periods selected by the Employer to be used for comparison purposes at tender evaluation stage must be clearly stated in the tender documents. For example, if the number of days indicated is 40 (in the case of a single period), then the delay cost element of competing submissions will be compared based on a 40-day delay as part of an overall tender evaluation exercise. The number of days specified by the Employer should be proportionate to the scale, complexity and duration of the Contract.

Note: If delays are under-estimated, there is a risk of exploitation by the tenderers. If they are over-estimated, there is a risk of distortion in the selection by Most Economically Advantageous Tender (MEAT). The figure selected for delay in the MEAT method should also have regard to the choice already made on the Programme Contingency, which will be included in the lump-sum tender price. Where separate delay rates at different time stages are quoted, the MEAT calculation needs to include a calculation to show the financial impact of each type of delay.

Continued on next page

2.5.1 Managing Delay and Compensation Events, Continued

Hourly rates for craftspeople, apprentices and general operatives

In relation to the tendered hourly rates under both traditional and design-and-build contracts, the definition of a craftsperson in part 1K of the Schedule allows for it to be expanded to include other types of skilled personnel.

Note: If it is intended to expand the definition of a craftsperson, this must be specified in the Schedule part 1K, so that the wider definition can be priced in a single blended rate.

The category of apprentices is directly related to skilled personnel within the definition of craftsperson. Again a blended rate (e.g. a mixed or average rate) is tendered for apprentices to cover the range of skills within the definition of craftsperson; the blended rate should take account of the different grade levels in each apprenticeship.

General operative covers the complete range of direct labour other than craftsperson and apprentice. A blended rate is to be tendered for general operatives.

Note: See the Tender Evaluation Example on page 94.

2.5.2 Managing Price Variation

Adjustment to the Contract Sum for changes in cost

The Contract must indicate the method to be used to calculate adjustments to the Contract Sum for changes to the cost of labour and materials that are allowable under the Contract. The two options are described in the Price Variation clauses attached to the contract form, as follows:

- **PV1, the Proven Cost Method** requires the Contractor to provide evidence by the way of invoices to support any claim for increases, including hyperinflation increases, in relation to the cost of materials used in the works and to also produce evidence of the cost of those materials at the Designated Date/Base Date. The Employer checks the validity of such claims independently by obtaining prices from a number of suppliers and other sources for the same materials in the same quantities and timeframes as in the project and compares them against the Contractor's claim.
- **PV2, the Formula Fluctuations Method** uses formulae to calculate the appropriate amount of Contract Sum adjustment for recovery of material cost changes. The formulae are based on price indices for materials, fuel and the Consumer Price Index published by the Central Statistics Office in its monthly *Statistical Release*.

For both PV1 and PV2, permitted increases⁴ applied to the Registered Employment Agreement (REA) rates at the Base Date (for categories of workers for which recovery is permitted) are used to support Contract Sum adjustments for recovery of labour cost changes.

Employers are required to state in the tender documents which option is to be used. If a choice is not indicated in Part 1M of the Schedule, the default is that PV1 will apply. While the choice of PV1 and PV2 is available with both traditional and design-and-build contracts, PV2 can be difficult to use in design-and-build if the Employer cannot provide the percentages and weightings in Appendices 2 and 3 in the tender documents.

Post-tender negotiation rules

Post-tender negotiations are contrary to the terms of the EU Public Procurement Directives and the EU courts have specifically stated that negotiation on prices in open and restricted tender procedures is ruled out. This includes negotiating the buyout of the price variation clause (i.e. regulation of recovery of increases in labour and materials that occur after the Base Date).

Negotiating the buyout of the price variation clause post-contract award should equally not be considered.

Continued on next page

⁴ Increases in workers' pay rates to the extent that they apply generally in the construction industry and which are compliant with Government guidelines and Social Partnership Agreements.

2.5.2 Managing Price Variation, Continued

Post-tender negotiation rules (continued)

Any such negotiations would conflict with the objective of the Government's objectives for fixed-price lump-sum contracts tendered on a competitive basis (i.e. to bring about a situation where the tendered price and the final cost paid are almost the same), and also National Guidelines which call for good governance, accountability and transparency in the spending of public money.

Cost risks Borne by the Contractor

In a fixed-price lump-sum contract, the Contractor accepts the risk of:

- Increases in the cost of labour and materials (the inflation risk) other than those increased by certain specified amounts (hyperinflation) and those outside the specified time period (fixed-price period);
- Increases in cost due to changes in law other than in certain specified areas; and
- Increases in cost due to exchange rate variations.

The definition of risks accepted by the Contractor and the recovery of increased costs by the Contractor (where risks revert to the Employer) are dealt with in more detail below.

Inflation risk borne by the Contractor

For Public Works contracts, the Contractor tenders a price that is fixed for a defined *fixed-price period*, and within this period, the Contractor accepts the risk of normal inflation. The fixed-price period and the commencement date depends on the Price Variation method that is used – as specified in the following table:

PV Method	Fixed-price Period	Commencement Date
PV1	30 months	The Contract Date
PV2	36 months (incorporating a 6- month tender assessment period)	The Designated Date or the Recovery Date

Notes

- 1** The Designated Date is 10 days before the latest date for receipt of tenders.
 - 2** The Recovery Date is the Designated Date corrected to account for any delay to the commencement of the works resulting from actions or omissions of the Contractor.
 - 3** If the Contractor is responsible for delaying commencement of the works after the Contract has been awarded, the commencement of the fixed-price period is deferred.
 - 4** The Contractor is always entitled to compensation for *hyperinflation* and for inflation caused by changes of law (see below).
-

Continued on next page

2.5.2 Managing Price Variation, Continued

Managing lead-in times for transfer of inflation risk

There is invariably some delay between the close of the tendering process and the award of the Contract, so in the case of PV2, the actual fixed-price period that applies during a project may be shortened if a delay is caused by the Employer in awarding the contract. For example, if the planned project lead-in time is six months, the actual fixed-price period for project execution is 30 months, however, if the planned lead-in time is extended to nine months due to a delay by the Employer to awarding the Contract, the actual fixed-price period applying during project execution is reduced to 27 months.

In the case of PV1 the 30 months fixed-price period always commences at the Contract Date so that the actual fixed-price period applying during project execution does not change no matter what length of time it takes to award the contract.

On shorter contracts, this reduction for PV2, of the fixed-price period applying during the Contract, may not be an issue. If the Contract will definitely be completed within the 30-month period, it is possible in exceptional circumstances to have a planned lead-in time longer than 6 months. However, in no case should the lead-in period exceed 12 months.

In general, contractors tendering for short-term contracts will know the duration of such contracts and will price in their tender the cost increases expected to arise during that period. Competition in the market will dictate that this is the case.

On longer contracts it is important to minimise the lead-in time (6 months maximum) for PV2 to ensure that the longest possible period for fixed-price is available.

The Employer should consider carefully what is an appropriate lead-in time for the project. This is particularly important if the project is governed by the EU Procurement Directives, but all projects, irrespective of size, are subject to the EU Treaty principles of transparency, non-discrimination, proportionality, mutual recognition and equal treatment of tenderers. The lead-in time should not be confused with the tender validity period, which should be stated in the tender documents.

Inflation risk exception: hyperinflation

Hyperinflation is the term used to describe an extremely rapid rise in market prices over a very short period of time. The Contract entitles the Contractor to recover costs at any time after the Designated/Recovery Date, for sudden market increases in the price of materials or fuel, according to the rules in the Contract.

The compensation payable is the amount calculated according to the Contract as appropriate. This is dealt with in more detail in the price variation section of Chapter 3.

Continued on next page

2.5.2 Managing Price Variation, Continued

Exchange rate risk borne by Contractor

The request for tenders should state that all prices are to be given in euro, and that the risk of currency fluctuations must be borne by the Contractor. Tenders submitted in a currency other than euro should not be accepted.

No compensation is payable for changes in the cost of materials, fuel or other prices due to variation in the currency exchange rate.

Risk of changes in law borne by Contractor & the Employer

In fixed-price lump-sum contracts, the Contractor accepts the risk of any cost increase arising out of changes in legislation during the lifetime of the project.

There are exceptions; the Contract Sum is adjusted (up or down) for changes in:

- Value Added Tax;
- Excise duty or similar tariffs;
- Pay-Related Social Insurance; and
- The requirement for a licence to import any commodity.

Compensation for these increases is payable only if the Contractor has not already received compensation for them under the Contract (see above).

If the Employer identifies any such change in the tender documents, for example by referring to impending legislation, then no adjustment is made to the Contract Sum when the change occurs.

Continued on next page

2.5.2 Managing Price Variation, Continued

Data required for PV2 Invitation to Tender

In a traditional contract, if the Employer chooses to use PV2 to deal with price variation, the Invitation to Tender include the two appendices from the Contract, appropriately filled in:

- **Appendix 2, *Proportions of Labour, Materials, Fuel, and Non-Adjustable Overheads***, allocates a nominal percentage of the Contract Sum to each of five (in the case of building works) or six (in the case of civil engineering) broad categories of work items (labour, materials, fuel, non-reusable temporary works, overheads and plant (only for civil engineering)). In the case of overheads, for example, ten per cent (10%) should be allocated to overhead costs that are not subject to price adjustment. The total of the percentages must equal 100.
- **Appendix 3, *Indices and Weightings for Materials and Fuel***, allocates a nominal weighting to a range of material and fuel items that may be used on the project. The total of the weightings for Materials must equal 1, as must the total of the weightings for Fuel. The prices of items in this list are tracked by the Central Statistics Office, who publish the relevant price indices monthly.

During the tender period, tenderers may be given an opportunity to comment on the Employer's nominal percentages and weightings in accordance with the instructions to tenderers. Any revisions to the percentages and weightings that the Employer wishes to make will be circulated not later than the time stated in the tender documents for issue of amendments. The completed appendices 2 and 3 should be contained within the Pricing Document.

Note 1: These nominal percentages and weightings are not intended to be an exact representation of the actual use of materials etc. on the project; they are used solely for the purpose of calculating the price variation.

Note 2: Only those categories of materials listed in the CSO monthly publication Table 3A⁵ are permissible. If a project requires only some of these categories, this is acceptable and can be achieved by allocating weightings only to those categories required, and ensuring that all categories add up to one.

Continued on next page

⁵ Detailed Wholesale Price Indices (excluding VAT) for Building and Construction Materials.

2.5.2 Managing Price Variation, Continued

PV2 use of material and fuel categories

The relevant material and fuel categories for the PV2 clause of the Contract, and the weighting for each, are as indicated by the Employer. It is not envisaged that every category will be used on every contract. Some contracts that do not involve a lot of diverse materials may use only a small number of categories.

The Employer allocates work elements in the Bill of Quantities /Specification or other tender document to categories of material or to non-reusable temporary works, as deemed appropriate.

Note: The allocation of work elements to categories is for the purposes of allocating an index for price recovery to a part of the Contract Sum, and in no way denotes a preference for the type of material/temporary works to be used.

PV2 tender data in a traditional contract

In the case of traditional contracts where Bills of Quantities are used, the work items should be individually coded by the Employer to indicate which material category they fall into for price variation purposes.

The information provided in a traditional contract ensures that all tenderers bid on an equal basis, as both the proportions of the work and the weightings of each material and fuel (for the purposes of the PV2) clause are known.

Tenderers will also know which material index will be used for which work item, as the work items will be linked to categories, which are in turn linked to specific CSO indices. In the case of fuel and labour, which are not linked to work items, the tenderers will know the percentages and indices that apply.

PV2 weightings not required

Within the PV2 clause, weightings are not required in Appendix 3 for non-reusable temporary works or labour costs. There will be only one rate of increase for non-reusable temporary works – the Consumer Price Index – and only one rate of increase for labour – General Round Increases under the Social Partnership Agreement.

PV2 data and the fixed-price period

The Employer must provide the data set out above even where the Contract is due to be completed before the end of the 36th month after the Designated or Recovery Date. This allows for exceptional increases to be calculated (in the case of hyperinflation) and deals with the situation where a delay occurs in awarding the Contract or commencing the works (not on account of the Contractor), which may mean that the contractual date for completion falls after the end of the 36th month, even though that may not have been the Employer's original intention.

Continued on next page

2.5.2 Managing Price Variation, Continued

Offer period in Standard Form of Tender

The following text is included in the Standard Form of Tender which must be sealed. This is relevant when using either PV1 or PV2:

'We agree that this offer will remain open for your acceptance at any time until the latest of –

*The end of the period specified in this Invitation to Tender*⁶

Expiry of at least 21 days written notice to terminate this tender given by us'

Note 1: Item (i) indicates a time limit (usually defining an assessment period of up to 6 months). If the Contract is made earlier, neither the Employer nor the tenderer suffers any loss under the price variation – except in respect of the very limited application of the Price Variation clause prior to the Base Date.

Note 2: Item (ii) is included to protect the Employer from inadvertently losing the right to accept the tender. The tender remains open beyond the limit specified at (i). However, where the tenderer has given written notice to expressly terminate the tender, the tender remains open for 21 days from such notice and the Employer has this period to decide if he wants to accept the tender if he so wishes.

⁶ A tender assessment period of 6 months is assumed

Section 2.6 Preparing to Invite Tenders

Overview

Introduction The following section summarises what the Employer has to do before publishing the Invitation to Tender.

Purpose Decisions taken in relation to the Invitation to Tender will dictate the form of tender and the form of contract used when the tender is awarded.

In this section This section deals with the following topics:

Topic		See Page
2.6.1 Compiling the Works Requirements	Details what to include in the Work Requirements.	78
2.6.2 Completing the Schedule	Details how to fill in the Schedule.	81
2.6.3 Assembling the Invitation to Tender	Summarises what is required and how to check before release.	84

2.6.1 Compiling the Works Requirements

Introduction

The range of options for design-and-build projects varies from performance output specifications and statement of functional requirements at one end of the spectrum to specimen designs to novated developed designs and specifications at the other.

In traditional contracts, the Works Requirements must be comprehensive, and should always include detailed designs and specifications.

Standard design-and-build specification

In design-and-build projects, the challenge is for the Employer's functional requirements to be clearly and comprehensively stated in the tender documents, along with clear performance specifications covering all items of importance. This is to allow maximum flexibility for integration of design with construction in solutions tenderers propose in their tender submissions.

Under this approach, statutory approval might not have been obtained by the tender stage. If this is case, the successful tenderer will be required to carry the risk associated with planning and other necessary statutory approvals.

Where designs are developed and the risk associated with planning and other necessary approvals are being carried by the Employer, the level of flexibility to integrate design with construction is severely curtailed.

In summary, the design-and-build approach:

- Allows, where designs are not developed, maximum scope for positive integration of design with construction methods, techniques and resources;
 - Reduces the time scale of going to the market;
 - Provides a greater degree of cost certainty at award stage;
 - Provides greater certainty of time and outturn cost;
 - Obliges the Contractor to ensure fitness for purpose; and
 - Removes the Employer from any disputes between designers the Contractor.
-

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2.6.1 Compiling the Works Requirements, Continued

Specimen design and outline specification

As an alternative to the standard design-and-build approach, the Employer's designers can develop an outline design, which is included in the tender documents either as background information or as novated design documents.

The specimen design can be presented in two ways:

- Illustrative and capable of adoption by tenderers within certain constraints; or
- Directional in which case it cannot be changed and is part of the Works Requirements and which become novated design documents.

If the Contractor is obliged to follow the outline design there will be less flexibility for tenderers to be innovative in their proposed solutions, as the Employer has taken the main design decisions. On the other hand if a specimen design is given as an illustration that can be varied, this offers greater flexibility with regard to innovation in tender proposals.

Implications of selecting the specimen design and outline specification approach

The specimen design and outline specification approach has a number of advantages and disadvantages:

- It gives the Employer some control over the quality of the design but it has the negative effect of restricting a contractor's input to design;
 - It takes longer to go to the market. However, it is still considerably shorter than the traditional approach;
 - There is greater certainty of time and outturn cost;
 - Less design resources are required of tenderers and therefore their tender preparation costs are lower;
 - There is greater degree of cost certainty at award stage;
 - An obligation can be imposed on the Contractor to ensure fitness for purpose; and
 - The Employer is removed from involvement in any disputes between the designers and the Contractor.
-

Consents and licences

The Works Requirements should identify what, if any, consents and licences the Employer has obtained in relation to the works at the time the Invitation to Tender is published. **Appendix B** (page 177) contains a list of consents and licences that may be required for a public works contract. This list is not to be taken as a comprehensive list of all possible consents and licences that may be required.

Continued on next page

2.6.1 Compiling the Works Requirements, Continued

Bill of Quantities in relation to Works Requirements

If a Bill of Quantities is to be used as a Pricing Document and also included as part of the Works Requirements, it is important to state this clearly in the tender documents for the purpose of specification information – for example, by supplying two copies of the Bill, one marked ‘Pricing Document’ and one marked ‘Works Requirements’.

When a Bill of Quantities is included in the Works Requirements, as a general rule the quantities should be deleted or a note inserted clearly stating that the ‘Quantities are not part of the Works Requirements’

Value engineering proposals

In the case of traditional contracts it may be appropriate on some contracts to allow variants at tender stage in order to obtain *value engineering proposals*. In the case of EU procurement rules, it would be necessary to indicate in the Contract Notice if variants are permitted. Any minimum requirements in relation to variants must be stated in the tender documents so as to limit consideration to only those variants that meet the minimum requirements. Where variants are allowed, tenders must be submitted on a *non-variant compliance* basis, with the variant shown separately.

The tender documents must make it clear that the Contractor would be responsible for the design element of any value engineering proposal accepted by the Employer. Furthermore, any proposal would have to be fully developed when tenders were submitted, as communications thereafter would only be for clarification purposes. The value engineering proposal in this context differs from a value engineering proposal under the Contract where the prime objective is to reduce cost (without a reduction in quality, standard or functional requirements) or to accelerate the execution of the works.

Note: For more information on value engineering proposals, see 3.1.4 Value Management on page 105.

2.6.2 Completing the Schedule

Schedule Part 1

The Employer must complete **Part 1** of the Schedule and include it with the Invitation to Tender.

Schedule Item		Completed by Employer
A	Employer's Representative and Communications:	Contact details for notices to the Employer. It is possible to specify different contact details for notices that concern termination of the Contract and notifications of disputes, on the one hand, and more routine notices on the other. Consideration should be given to identifying only one contact so that there is no confusion as to who should have got the notice.
	Employer's Representative	Name of Employer's Representative (ER) to be announced and contact details for notices to the ER.
	Limitations on ER's authority	List of limitations.
B	Documents: Works Requirements	Identifying details (for example, title, date, unique n ^o .).
	Pricing Documents	Identifying details (for example, title, date, unique n ^o .).
	Methods of measurement (Dept of Finance approved amendments must be included with the tender documents – see Appendix F)	Where Bill of Quantities is used, select from: <ul style="list-style-type: none"> ▪ Agreed Rules of Measurement 3 (ARM3); ▪ Civil Engineering Standard Method of Measurement 3 (CESMM3); ▪ National Roads Authority (NRA) Method of Measurement for Road Works (MMRW); and ▪ Other approved methods of measurement.
C	Property in Contractor's Documents	Option to select whether ownership does or does not transfer to employer in accordance with sub-clause 6.4; defaults to 'does not'.
D	Insurance	For details see Section 2.4 above. Employers should obtain advice (from experienced construction consultants, or from the Employer's normal insurers or experts nominated by them or by the construction consultants) in completing this item.
E	Performance Bond	Specify if required.
F	Collateral Warranties	State details of warranties required.

Continued on next page

2.6.2 Completing the Schedule, Continued

Schedule Part 1 (continued)

Schedule Item		Completed by Employer
G	Dates for Substantial Completion	Employer gives the date (unless to be completed by the tenderers in Part 2). This may be a fixed date or (more likely) a period for completion commencing from the contract award date.
	Liquidated damages	This must be a genuine pre-estimate of the loss that will be suffered as a result of late completion of the works.
	Completion of the works by sections	If sections are envisaged, the appropriate line for each section must be completed. If sections are not envisaged, the first line only is completed. The left hand column should include a description of the section – for example, ‘a length of road’; this can be a reference to a more detailed description in the Works Requirements. Each section can have its own Date for Substantial Completion and its own rate of liquidated damages for delayed completion.
H	Early Completion	State whether the Certificate of Substantial Completion may be issued early if required.
I	Defects Period	Specify a period that runs from Substantial Completion. Default is 12 months.
J	Random Checks for Employment Records	Option to state whether the appropriate clause, 5.3.3A(2) is part of the Contract. Default is that it should be.
K	Delay Events	Specify whether or not optional events are to be regarded as compensation events: this applies to items 17–21 only.
	Bill of Quantities [where they are used] (17)	State whether the Contract Sum is to be adjusted because of errors in quantities or descriptions in the Bill of Quantities. The default is no adjustment, which puts the risk of measurement errors on the Contractor. Consider carefully the circumstances that warrant the use of Bills of Quantities for minor works contracts.
	Weather events – time extension data	Add events if required. The relevant location for recording weather data is to be specified; this will usually be a Met Éireann weather station local to the site of the works. Certain weather events are listed; others can be added.

Continued on next page

2.6.2 Completing the Schedule, Continued

Schedule Part 1 (continued)

Schedule Item		Completed by Employer
	Programme contingency	Specify two thresholds (in site working days) for delay caused by compensation events (there is only one threshold in the case of the Minor Works Contract). If delay is caused by compensation events: <ul style="list-style-type: none"> Up to the first threshold, the Contractor is not entitled to any time extension. Between the first and second threshold, the Contractor is entitled to a half time extension up to the second threshold. Above the second threshold, the Contractor is entitled to a full time extension.
	Delay costs	Select actual delay or tendered daily rate.
	Definition of craftspersons	Add any additional categories relevant to part 2E.
	Tender Rate	For clause 10.7, select single daily rate or separate rates for periods of the Works. Default is a single rate.
L	Payment Particulars: Contractor is to be paid	State how often payments are to be made. Default is monthly. A minimum payment can also be specified so that there is no payment if the minimum has not been earned (other than a payment in respect of release of retention money). The maximum percentage of the value of unfixed materials that can be paid can also be specified: the default is 90%. The percentage of retention may also be entered by the Employer; the default is 10%.
M	Price Variation	State whether PV1 or PV2 is to be used to deal with price variation. The default is PV1.
N	Conciliation and Arbitration	Enter the name of the organisation/person to appoint the conciliator and arbitrator in the absence of agreement. This person must be one of the following: <ol style="list-style-type: none"> 1. President The Society of Chartered Surveyors of Ireland 2. President Engineers Ireland 3. President The Royal Institute of Architects of Ireland 4. President Law Society of Ireland 5. Chairman Bar Council of Ireland 6. Chairman The Chartered Institute of Arbitrators (Irish Branch).

2.6.3 Assembling the Invitation to Tender

Documents

The documents to be issued as part of the Invitation to Tender would normally be:

- Instructions to Tender/Invitation to Tender (which does not form part of the Contract);
 - Contract Conditions;
 - Schedule Part 1 (completed by the Employer);
 - Works Requirements (completed by the Employer including Model Forms and may include reports and appendices 2 and 3 of the Contract where PV2 is being used);
 - Blank Pricing Document (to be completed by the Contractor); and
 - Any other background information or documents not forming part of the contract, for example, reports or Bid Bond.
-

Key decisions

The Invitation to Tender should clearly specify:

- Which of the five types of public works contract will apply to the Contract;
 - How price variation is to be treated;
 - Compensation events and how they are to be treated; and
 - Bonds, guarantees and insurance and how they are to be treated.
-

Checklists

At the outset of preparation and also before making the decision to publish the Invitation to Tender, the Employer should review the checklists contained in Appendix B.

The relevant Checklists are:

- Invitation to Tender Checklist – High Level;
 - Consents and Licences Checklist;
 - Operation Licence Checklist;
 - Invitation to Tender Checklist – Traditional; and
 - Invitation to Tender Checklist – Design-and-build.
-

Section 2.7 Evaluating Tender Submissions

Overview

Introduction This section deals with considerations and calculations the Employer has to make during the evaluation of the tender submissions in relation to rates and prices.

Purpose The requirements and requests for information in the Invitation to Tender must be based on an understanding of how cost comparison is carried out and how the most economically advantageous tender price is calculated.

Checklist At the outset and also before making the decision to award the tender, the Employer should review the checklist contained under *Tender Evaluation Checklist* in Appendix B.

In this section This section deals with the following topics:

Topic	See Page
2.7.1 Comparing Tender Costs Explains award criteria and adjustments to be made for evaluation purposes.	86
2.7.2 Adjusting Details within Tender Pricing Explains why pricing may need to be rebalanced and how to do this.	89
2.7.3 Considering VAT How to consider VAT and rebalance if necessary.	91
2.7.4 Evaluating Insurance Options Explains the pros and cons of Contractor versus Employer-controlled insurances	93
2.7.5 Tender Evaluation Example Gives an example of tender evaluation adjustments and calculations.	94
2.7.6 Letters of Intent and Acceptance Summarises what is required and how to check before release.	97

2.7.1 Comparing Tender Costs

Award criteria

The tender assessment must, where a tendered daily rate(s) for delay has been submitted, include the evaluation of the tendered delay cost and rates using the stated delay periods.

The award criteria can also include other things as listed in Article 53 (1) (a) of Directive 2004/18/EEC on public procurement and should take account of SI No. 329 of EC (Award of Public Authority Contracts) Regulations 2006 and Directive 2004/17/EC and SI No. 50 (Award of Utilities Contracts) Regulations 2007.

The Employer will need to consider some or all of the following:

- The values in the pricing document
- The tenderer's Works Proposals;
- The tenderer's management and supervision structure;
- The tenderer's proposed working methods
- The tenderer's initial programme,
- The tenderer's plant, labour resources and named specialist subcontractors;
- Rates for labour and delay costs with the percentage adjustment for material and plant costs and any other issues to be tendered in the Works Proposals;
- Value Engineering proposals submitted with tenders;
- Credits offered for owner-controlled insurance; and
- If time is tendered, its impact on tender prices.

Hence, the award criterion must be stated as being the 'Most Economically Advantageous Tender' (MEAT), and not 'the lowest cost tender'.

Adjusting the tender sum

Where daily rates are tendered the following should be added to each tender sum for the purpose of comparing tenders:

- The product of the provisional number of days' delay stated in the tender documents and the tenderer's daily rate of delay cost; and
- The product of the provisional number of hours for each category of craftsperson, apprentice and general operative stated in the tender documents and the tenderer's hourly rate for each.

Where percentages are tendered the following should be added to each tender sum for the purpose of comparing tenders:

- The provisional cost of materials and plant in relation to compensation events stated in the tender documents multiplied by the tenderer's percentage adjustment for each.
-

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2.7.1 Comparing Tender Costs, Continued

Adjusting the tender sum (continued)

Where daily delay rates are not tendered (expenses unavoidably incurred as a result of a delay), the following should be added to each tender sum for the purpose of comparing tenders:

- The product of the provisional number of hours for each category of craftsperson, apprentice and general operative stated in the tender documents and the tenderer's hourly rate for each; and
- The provisional cost of materials and plant in relation to compensation events stated in the tender documents multiplied by the tenderer's percentage adjustment for each.

Where programme time is tendered the tender sum should be increased by the product of a daily sum stated by the Employer (in the tender documents) and the tenderer's programme period in excess of a minimum period stated in the tender documents, for the purpose of comparing tenders.

For example, an Employer requires a project to be constructed no earlier than 120 weeks (minimum time) and at latest 145 weeks (maximum time). This information is included in the Works Requirements and tenderers are asked to tender time between these two points. Along with the minimum and maximum times the Employer also includes the tender documents an amount per day (€10,000 for each week) which is to be used at tender evaluation stage and applied to the tenderers' excess over the minimum period. In this example, three tenders were received and the tendered times are as follows:

Name	Total time in weeks	Excess over minimum in weeks
Tenderer A	124	4
Tenderer B	130	10
Tenderer C	135	15

When the tender submissions are being evaluated, the amounts to be taken into account in relation to time, in order to determine which is the most economically advantageous offer are:

- Tenderer A, $4 \times \text{€}10,000 = \text{€}40,000$;
- Tenderer B, $10 \times \text{€}10,000 = \text{€}100,000$;
- Tenderer C, $15 \times \text{€}10,000 = \text{€}150,000$.

Continued on next page

2.7.1 Comparing Tender Costs, Continued

Comparing tenders with and without insurance

In cases where the Employer is considering using owner-controlled insurance, this is clearly indicated in the tender documents, and tenderers are asked to submit separate optional costs of insurances.

The Employer can then compare compliant tenders with and without the optional insurance element, and may award the Contract *either*:

- **Exclusive of the insurances** – in cases where it is financially advantageous to do so, the Employer takes on owner-controlled insurance; *or*
- **Inclusive of the insurance costs submitted by the winning tender** – usually where the insurance portion of the tender is competitive by comparison to the cost of owner-controlled insurance.

The mechanics for this comparison should be stated in the tender documents.

2.7.2 Adjusting Details within Tender Pricing

Why adjust the Pricing Document

Under normal circumstances there is a Pricing Document, which tenderers complete during the tendering period.

When a successful tenderer is selected and prior to issue of the Letter of Acceptance by the Employer, it may be necessary to correct errors (i.e. errors in the computation of the detailed tender figure), to deal with inconsistencies between rates (i.e. front loading of rates or imbalance between rates throughout the Pricing Document), and to rebalance the distribution of costs across elements of the Pricing Document. The outcome of this exercise must not alter the fixed-price lump-sum tendered by the Contractor.

This exercise is undertaken so that the valuation of interim payments and compensation events is fair to both the Employer and the Contractor. Furthermore, the exercise is also undertaken to enable realistic cash-flow projections. The exercise should be completed in consultation with the preferred tenderer and the outcome notified to and accepted by the preferred tenderer in advance of the issue to all tenderers of the notice of the Employer's intention to award the Contract.

How to adjust the Pricing Document

Any individual lump-sum included in the make-up of the preferred tender should be broken down in sufficient detail to be of use. This applies as much to traditional contracts as it does to design-and-build.

Normally the Pricing Document is a Bill of Quantities except in the case of design-and-build. Where a Bill of Quantities is not provided as the Pricing Document it will be replaced with some other document, such as an activity schedule, a list of milestone payments, or an analysis of the Contract Sum.

Rebalancing rates

In determining what the balanced or corrected rates should be, the Employer should consider the following:

- Rates for similar work which the Employer or its consultants have access to on other projects adjusted as necessary;
- Rates for similar work published in construction industry pricing books adjusted as appropriate for currency, time and location;
- Rates built up from first principles using labour constants, market prices of materials, labour hourly rates (based on REA) and an allowance for overheads and profit;
- Rates derived from a combination of some or all of the foregoing four bullet points.

It is important that the rationale behind the establishment of a revised rate is worked out logically and can be demonstrated, if necessary.

Continued on next page

2.7.2 Adjusting Details within Tender Pricing, Continued

Pricing Document without breakdown

In limited circumstances – only in the case of some design-and-build contracts – the Pricing Document may be very general and include a fixed-price lump-sum without a detailed breakdown. In such cases, however, the Employer should set down milestones for interim payments in the Works Requirements – for example when 10%; 20%; 30% (and so on) of a project is completed. Where this is done, any lump sum figures in a tender should, if necessary, be broken down and reflected in the milestone figures.

EU procurement requirement

In dealing with inconsistencies between rates, balancing of rates and errors, the Employer must ensure that the tendered lump-sum figure is not changed. Any change would be regarded as post-tender negotiations, and would be in violation of the EU procurement rules. Details of how the Employer intends to rebalance rates or milestone values may be included in the tender documents or alternatively in the Contract Notice or both. Also, the mechanism for rebalancing rates or milestone values may be detailed in the tender documents.

2.7.3 Considering VAT

VAT Inclusive A lump-sum tender price is VAT-inclusive and should be evaluated on this basis. The Pricing Document should allow space for the tenderer to insert amounts (as provisional sums cannot be used) to which the VAT rates are added to establish the overall amount for VAT in the tender.

VAT example When a successful tenderer is selected, the Pricing Document should be examined for inconsistencies, errors and imbalances in rates. If VAT has been calculated incorrectly (for example, using the wrong rate), the pre-VAT tender price should be adjusted so that the correct VAT calculation yields the submitted tender lump-sum price. This will probably require making adjustments elsewhere in the Pricing Document for consistency.

For example, the following table shows an extract from a tender submission:

Pricing	Amount
Tender Price excluding VAT	€22,362,224
VAT on €0 at 21%	€0
VAT on €22,362,224 at 12.5%	€2,795,278
VAT on €0 at 0%	€0
VAT Sub Total	€2,795,278
Total Tender Price including VAT	€25,157,502

In this example submission, the tenderer made a number of errors:

- The middle rate for VAT should have been 13.5%, not 12.5%; and
- Different rates should have been applied to different constituent elements of the contract sum.

At preferred tender stage, the Employer should consult with the Contractor after adjusting the makeup of the Total Tender Price including VAT. The table below shows how the figures might be adjusted following this consultation:

Pricing	Amount
Tender Price excluding VAT	€22,055,787
VAT on €2,555,787 at 21%	€536,715
VAT on €19,000,000 at 13.5%	€2,565,000
VAT on €500,000 at 0%	€0
VAT Sub Total	€3,101,715
Total Tender Price including VAT	€25,157,502

Continued on next page

2.7.3 Considering VAT, Continued

Adjustments to the Contract Sum

In adjusting the tender sum VAT calculations must be corrected without changing the fixed-price lump-sum in the same way as described for adjustments in 2.7.3 Adjusting Details within Tender Pricing.

Clause 11.7.1 of the Contract Conditions states that '*The Contract Sum includes value added tax (VAT).*' All other amounts stated in the Contract (unless otherwise provided) are exclusive of VAT. Post-contract adjustments to the Contract Sum are made on a net-of-VAT basis, and in line with clause 11.7.2 and the appropriate sum for VAT should be added to the adjusted Contract Sum.

2.7.4 Insurance Options

Options

There are two approaches to providing contract insurances; they are:

- Contractor-controlled insurances; and
- Owner-controlled insurances.

Contractor-controlled insurance is where the Contractor provides all the project insurances during construction. On the other hand, owner-controlled insurances is where the Employer is responsible for providing public liability, all risks and professional indemnity insurance, and the remainder are provided by the Contractor (for example, employer liability insurance). Owner-controlled insurance is used in exceptional circumstances where there is a transparent and justifiable case.

If owner-controlled insurances are required, the contract amendments must be set out in the Works Requirements; the Contract itself must not be amended.

Disadvantages of owner-controlled insurance

The disadvantages of owner-controlled insurances include (this is not an exhaustive list):

- There is no reduction to contractor's overheads as these will not decrease very much if he is not required to provide insurance on a particular project. This is because the Contractor carries a block of insurance for all his projects and the premiums being charged will not significantly change because one project is excluded.
 - There is no claims history and therefore the insurer is likely to load the premiums charged to the Employer as the policies taken out for owner-controlled insurances are a one-off.
 - Similarly, the benefit of a discount for bulk continuous business will not arise.
 - Owner-controlled insurances should not have large excesses as a means of reducing premiums. The excesses should be the same as those acceptable where the Contractor provides the insurance.
 - The cost of site security tends to be higher on owner-controlled insurance. This is because insurers will seek to minimise risk exposure as much as possible with an Employer that has very little commercial clout.
 - Owner-controlled insurances must be tendered for separately in an open transparent and competitive way which will involve an additional administrative function and cost.
 - The scope of the insurance contract will be very difficult to define at tender stage as the Contractor will not be known and additional costs will probably arise later.
-

2.7.5 Tender Evaluation Example

Introduction The following example illustrates how certain issues, in relation to price only, should be considered by the Employer at tender evaluation stage.

Sample project

The working assumption is a public works project with:

- A contract for Civil Engineering Works Designed by the Employer;
- An estimated value of €25 million; and
- A duration of 30 months to construct.

The following contingent items are included in the tender documents:

- 40 delay days;
- 1,800 hours for a craftsman;
- 1,800 hours for an apprentice;
- 2,400 hours for a general operative;
- €250,000 estimate for materials; and
- €100,000⁷ estimate for plant, including rates of €120.30 per hour for special plant item 'A' and €125.30 per hour for special plant item 'B'.

Note: Ideally these should be Expected Values (in a statistical sense) of contingent items, estimated by professional judgement of similar projects.

Continued on next page

⁷ The €100,000 estimate for plant in this example has been calculated by the Employer's designer as follows:

(i)	Rates in sterling for a selection of plant items in CECA publication converted to euro and multiplied by an estimated number of hours.	€50,880
(ii)	The rate of €120.30 per hour for special plant item 'A' multiplied by an estimate of 200 hours.	€24,060
(iii)	The rate of €125.30 per hour for special plant item 'B' multiplied by an estimate of 200 hours.	€25,060
Total		€100,000

2.7.5 Tender Evaluation Example, Continued

Sample pricing

The following tender prices were received:

	Contractor A	Contractor B	Contractor C
Tender Price €	25,100,000	25,200,000	24,900,000
Delay cost €	8,200	4,800	10,500
Craftsman's cost €	35 per hour	23 per hour	28 per hour
Apprentice's cost €	26 per hour	13 per hour	17 per hour
General Operatives €	30 per hour	18 per hour	21 per hour
Percentage on Materials	31%	18%	25%
Percentage on Plant	20%	8%	10%

Sample calculations

The tender evaluation exercise would give rise to the following calculations:

Pricing	Contractor A €	Contractor B €	Contractor C €
Tender Price (including VAT)	25,100,000	25,200,000	24,900,000
Daily rate * delay days = Delay cost	8200 * 40 = 328,000	4800 * 40 = 192,000	17,000 * 40 = 680,000
Hourly rate * no. of hours = Craftsman's cost €	35 * 1800 = 63,000	23 * 1800 = 41,400	28 * 1800 = 50,400
Hourly rate * no. of hours = Apprentice's cost	26 * 1800 = 46,800	13 * 1800 = 23,400	17 * 1800 = 30,600
Hourly rate * no. of hours = General Operative's cost	2,400 * 30 = 72,000	2,400 * 18 = 43,200	21 * 2400 = 50,400
Materials cost * % tendered = Materials contingency	250,000 * 31% = 77,500	250,000 * 18% = 45,000	250,000 * 25% = 62,500
Plant cost * % tendered = Plant contingency	100,000 * 20% = 20,000	100,000 * 8% = 8,000	100,000 * 10% = 10,000
Total €	25,707,300	25,653,000	25,683,900

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2.7.5 Tender Evaluation Example, Continued

Traditional contract tender evaluation

For a traditional contract, the most competitive price offered is that of Contractor B. Where quality/price is to be the basis for the award, some examples of other criteria that might be included are:

- The tenderer's proposed management, supervision structure and personnel;
 - The proposed working methods;
 - The initial programme;
 - The plant and labour resources that would be deployed; and
 - Value Engineering proposals included with tender.
-

Award Rates and percentages to be listed

The following tendered rates and percentages should be included in the completed Schedule from the contract attached to the Letter of Acceptance and in the Schedule attached to the Agreement:

- €4,800 for the daily delay rate;
- €23 for a craftsman's hourly rate;
- €13 for an apprentice's hourly rate;
- €18 for a general operative's hourly rate;
- 18% on material costs; and
- 8% on plant costs.

The 8% percentage adjustment will be applied to the euro equivalent to the sterling plant rates in the Civil Engineering Contractors Association (CECA) publication at the time the work is done and to the rates of €120.30 per hour for special plant item 'A' and €125.30 per hour for special plant item 'B' that were supplied with the tender invitation. The adjusted rates will be used for valuing plant as authorised under clause 10.6.4 (3) of the Contract.

Design-and-build tender evaluation

In the case of a design-and-build contract, the quality criteria (if applicable) can include design and may include some or all of the foregoing qualitative criteria. In addition Whole Life Cost as a criteria will also be a factor. Separate weightings should be allocated to price and quality, with quality having an appropriate weighting relative to the project.

2.7.6 Letters of Intent and Acceptance

Contractor requirements

The Contractor is required to provide certain information to the Employer before the Starting Date. The Employer should ensure, before issuing the (binding) Letter of Acceptance, that bonds, insurances, any required parent company guarantees, tax clearance certificates, and other relevant documents are in place. The procedure for this should be specified in the tender documents.

Issuing Letter of Intent

If the Letter of Acceptance has issued, and the Contractor fails to provide the required documents, the Employer can terminate the Contract, but would have to commence a new procurement procedure to award a new contract. EU procurement rules do not allow Employers to move on and select the next placed tenderer after an award has been made.

This situation can be addressed by including in the instructions for tendering a provision that a Letter of Intent will be issued to the successful bidder. The instructions for tendering can specify that the Contractor must provide a performance bond, any required parent company guarantee, evidence of required insurance or other appropriate documentary conditions, within a stated period after issue of the Letter of Intent (30 days would be typical for building contracts, 60 days for civil engineering), failing which the Employer may go to the next bidder.

A form of Letter of Intent is included in the separately published *Model Forms* document. The issue of this model form does not have the effect of bringing a procedure to a close.

Binding nature of Letter of Acceptance

The issue of a Letter of Acceptance by an Employer to a tenderer forms a binding contract. The letter must be signed by a person authorised to sign contracts on behalf of the Employer. The Employer should make sure that all required approvals and supporting documents are in place before the letter is issued.

Chapter 3. Administering the Contract

Overview

Introduction This chapter describes how contract-related issues are administered during the course of the construction works.

In this chapter This chapter contains the following sections:

Section	See Page
3.1 Preliminary and Routine Considerations Deals with issues to be considered on commencement of the works.	99
3.2 Responsibilities in Relation to the Contract Outlines the responsibilities of the various parties in relation to the Contract.	106
3.3 Managing the Works in Progress Describes the management processes for the administration of the Contract.	118
3.4 Managing Risk in Progress Describes risk-related processes while the works are in progress.	139
3.5 Managing Price Variations Deals with how the risk of price variations is handled and how adjustments to the Contract Sum are calculated.	153

Section 3.1 Preliminary and Routine Considerations

Overview

In this section On commencement of a new project, there are a number of issues that the ER and the Contractor need to be aware of.

This section describes the following:

Topic		See Page
3.1.1 Starting a Project	The documents that need to be in place at the start of a project; and resolution of any inconsistencies between them.	100
3.1.2 Communications and Meetings	Details about communications between the Employer, the ER and the Contractor; and about scheduled and special meetings.	102
3.1.3 Maintaining Confidentiality and Secrecy	The requirement for maintaining confidentiality.	104
3.1.4 Value Management	An outline of how value management opportunities may arise in the course of a project (traditional contracts).	105

3.1.1 Starting a Project

Documents to be provided before Starting Date

All of the documentation required for the project start must be available before the project Starting Date. Specifically, the Contractor must provide the Employer with the following before the Starting Date:

- The executed agreement;
- A safety and health plan (in compliance with the construction regulations);
- Evidence that all required insurances are in effect;
- Programme of works – this requirement is discussed immediately below;
- The performance bond (if required);
- A parent company guarantee (if required);
- Any required collateral warranties (unless ER agrees to a later date); and
- Any required legal opinion.

The Contractor should set the Starting Date of the works which must not be more than 20 working days after the Contract Date.

Programme of works

The programme as part of the Works Proposal submitted with the tender will only be able to give an indication of the Starting Date when work is expected to commence on site. The actual Starting Date can only be determined after the Contract Date, in accordance with clause 9.1 of the Works Contracts. However, after the Contract has been awarded, but before the Starting Date, the Contractor (in compliance with clause 4.9.1) must submit to the ER a realistic and detailed programme of works (i.e. with actual dates) in sufficient detail to permit effective monitoring of the works by the ER. The programme of works should, for example, include details of:

- The methods by which the Contractor proposes to execute the works;
- The critical path for the works; and
- The order and times in which the works will be executed.

The programme of works must give the Employer and the ER adequate time to comply with their obligations under the Contract.

Note A method statement or a programme in the Works Proposals is a contract document, and if the method proposed in the method statement proves to be impossible to do or the programme is unrealistic, the Contractor is required to propose a change in accordance with clause 4.6.2 which if accepted must be carried out without any time extension or compensation.

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3.1.1 Starting a Project, Continued

Programme of works (continued)

Revised Programme of Works

In certain circumstances, the ER may ask the Contractor to prepare a revised programme of works. For example, such a request should be made if the ER believes that the Date for Substantial Completion may be missed. The Contractor is required to present the revised programme within 15 days of the request being made. A part payment (15%) of an amount due to the Contractor shall be withheld until the revised programme is delivered.

There is no restriction on the number of revised programmes the ER may request. Generally, there would be no need to request a revised programme more than once a month, although this may vary depending on progress.

Inconsistencies between the Contract documents

If there are inconsistencies (including any discrepancies or ambiguities) between the contract documents, the hierarchy of documents as set out in clause 1.3 of the Contract determines which takes precedence.

There is an obligation on the parties that if one becomes aware of any inconsistency it must inform the other party promptly.

Priority	Contract Document
1	The Agreement, even if it has not been executed
2	The Letter of Acceptance, and any tender clarifications included in it
3	The Schedule
4	The Contract Conditions
5	The Works Requirements
6	The Pricing Document
7	The Works Proposal, if any
8	Any other documents included in the Contract

If there is a Bill of Quantities in the Works Requirements it ranks after the other Works Requirements. If there are differences between figured and scaled dimensions on drawings, the figured dimensions take precedence.

Resolution of inconsistencies

The resolution of inconsistencies in the contract documents is a matter for the ER to decide.

Traditional contract

If the resolution changes the Works Requirements, it will be a Change Order, and the Employer will be obliged to pay the Contractor.

Design-and-build contract

The extra costs are the Contractor's responsibility. Furthermore, the ER's instruction to resolve any inconsistency is conclusive (i.e. final and binding).

3.1.2 Communications and Meetings

Communications

It is not just the contract that is to be interpreted purposefully, but also all communications between the parties. ‘Purposefully’ means having regard to the purpose of the Contract, and not just literally, so that if the language is ambiguous a court will, when faced with two or more possible interpretations, have regard to the purposes identified at clause 1.2.1 and not take an interpretation which might defeat those or serve them less well.

The Employer and the Contractor use a variety of documents to communicate formally about the project – these include notices, decisions, objections, approvals, certificates, determinations, instructions and requests. Such communications must be provided in writing and must be delivered as follows:

- Notices about termination of the Contract or disputes must be delivered by hand, or sent by pre-paid registered post to the designated person at the address stated for such notices in the Schedule (Parts 1 and 2).
- Other communications should be in electronic format where this is practical, or otherwise delivered by hand or sent by pre-paid post to the person at the address stated for such other communications in the Schedule (Parts 1 and 2).

Communications by fax or e-mail are considered to have been received when receipt is electronically recorded. Communications delivered by registered post are presumed to have arrived at 10.00 hrs two working days after posting.

Period of notice to the ER

The Contractor must give the ER at least 10 working days’ advance notice of the date by which the Contractor requires any instructions from the ER, or work items or other things that the Employer is to provide. (A required work item could be, for example, a piece of salvaged material that the Employer wants built into the works and which has been indicated in the Works Requirements). The time limit within which the ER has to give instructions or provide work items (in accordance with clause 4.11.2) is the latest of the following:

- The date stated in the Contract (if any);
- The date the instructions or work items are required in accordance with actual progress;
- The date first notified that they are required; or
- The date shown in the Contractor’s current programme.

Continued on next page

3.1.2 Communications and Meetings, Continued

**Scheduled and
special
meetings**

The ER schedules regular meetings with the Contractor to discuss ongoing project progress and may also call special meetings to deal with particular issues as they arise.

The ER may invite other Employer's personnel to attend such meetings. The Contractor is responsible for arranging for the attendance of the Contractor's personnel if requested by the ER.

If the Contractor requests the attendance of the Employer's personnel, this should be accommodated whenever practical. The time and place of meetings will be set by the ER, in consultation with the Contractor.

The minutes of such meetings are recorded by the ER and must be made available to the Contractor within five working days. If the Contractor wishes to contest any minuted item, this must be done within the next five working days.

3.1.3 Confidentiality and Secrecy

Requirement for confiden- tiality

The Employer is required to keep confidential the Contractor's rates and prices and any records of a confidential nature provided by the Contractor under the Contract.

The Contractor and the Contractor's personnel must keep confidential any information in the Works Requirements that is identified by the Employer or the ER as confidential or secret. Any records covered by the Official Secrets Act must also be regarded as confidential.

The disclosure of confidential information is permissible only in exceptional circumstances, such as:

- Where it is necessary for the provision of the works or to enforce the Contract (for example, in conciliation or arbitration);
- Where required by law or by order of a court or, in the case of disclosure by the Employer, for governmental, parliamentary, statutory, administrative, fiscal or judicial purposes, or the publication of an award notice; or
- Where the information has, except as a result of breach of confidentiality, become available or generally known to the public at the time of the disclosure.

Time limits for confiden- tiality

The requirement for confidentiality continues in perpetuity, in so far as the Contractor is concerned.

The Employer's obligations expire when the commercial sensitivity of the relevant information has ceased, and in any event five years after the information was provided.

3.1.4 Value Management

Value engineering proposals

Value management deals with methods of increasing the value that the Employer derives from the works – this can be by reducing the cost, or by enhancing the use-value of the works in some way without increasing the cost.

One of the mechanisms for managing value is by way of a *value engineering proposal* from the Contractor. This takes the form of a new or innovative solution that the Contractor proposes to the Employer. As far as practicable, the Employer should be open to considering such solutions which do not increase the Contract Sum *in respect of traditional contracts*.

The Contractor's proposal

Typically, the Contractor prepares a written value engineering proposal which, if adopted, will reduce the Contract Sum, accelerate the execution of the works, or bring some other benefit to the Employer without increasing the cost of the project. The Contractor's proposal should include details of the following:

- Proposed changes to the Contract or to the Contractor's documents;
- A breakdown of the Contractor's original tender cost for the relevant work and the parallel projected cost of the proposed changes and any proposed adjustment to the Contract Sum to reflect a share of any saving; and
- Details of any consequential changes to the programme.

The ER reviews the proposal and, having discussed it with the Employer, notifies the Contractor whether or not it is acceptable. If the Employer agrees to the proposal, the ER and the Contractor agree the adjustment to the Contract Sum. The Employer and the Contractor share the resulting savings. Where appropriate, the Date for Substantial Completion of the works is adjusted.

Where the proposal includes a change in the design of the works, unless otherwise agreed, the Contractor should undertake and be liable to the Employer for such design. The Employer may instruct the Contractor to obtain, at the Employer's expense, professional indemnity insurance (if not already provided by Contractor) in connection with any such design.

Section 3.2 Responsibilities in Relation to the Contract

Overview

Introduction The contract sets out a series of responsibilities for the key personnel involved in carrying out the works projects.

The successful administration of a works project requires the Employer, the Contractor and all other personnel to cooperate with each other. This is nothing more or less than working together for the same end. Clause 4.1 requires both parties to cooperate – the only constraint on the Employer being that this must not be inconsistent with any statutory duty. This obligation is a key element in the Contract and the parties can agree to engage on a ‘without prejudice’ basis. The Contract is quite clear in regard to this it states that ‘The parties may agree to consult or communicate, without prejudice. In any case, offering or giving cooperation does not imply any admission of any responsibility or alter either party’s rights or duties...’

Employers and contractors need to take a practical approach to any problems that might arise and should hold meetings to clarify issues and exchange information.

In this section This section contains the following topics:

Topic	See Page
3.2.1 The Employer’s Responsibilities In particular, those relating to employment records of personnel engaged on the works.	107
3.2.2 The Employer’s Representative’s Responsibilities In particular, those relating to day-to-day liaison with the Contractor.	108
3.2.3 The Contractor’s Responsibilities Compliance with employment legislation; and responsibility for subcontractors’ compliance.	111
3.2.4 The Project Supervisor’s Responsibilities Responsibilities in relation to health and safety on the works.	116

3.2.1 The Employer's Responsibilities

Introduction Under the Contract, the Employer is the party on whose behalf the works are undertaken and who agrees to pay for the works.

The main roles and duties of the Employer are set out in the relevant sections of the Contract.

The Employer and the ER The Employer appoints a suitably qualified ER (Employer's Representative), and may replace the ER at any time.

The Employer must notify the Contractor if the ER is replaced or if the position becomes vacant for any reason. Pending the appointment of a replacement ER, the Employer must carry out the functions of the ER.

Checks on employment records Under clause 5.3.3 of the Contract, the Employer has the right, whenever he deems it necessary, to seek the production of any records on pay and conditions for work persons employed on the site. In addition, the Employer has the right to conduct random checks on these records where the option to do so is selected in the Contract (Schedule Part 1J). The Employer checks are mandatory where both of the following conditions exist:

- The Contract Sum is expected to exceed €30 million; and
- The duration of the work is expected to exceed 18 months.

Even where these conditions do not apply, the Employer may insist on inspecting records. The absence of a reference to such inspections in the Contract or the Schedule does not absolve the Employer of the responsibility to conduct such inspection where appropriate; nor does it absolve the Contractor from ensuring that records can be made available to the Employer on demand.

The Employer's own risk assessment of this issue should take into account that a certain level expertise is required to carry out these checks. If the expertise is not available in-house or elsewhere in the public service, consideration should be given to appointing consultants to do the work. This will require that such a service, whether provided by the design consultants or others, is well defined, and set out in tender documents so that it can be tendered for.

3.2.2 The ER's Responsibilities

Introduction

The Employer's Representative (ER) is a person appointed to administer the contract on behalf of the Employer and to represent the Employer's interest.

The ER is the person primarily responsible for liaison with the Contractor. The responsibilities of this position are outlined in the following table:

Responsibility for...	The ER...
Instructions in the form of directions or Change Orders.	Issues instructions in the form of directions or Change Orders to the Contractor in relation to any matter connected to the works. Such instructions if they are Change Orders may alter the Works Requirements up to the time of Substantial Completion. The ER's instructions to the Contractor must be in writing – except in dangerous and urgent situations where this would delay a necessary action and in that case (under sub-clause 4.5.4) the verbal instruction must subsequently be confirmed in writing by the ER as soon as practicable.
Certificates	Reviews the monthly progress reports and statements from the Contractor and issues interim payment certificates based on these.
Delay and compensation events	Assesses any claims for time extensions or cost increases submitted by the Contractor.
Meetings	Schedules and minutes regular meetings with the Contractor.

In making assessments or issuing certificates, the ER must act with impartiality and in accordance with the Contract.

Continued on next page

3.2.2 The ER's Responsibilities, Continued

Limits to the ER's authority

The limits of the ER's authority are stated in Part 1A of the Schedule. These concern the following:

- The maximum adjustment to the Contract Sum for a single Change Order changing the Works Requirements;
- The maximum cumulative value of adjustments to the Contract Sum for Change Orders in any 3 month period;
- The issue of Change Orders that cause or contribute to a reduction in safety, quality, usefulness, or scope of the Works Requirements and are prohibited unless approved beforehand by the Employer;
- An obligation to consult with the Employer on any adjustment to the Contract Sum before deciding on the adjustment;
- To take direction from the Employer as to whether to accept or reject a value engineering proposal; and
- To consult with the quantity surveyor in relation to any adjustment to the Contract Sum before deciding on the adjustment.

Any other restrictions on the authority of the ER should be entered by the Employer in the Schedule. Outside the limits specified in these restrictions, the ER must seek the Employer's approval.

Note: Any Change Order from the ER to the Contractor is deemed to be within the ER's authority and must be implemented by the Contractor.

Delegation

The ER may delegate to a named representative any functions under the Contract and revoke any such delegation at any time.

The appointment of such a representative must not prevent the ER from exercising any functions directly at any time.

The ER should promptly (within 5 working days) notify the Contractor and the Employer of any such delegation, of the names of representatives, and of any subsequent changes. Any notification should require agreement by the parties to the Contract on the basis that the function (to be identified) is to be delegated, not the ER's responsibilities for that function.

Continued on next page

3.2.2 The ER's Responsibilities, Continued

Reviews and objection

In situations where the Contractor makes a written submission (including all supporting documentation) to the ER in relation to a proposed course of action, the ER must review the submitted material and determine the outcome. The ER may at this stage request any additional information that might facilitate the determination.

The ER may object to the submission on a number of grounds – for example if the ER believes that it does not comply with the Contract, or if it would impose an obligation on the Employer that he does not have to bear, or if it would have an adverse effect on the Employer or the public interest. The ER's objection must be made in writing and within ten working days of receiving the submission, (unless a shorter period is agreed).

The ER may subsequently alter or withdraw an objection, or may require the Contractor to make a new submission to meet the objections. This procedure (in clause 4.7 of the Contract Conditions) can be superseded by an alternative procedure in the Works Requirements.

3.2.3 Contractor's Responsibilities

Introduction

The Contractor is the party responsible for executing the works as defined in the contract documents and must comply with all legal requirements under the Contract.

Before submitting a tender, the Contractor must be satisfied in respect of the following:

- All of the conditions and circumstances that might affect the costing of the works;
- The correctness and sufficiency of the Contract Sum to cover the costs of performing their obligations under the Contract.
- The adequacy of the Contractor's own allowances for all risks, customs, policies, practices and other conditions affecting the works, whether they could or could not have been foreseen, except where the Contract expressly states otherwise.

Compliance of Works Proposals with Works Requirements

In particular, the Contractor must ensure that all Works Proposals comply with the Works Requirements. The Contractor may make proposals to the ER to change the Works Proposals in cases where the ER has issued an instruction that changes the Works Requirements.

Pay and conditions of employment

The Contractor has a number of significant responsibilities, in the area of pay and conditions of employment. The most important of these are listed below:

Responsibility for...	The Contractor...
Display of conditions	Exhibits details of pay and conditions of employment prominently on the site.
Compliance <i>(see below for more detail)</i>	Ensures that the rates of pay and conditions of employment (including provisions in relation to pension contributions) are in compliance with the law and apply to each work person (including agency or subcontractors' employees) involved with the works. <i>These rates and conditions cannot be less favourable than those for the relevant category of work person in any employment agreements registered under the Industrial Relations Acts 1946 to 2004.</i>
Prompt payment	Pays, and ensures that other employers on the site pay wages and other monies due no later than one month in arrears.

Continued on next page

3.2.3 Contractor's Responsibilities, Continued

Pay and conditions of employment (continued)

Responsibility for...	The Contractor...
Pensions and other contributions	Pays and ensures that other employers on the site pay all pension contributions and other amounts due to be paid on behalf of each work person.
Deductions	As required by law, makes and ensures that other employers on the site make all deductions from payments to work persons, and pays them to the appropriate authority/body .
Maintenance of records	Maintains and ensures that other employers on the site maintain full records (including employees' payslips) for inspection by the Employer. <i>The Contractor must ensure that all subcontractors' employees' payslips are retained in proper order by the subcontractors and made available for inspection by the works' Employer.</i>
Production of other records	Produce, or ensure that other employers on the site produce any other records for inspection by the Employer.
Trade union membership	Respects and ensures other employers on the site respect the right of work persons to be members of trade unions.
Consultation with employees	Complies with all obligations relating to consulting with and informing employees.
Working times	Ensures that personnel execute the works during the working times set out in the work requirements. <i>Exceptions to this might be agreed – for example if there is danger to safety and health, or if there is a risk of damage to the works or other property.</i>

Continued on next page

3.2.3 Contractor's Responsibilities, Continued

Compliance with legislation

The interim statements provided by the Contractor must certify that the Contractor has complied in full with all pay and conditions requirements under the following legislation:

- Industrial Relations Acts 1946 to 2004;
- National Minimum Wage Act 2000;
- Safety, Health and Welfare at Work Act 2005; and
- Employment Equality Act 1998 and all other employment law, including regulations, codes of practices, legally binding determinations of the Labour Court and Registered Employment Agreements.

There is a standard certificate in the Model Forms which incorporates all the foregoing legislation titled 'Form of Rates of Pay and Conditions of Employment Certificate'.

Compliance of Subcontractors

The Contractor has sole responsibility for compliance with all of these legislative requirements and also for ensuring that all subcontractors are equally compliant. If it is discovered that one of the Contractor's subcontractors is not compliant, it is a matter for the Contractor to resolve the issue and at no cost to the Employer.

The Employer should ensure that an appropriate Pay and Conditions of Employment clause is inserted in the following:

- The tender documentation relating to Employer-selected specialists or novated specialists;
- The specialist's form of contract (in the case of novation); and
- Other site contractors' forms of contract.

Note: One of the five forms of public works contracts should normally be used as the contract for novated specialists. This is separate from the model Form of Novation Agreement, which transfers the specialist contract to the Contractor.

In tender documents (i.e. Works Requirements) for the main contract works, contractors should be informed that the firm awarded the Contract will be required to include in its contracts with its subcontractors a contract provision for Pay and Conditions of Employment similar to clause 5.3 in the public works contract. This is not necessary for subcontractors who are employed by the Contractor following a separate tender competition conducted by the Employer – in this case the tender documents for the separate specialist tender include clause 5.3.

Continued on next page

3.2.3 Contractor's Responsibilities, Continued

Contractor's Personnel

The contract recognises as contractor's personnel all those engaged by the Contractor to carry out the works, including the Contractor's direct employees and subcontractors. The Contractor should ensure that their personnel:

- Are suitably qualified and experienced and are competent to carry out their designated tasks; and
- Carry out their respective tasks in accordance with the Contractor's obligations under the Contract.

The Contractor is responsible for any acts or omissions of his personnel (including specialists and design subcontractors) as if they were their own acts and omissions.

The Contractor should remove from the works any employee whom the ER so requires, on the basis of that person's misconduct, negligence or incompetence, or on the basis that the person's presence on the site is not conducive to safety, health or good order.

Contractor's representative / supervisor

Before the Starting Date, the Contractor must appoint a Contractor's representative and supervisor, and inform the Employer of these appointments:

- The representative must have full authority to act on the Contractor's behalf; and
- The supervisor must (except for Minor Works) work full-time on the works, and have full authority to receive the Employer's instructions on behalf of the Contractor.

The same person may fill both roles. Where the Contractor's representative or supervisor is named in the Works Proposals, then the Contractor must appoint the named person. The Contractor may not remove or replace the Contractor's representative or supervisor without the approval of the ER.

The ER may insist on the removal of a Contractor's representative or supervisor on grounds of misconduct, negligence or incompetence. In this case, the Contractor must appoint a replacement acceptable to the ER.

Cooperation with Employer's personnel

Where so indicated in the Works Requirements, the Employer may arrange for work to be executed on the site by his own personnel or other contractors.

The Contractor must cooperate with such personnel and is responsible for coordinating their activities with the execution of the works.

Continued on next page

3.2.3 Contractor's Responsibilities, Continued

Working with subcontractors and specialists

The Contractor may use subcontractors by agreement with the ER where such an agreement is required.

Specialists differ from other subcontractors in that they are named in the Contract or designated by the Contract as specialists. Substitution or replacement of specialists under any of the contracts must always be submitted in advance to the ER. In the case of design-and-build contracts a specialist is always required for design, and there may be other specialists.

Specialists, subcontractors or other personnel reporting to the Contractor who are named in the Contract must be engaged for and perform the work for which they are named.

The Contractor must fully comply with their obligations under the terms of any contract with a specialist or subcontractor and should not terminate, allow to be terminated, or accept a repudiation of such a contract without the ER's approval. If termination of a specialist subcontract does occur, the Contractor must replace the specialist with one whose details have been submitted to the ER and to whose appointment the ER has made no objection.

Collateral Warranty from Subcontractors

If the Schedule (Part 1F) requires a collateral warranty from any specialist subcontractor, the Contractor must provide to the Employer such a warranty (by the date stated in the Schedule) in the form included in the Works Requirements (or if there is none, a form approved by the Employer) executed by the subcontractor and the Contractor. The Employer is entitled to withhold payment of the amount stated in the Schedule until such time as the collateral warranty is provided.

Insurance Cover for other Contractors

Where necessary, the Works Requirements should identify other contractors and subcontractors the Employer intends to introduce, the scope of their work and the facilities that such contractors will require. The Contractor is responsible, unless expressly stated otherwise, for making sure that the Contractor's insurances cover the activities of other contractors on the site.

3.2.4 The Project Supervisor's Responsibilities

Introduction

The Safety, Health and Welfare at Work (Construction) Regulations 2006 require the 'client' (i.e. the Employer, in the case of public works contracts) for every project to appoint a competent project supervisor for the design process and a competent project supervisor for the construction stage. In each case the Employer must obtain written confirmation from each project supervisor that they accept the appointments.

The Employer must be satisfied that the project supervisors are competent and that they have allocated or will allocate adequate resources to enable themselves to perform their duties under the regulations.

Appointment of Project Supervisor

The Contractor may be appointed as project supervisor for the construction stage if he meets the requirements. If the Contractor is to be appointed, it must be stated in the tender documents and the Employer will need to include, in the case of an open procurement process, suitability selection criteria in relation to the Contractor's competence and resources. In the case of a restricted procedure the criteria for suitability assessment will have been set at an early stage and evaluated separately in advance of tenders being sought.

In traditional contracts the stages of design and construction are usually administered by different project supervisors – to reflect the separation of design responsibilities from build responsibilities in such contracts – with the Contractor taking the project supervisor role for the construction stage only. In design-and-build contracts, the Contractor may take both roles – that is, project supervisor for the design process and project supervisor for the construction stage.

- **Third-party project supervisor:** the Employer may choose to appoint a third party (i.e. other than the Contractor) to fill the role of project supervisor, and this may be indicated in the Works Requirements. This is most likely where there is a number of contractors working on the project and the first contractor is given the role of project supervisor. In this case, the Contractor must comply with all the lawful requirements of the appointed project supervisor and provide any copies of the Contractor's documents that the project supervisor may request.
- **Contractor as project supervisor:** If the Contractor is appointed project supervisor, the Contractor must accept this role in the form set out in the Works Requirements. The appropriate appointment form must be used – see the templates in the separate publication for Model Forms:
 - Model Form for the Appointment of Project Supervisor for Construction Stage; and
 - Model Form for the Appointment of Project Supervisor for Construction Stage and Design Process.
 - Model Form for the Appointment of Project Supervisor for the Design Process

Continued on next page

3.2.4 The Project Supervisor's Responsibilities, Continued

Insurance cover

Where the Contractor is appointed project supervisor, the Employer should ensure that the Contractor's insurances cover any liability that might arise from the performance or non-performance by the Contractor of their duties as project supervisor.

Termination of appointment

The Employer may terminate the Contractor's appointment as project supervisor where, for example, the Contractor fails to comply with their obligations under the Safety, Health and Welfare at Work Act 2005 and the Construction Regulations 2006. In this situation, the Contractor must pay all the Employer's additional costs resulting from the termination – including the cost of appointing a replacement project supervisor or the cost of the Employer taking on the role.

Section 3.3 Managing the Works in Progress

Overview

Introduction Once the works are in progress, there are a number of management priorities that the parties to the Contract must address. For example, all project documentation must be maintained securely, and appropriate procedures must be in place to ensure that the Contractor is paid in a timely manner for work done.

This section describes ongoing management processes that help to ensure the smooth administration of the Contract to completion.

In this section This section contains the following topics:

Topic	See Page
3.3.1 Project Documentation The requirement to maintain all project documentation, including progress reports, certificates and instructions securely.	119
3.3.2 Site Management Issues relating to site availability, access and safety.	121
3.3.3 Quality Assurance in Progress Issues relating to quality assurance while the works are in progress.	124
3.3.4 Interim Payments Procedures for making interim payments to contractors.	126
3.3.5 Actions on Substantial Completion of the Works The actions that are actioned once the works are <i>substantially complete</i> .	130
3.3.6 Resolving Disputes Processes for resolving disputes, including conciliation and arbitration.	132
3.3.7 Suspension of Works Dealing with circumstances in which works may be suspended.	134
3.3.8 Termination of Contract Dealing with circumstances in which the Contract is terminated before the due completion of the works.	135

3.3.1 Project Documentation

Progress reports

From the start date and for the duration of the works, the Contractor is required to submit monthly progress reports to the ER. These must be delivered within seven days of the end of each month. Typically, the reports will include the following information:

- A detailed description of the progress of each stage of the works compared with the Contractor's current programme;
- Names of Specialists and off-site suppliers and an account of progress and location of the design, manufacture, fabrication, delivery, installation, testing and commissioning of works items;
- Details of the Contractor's personnel and Contractor's things on site;
- Status or preparation and review of Contractor's documents;
- Copies of quality assurance documents, with test results and certificates;
- Details of when an ER's instructions are required and are still outstanding;
- Details of any Employer's works items and other things that are required.
 - A 'work item' is a contract term that could mean, for example, an ornamental railing restored by the Employer and to be installed by the Contractor.
 - 'Other things' could mean copies of documents the Employer received from third parties;
- Details of delay or compensation events that have occurred or are unresolved; and
- Details of all incidents involving environmental issues, labour issues, public relations issues, and health and safety issues that might adversely affect the works.

The ER should specify the form of the progress reports at the outset.

Availability of documentation

In the course of the project, a range of documents are used to control the delivery of the project in line with the contract requirements. These documents include ER instructions, logs, value engineering proposals and other control documents.

The Contractor must provide the Employer with on-site access to the following documents:

- A set of contract documents;
- A log of all instructions; and
- If requested by the ER, all publications referenced in the contract documents and in the Contractor's documents.

All project documents must be in English.

Continued on next page

3.3.1 Project Documentation, Continued

Instructions The ER may issue *instructions* to the Contractor in relation to any matter concerning the provision of the works at any time up to the date the Defects Certificate is issued. Instructions that are *change orders* are supplementary to the Works Requirements.

A complete log of all instructions must be maintained by the Contractor and the ER should also maintain his own log.

3.3.2 Site Management

Overview

Clause 7 of the Contract defines the responsibilities of both Employer and Contractor in relation to the site of the works. This includes details of availability of the site, security, and access routes. This material can be expanded on in the Works Requirements.

The main issues relating to site management are described below.

Availability of the site

The Employer should ensure that all necessary interests and rights of way in the parts of the site that the Contractor is to occupy have been obtained in advance of the Starting Date.

Provided that the Contractor has done all the Contract requires the Contractor to do before the Starting Date, the Employer shall allow the Contractor to occupy and use each part of the site at the times set out in the Works Requirements, on or before the latest of the following dates:

- The Starting Date;
- The date stated in the Works Requirements, if any;
- The day after the Contractor has submitted the programme;
- The date stated for work on the part of the site in the Contractor's current programme; or
- The date on which the Contractor actually requires the part of the site in accordance with its actual progress.

The Employer's personnel may continue to work on the site if this is stated in the Works Requirements.

The Contractor must pay any charges relating to their occupation of the site – for example those relating to traffic disruption.

Contractor's Occupation and Use of the Site

The Contractor's occupation and use of the site is determined by the Works Requirement.

The Contractor may occupy the site solely for the purpose of performing the Contract, and this is subject to any limitations stated in the Works Requirements – for example, those dealing with use of roads.

The Contractor is not entitled to exclusive possession of the site, or any part of it, and should therefore facilitate any use of the site by the Employer and others. The principles around this issue should be set out in the Works Requirements.

Setting out of the Works

The Contractor should set out the works by reference to the points, lines and levels of reference in the Works Requirements.

Continued on next page

3.3.2 Site Management, Continued

Protection of utilities

Under the Contract the Contractor is responsible for all operations on the site including those in relation to excavations on or near utilities.

Therefore, Contractors should take full responsibility for excavations on or near to utilities and take appropriate steps to ensure their protection. Such steps, should as a matter of best practice, include:

- Liaison with the relevant utilities companies;
- Location and tracing of runs by remote detection and other means; and
- Trial excavation means.

The Contractor should also take responsibility for the protection and reinstatement of utilities in accordance with the requirements of the utility company or authority where they exist on a particular project.

Security and safety of the site

Once in occupation of the site, the Contractor is responsible for security and safety of the site. In particular, the Contractor must:

- Maintain the site always in good order and free from unnecessary obstructions and nuisance.
 - Ensure that the site is secure (to prevent unauthorised persons from gaining access) and that adjacent landowners are protected from hazards and interference arising from the works. The Contractor is responsible for the activities of any trespassers, protestors or other unauthorised persons on the site.
 - Comply in all respects with the Safety, Health and Welfare at Work Act 2005.
 - Take responsibility for all site operations and for the Employer's facilities if the Works Requirements so state.
-

Access and facilities

The Contractor is responsible for maintaining the suitability and availability of access routes to and within the site, and associated maintenance work.

Site traffic must comply with current legislation concerning laden weights and dimensions as in the Road Traffic (Construction, Equipment and Use of Vehicles) Regulations 1963 to 2004. In addition, the Contractor is responsible for providing all power, water and other services as required to perform the Contract.

Archaeological Objects and Human Remains

In the event of discovery of archaeological objects and/or human remains on the site the Contractor must promptly notify the ER and the appropriate authorities. Such remains must not be disturbed, and the Contractor must take all steps necessary to preserve them.

Continued on next page

3.3.2 Site Management, Continued

Condition of site on take-over	On conclusion of the Contract, the Contractor must leave the site in good order. At the latest, the Contractor must remove all his things at the end of the defects period.
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3.3.3 Quality Assurance in Progress

Overview

Quality assurance describes all the planning, preparation, checking, recording and other work actions that are necessary to achieve the standard of outcome required by the Employer. These actions are not additional but should be seen as an integral part of doing the job properly to a consistent standard. The Works Requirements should request details to be submitted of the quality assurance systems and procedures that tenderers propose to use on the project. Any special requirements that tenderers have to take account of should be stated in the Works Requirements.

Contractor Responsibilities

The Contractor in his Works Proposals must establish and implement quality assurance procedures, as required in the Works Requirements, including procedures for establishing quality assurance systems for his subcontractors. The quality assurance procedures should be reflected in appropriate quality plans accepted by the Employer.

The Contractor must provide to the ER copies of all reports prepared in accordance with these quality assurance procedures. The ER may carry out monitoring, spot checks and audits of the Contractor's quality assurance procedures.

Standards of workmanship and works items

The Contractor is required to ensure appropriate standards both of workmanship and in the work items:

- The works must be executed in accordance with the Contract, the Works Requirements, and the Works Proposals, and in a proper and workmanlike manner, and with appropriate standards of workmanship;
 - All of the work items must comply with the Contract and any legal requirements; and they must be of good quality and new (unless agreed otherwise);
 - All materials and goods that are works items must be fit for the purpose for which such materials or goods are normally used; and
 - All works items selected or designed by the Contractor (or by any subcontracted specialist) must be fit for their intended purpose in the works.
-

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3.3.3 Quality Assurance in Progress, Continued

Standards of workmanship and works items (continued)

Ownership of Work Items

Ownership of each works item will become the property of the Employer on the earliest of the following:

- When it is delivered and suitably stored on the site (if owned by the Contractor) and title to it has been vested in the Employer;
 - When it is incorporated into the works; or
 - When any payment for the works item is made by the Employer to the Contractor.
-

Dealing with defects

The ER may at any stage request the Contractor to search for a defect, or suspected defect. All defects must be notified to the ER as soon as practicable. The ER can then instruct the Contractor to:

- Remove the work item with the defect from the site;
- Demolish the work item with the defect;
- Reconstruct, replace or otherwise correct the work item with the defect; or
- Take any other action necessary to remedy the defect.

In the event that there is a major defect which affects the works, the ER has the right to reject the works. In such a scenario, the Contractor must rectify the defect or repay the Employer the costs of dismantling and removing the works.

Defects Period

The Defects Period is the period following Substantial Completion of the works during which the Contractor must rectify any defects that are identified by the ER. The defects period that applies to the Contract is stated in Part 1 (I) of the Schedule –it usually extends for one year following Substantial Completion, but there may be circumstances in which the Employer requires a longer period – for example, a landscaping contract. The ER may extend the Defects Period in relation to works outstanding or defects uncorrected at the end of the Defects Period without limiting the Employer's other rights. Furthermore an interim certificate may be issued at the end of the original Defects Period conclusively making an appropriate reduction in retention money.

The Contractor must rectify any defects that are notified by the ER during the defects period.

Defects Certificate

At the end of the defects period, the ER issues a *Defects Certificate* to the Contractor – usually within 20 working days after the end of the defects period.

3.3.4 Interim Payments

Overview

For the duration of the Contract, the Employer is required to make interim payments to the Contractor, as prescribed in the Schedule. These are payments on account for work done out of the fixed price lump sum in the Contract. For that reason, the Employer and the Employer's finance personnel must be aware of the payment intervals that have been entered in the Schedule. Payments must be made within 15 working days of the Employer receiving the Contractor's invoice following issue of the ER's certificate.

The process of valuing, certifying and making interim payments to the Contractor is listed in clauses 11.1 and 11.2 of the Contract. Interim payments are based on the value of the works executed as defined in the Pricing Document, less any retention percentage.

The statement that the Contractor presents to the ER for interim payment is on the basis of a schedule of work done in the interim period, based on detailed measurements, milestones, activities, etc. as in the Pricing Document.

Interim payments are progressed through the following stages:

Stage	Description
1	At the intervals specified in the Schedule, the Contractor submits statements with details of the amounts he believes are due.
2	<p>The ER reviews the Contractor's statements, and normally passes them for payment (see Pay and Conditions Compliance immediately below for some of the conditions that attach to the Contractor's statements).</p> <p>Note: the ER must certify not later than the 10th working day after receipt of the Contractor's statement based on the information he has, so if additional information (where requested) is not supplied on time, the Contractor will lose out. The ER issues the Contractor an <i>interim payment certificate</i> to this effect, setting out the amounts that (in the ER's opinion) are due.</p>
3	After receiving the interim certificate the Contractor sends an invoice to the Employer. Within 15 working days of presentation of an invoice, the Contractor receives payment, less retention.

Note: The Contractor is responsible for paying his personnel, specialists and subcontractors.

Continued on next page

3.3.4 Interim Payments, Continued

Pay and conditions compliance

In presenting an interim statement, the Contractor must also produce a single *Rates of Pay and Conditions of Employment certificate* for all of the people working on the site for which payment for work done is being sought, including subcontractors' employees. The Contractor is responsible for ensuring compliance by all his subcontractors. It is a matter for the Contractor to have appropriate procedures and conditions in place with his subcontractors to ensure that they are in compliance. If one of the conditions is that the subcontractors are to provide a certificate to the Contractor similar to the *Rates of Pay and Conditions of Employment certificate* the ER does not need to review those subcontractors' certificates. If the Contractor does not present the certificate, the ER will not pass the statement for payment and will not issue a payment certificate. The standard *Rates of Pay and Conditions of Employment certificate* in Model Forms is to be used for this purpose.

ER's review of interim statements

Before issuing an interim payment certificate, the ER reviews the Contractor's statements for the period under consideration and takes into account:

1. The value of the works executed (as determined by reference to the Pricing Document). The Contractor should provide a detailed breakdown and any supporting documentation.
2. The value of any *unfixed works item* acquired, the title to which is vested in the Employer. Unfixed works items are items which have not yet been incorporated into the works – they may be either on-site or off-site and clearly marked as the property of the Employer. Part 1L of the Schedule indicates the maximum percentage of the contract value of unfixed works items that may be included in interim payments – typically, this is 90%.
3. The retention percentage (as specified in the Schedule) on the full amount – this includes payments under point 2 above.

Interim Payment Certificates for part of the works.

In situations where someone on the Contractor's team has not complied with the agreed national rates of pay and conditions of employment, work done by that firm should not be included in the Contractor's interim statement. To do so would result in the Contractor not being paid for any of the work as the Contractor would not be in a position to issue a *Rates of Pay and Conditions of Employment certificate*. The Contractor must ensure that the subcontractor does not claim non-compliant labour costs – otherwise, the Contractor will not be in a position to issue a compliance certificate for the rest of the work done.

Continued on next page

3.3.4 Interim Payments, Continued

ER's review of interim statements (continued)

The ER will only issue a payment certificate when a compliance certificate accompanies an interim statement for the part of the works that is in compliance. Once a compliance certificate is attached to an interim statement, the ER is obliged to accept that certificate without a requirement to look behind it unless a breach has been brought to his attention.

For example, if a contractor has five subcontractors and discovers that one of them is not paying the REA rates to its employees, then the costs relating to that subcontractor will not be included in the Contractor's interim statement and the payment certificate issued by the ER will reflect this. Only the costs relating to the other four compliant subcontractors and the Contractor's own work will be passed for payment.

If it is subsequently discovered that payment on a certificate included non-compliant labour costs the Employer can estimate the amount that should not have been paid and deduct that amount from any money due to the Contractor in the next payment certificate.

Employer's claims

The Employer may deduct from any amount due to the Contractor:

- Any amount determined by the ER to be due, or likely to become due, from the Contractor to the Employer under the Contract;
- Any amount due from the Contractor to the Employer under any other contract;
- The amount identified in the Schedule (Part 1F) for the non-provision of a specialist collateral warranty by the required date;
- The estimated amount not paid by the Contractor or the Contractor's personnel contrary to clause 5.3 of the Contract; and
- Up to 15% of any payment due to the Contractor until the Contractor provides a revised programme in accordance with clause 4.8.3 (4.9.2. Minor Works Contract).

Breaches of Registered Employment Agreements (REAs)

If a contractor (or any subcontractor) is found to have been in breach of an REA, the Employer may withhold from the Contractor an amount equal to the estimated amount of the Contractor's underpayment to works personnel arising from the breach of the REA. This amount is withheld indefinitely until the Contractor comes into compliance with the REA and is able to prove it with documentary evidence to the ER.

The Employer has both the option and obligation to conduct random checks of the Contractor's records of all wages, pension contributions and other amounts paid to works personnel – but only for the purpose of checking whether or not the Contractor's obligations have been discharged. (For more information on this area, see The Employer's Responsibilities on page 107.)

The Employer retains the right to terminate the Contract where the Contractor remains non-compliant with respect to pay and conditions of work persons.

Continued on next page

3.3.4 Interim Payments, Continued

**Effect of
payment and
certificates**

No payment by the Employer or certificate issued by the ER relieves the Contractor of any of their obligations under the Contract, or can be considered evidence of the value of the work or that the work has been executed satisfactorily.

**Time for
payment and
interest**

When a payment is to be made under the Contract, the amount due must be paid within 15 working days of receipt of a demand for payment (invoice).

The Contractor is required to provide to the Employer, for each payment, an invoice complying with section 17 of the Value Added Tax Act 1972.

If a payment is not made within the contract time, interest is added to the amount from the date the payment was due under contract, at the rate provided in the EU (Late Payment in Commercial Transactions) Regulations 2002.

3.3.5 Actions on Substantial Completion of Works

Date for Substantial Completion

The Date for Substantial Completion of the works (or section of the works) is set out either by the Employer in Part 1G, or, if not stated by the Employer, then by the Contractor in Part 2D of the Schedule.

The following steps are actioned on Substantial Completion.

Step	Action
1	Contractor requests certificate When the Contractor is satisfied that the works (or section of work) is complete, the Contractor requests a Certificate of Substantial Completion from the ER.
2	ER issues certificate The ER is required to issue the certificate to both the Contractor and the Employer within 20 days of receiving the request from the Contractor, or to give reasons for not issuing the certificate. The certificate may list defects and outstanding work. Note, however, that the Contractor is not relieved of any obligations in respect of any defects not listed on the certificate.
3	Retained payment released Once the Certificate of Substantial Completion has been issued, the portion of retained payments for the works or that section should be released. At the issue of certificate of Substantial Completion of the works, the Contractor may provide an appropriate retention bond for the balance of the retained payment – in this case, all of the retained payment should be released.

If any of the programmed works are omitted on the instruction of the Employer, and the omission results (or has resulted) in a reduction of the time required to provide part or all of the works, the Date for Substantial Completion will be brought forward by agreement between the ER and the Contractor. Otherwise there will be no reduction in the time to Substantial Completion.

Notice of take-over of part of the works

The Employer may take over a part of the works before Substantial Completion once this has been signalled in the Works Requirements, in this case giving at least five days' notice to the Contractor.

From the date of the notice, the Contractor has no liability for delay in relation to the part taken over by the Employer.

Continued on next page

3.3.5 Actions on Substantial Completion of Works, Continued

Liquidated damages

If the Contractor fails to achieve Substantial Completion by the agreed or extended agreed date, he must pay the Employer *liquidated damages* to cover the period between the scheduled and actual completion dates. The amount due in liquidated damages is determined in the Schedule. It should be a genuine pre-estimate of the loss the Employer would incur, and may be deducted by the Employer from any payments due to the Contractor.

There can be liquidated damages for sectional completion separate to the liquidated damages for the whole of the works. *Liquidated damages* are taken for a section if the section is late. If a section and the works are both late, then it is the *liquidated damages* for the works that apply. Clause 9.8.2. of the Contract Conditions deals with the situation where a section is not complete by the Date for Substantial Completion for the Section and the *Liquidated Damages for the Section* is applied.

3.3.6 Resolving Disputes

Overview

Despite best intentions, contractual disputes can and do occur. Disputes can cause delays and add to costs, but it is hoped that the use of the public works contract will reduce their occurrence.

The best way of dealing with disputes is to avoid them in the first place; and employers should pay particular attention to any issues they believe might give rise to a dispute.

There are two levels of intervention to aid resolution of disputes:

- **Conciliation:** In this case the parties to the dispute appoint an independent conciliator; and
- **Arbitration:** Where conciliation does not resolve the dispute, the parties agree to arbitration.

Each of these is described in more detail below.

Opinion on termination

The Employer may refer to conciliation the issue as to whether the Employer has become entitled to terminate the Contract on Contractor default.

Conciliation

Conciliation proceeds through the stages outlined in the table below:

Stage	Description
1	<i>Referral to conciliation</i> When a dispute arises in relation to the Contract or the works, either party (the Employer or the Contractor) may refer the dispute for conciliation.
2	<i>Appointment of conciliator</i> Within ten days, the parties jointly appoint an independent conciliator. If the parties cannot agree, the person or body named in the Schedule (Part 1N) appoints the conciliator. These proceedings are confidential.
3	<i>Documentation sent to conciliator</i> The parties send the conciliator details of the dispute and provide each other and the conciliator with documentation and any other evidence the conciliator needs to consider.

Table continued on next page

3.3.6 Resolving Disputes, Continued

Conciliation stages, (continued)

Stage	Description
4	<i>Conciliator as facilitator to resolve dispute</i> In facilitating the resolution of the dispute, the conciliator may meet with the parties, take legal advice or use professional advisors. The time limit for normal resolution of a dispute is 42 days or a longer period proposed by the conciliator and agreed by the parties.
5	<i>If the dispute is still unresolved ...</i> The conciliator issues a <i>written recommendation</i> at the end of the 42 days or longer period if agreed If either party is not satisfied with the recommendation, they must notify the other party within a further period of 45 days. Otherwise, the conciliator's written recommendation becomes binding on the parties, and any payments recommended by the conciliator should be made.
6	<i>If one party remains dissatisfied ...</i> If the party required to make the payment remains dissatisfied, they should issue a <i>notice of dissatisfaction</i> and make the payment subject to the receipt of a bond for that amount provided by the other party. The purpose of the bond is to cover the eventuality that the final resolution of the dispute (by arbitration) might reverse the conciliator's recommendation. The conciliation process is now complete, and the dispute (if unresolved) moves to arbitration.

Arbitration

Disputes not resolved by conciliation are referred to arbitration under the arbitration rules set out in the Schedule (Part 1N).

A copy of the findings of any arbitration in relation to these contracts should be submitted on a non-confidential basis to the Secretariat of the Government Construction Contracts Committee to facilitate the monitoring and analysis of disputes in relation to these contracts.

Continuing Obligations

Despite the existence of a dispute, the parties are required to continue to perform their obligations under the Contract, unless it has been terminated. This means that a dispute should not cause disruption to the works.

3.3.7 Suspension of Works

Overview

There are circumstances where the works may be temporarily suspended:

- Where the Employer has not complied with obligations to pay amounts due to the Contractor; and
- Where the Employer (or ER) exercises his discretion to instruct the Contractor to suspend the works.

Each of these circumstances is described below.

Suspension of works by the Contractor

If the Employer fails to pay any amount due under the Contract, the Contractor may make a written demand to the Employer for payment and if the payment has not been made within 15 working days of the receipt of the demand, the Contractor may, on giving notice to the Employer, suspend the works until the amount has been paid.

On receiving the payment, the Contractor shall resume the works.

Suspension of works by the ER

The ER may at any time instruct the Contractor to suspend all or part of the works. The Contractor must as a consequence protect and secure the works during the period of suspension. The Contractor may be entitled to an adjustment to the Contract Sum as a result of the suspension.

If a suspension is not due to a breach of the Contractor's obligations and the suspension continues for three months, the Contractor may request the ER to instruct a resumption. In this situation the following conditions apply:

If the Employer's representative...		Then...
Accedes to the request		The suspended works may resume.
Does not accede to the request within 28 days, and	The suspension relates to the entire works	The Contractor may exercise the option to terminate the works.
	The suspension relates to part of the works	The Contractor may treat the suspension as a Change Order to omit that part of the works.

3.3.8 Termination of Contract

Overview

Termination of the Contract brings the works specified in the Contract to an end before they have been completed. There are three types of termination that can apply to a public works contract.

Type	Description
<i>Termination by the Contractor</i>	The Contractor withdraws from the works
<i>Termination at Employer's election</i>	The Employer, at their discretion, elects to terminate the Contract
<i>Termination on Contractor default</i>	The Employer may terminate the Contract where the Contractor is in default of contract obligations

Termination by the Contractor

The Contractor may terminate their obligation to complete the works in certain circumstances, such as:

- Where it is physically impossible for them to fulfil their obligations for a period of at least 6 months; or
- Where the Employer has not paid what is owed to the Contractor and in circumstances where the Contractor has suspended the execution of the works for 15 working days.

Following termination by the Contractor, the *termination sum* should be agreed – see Termination Sum on page 136.

Termination at Employer's election

The Employer may terminate the Contract at election on giving the Contractor 20 working days' notice. In this case, the Contractor's performance bond should be returned, and the *termination sum* should be agreed – see Termination Sum on page 136.

The Employer may not terminate by election the Contractor's obligation to complete the works for the purpose of retaining another contractor to execute the works.

Continued on next page

3.3.8 Termination of Contract, Continued

Termination Sum

On termination by the Contractor or termination at the Employer's election, the Contractor provides the ER with a *statement of the termination sum*, summarising the costs of removal from the site, and the unpaid value of the parts of the works completed to the date of termination in accordance with the Pricing Document. Within ten working days of receiving this statement, the ER should issue a certificate to the Employer and the Contractor indicating the amount due from the Contractor to the Employer, or from the Employer to the Contractor.

Termination on Contractor default

The Employer may terminate the Contract in cases where the Contractor has not satisfactorily fulfilled his obligations. For example, termination could arise if the Contractor:

- Fails to comply with his obligations under the Contract;
- Abandons the works;
- Does not have adequate insurance cover;
- Becomes insolvent; or
- Breaches the Safety and Health and Welfare at Work Act 2005.

The consequences for both the Employer, the ER and the Contractor are described in the section dealing with Consequences for the Employer of termination on Contractor default on page 137.

Wrongful Termination by Employer

The Employer may (but is under no obligation to) refer to a Conciliator (appointed under Clause 13.1) the issue of whether he is entitled by virtue of the Contractor's default to terminate the Contractor's obligation to complete the Works. Where an Employer makes such a referral the Conciliator has 21 days after appointment to issue a recommendation.

The termination shall stand as if it were a voluntary termination (i.e. termination at Employer's election) under the following conditions:

- The Conciliator upholds his proposed termination;
- The Employer terminates the Contractor's obligation to complete the Works with 60 days; and
- The Conciliator's recommendation is subsequently overturned in Arbitration.

The provisions of sub-clauses 12.6.1 to 12.6.4 shall apply retrospectively from the date of the termination notice. However, sub-clause 12.5.2 prohibiting the Employer from retaining another Contractor to complete the Works shall not apply in this instance.

Continued on next page

3.3.8 Termination of Contract, Continued

Consequences for the Employer of termination on Contractor default

When a contract is terminated on contractor default, the Employer takes over the works and takes the following steps:

Step	Action
1	Review all insurance exposures and cover in relation to the works.
2	Make an assessment of the amount due to the Contractor in respect of works completed and as yet unpaid; this is called the <i>termination value</i> .
3	When the works have been completed (either by the Employer or by a different contractor), assess the <i>termination amount</i> – this is the difference between the amount it would have cost to complete the works in accordance with the original contract and the actual costs that the Employer has incurred in completing the works
4	<p>Issue a certificate to the Contractor detailing the <i>termination amount</i> and the loss and damage incurred by the Employer as a consequence of the termination.</p> <p>The certificate should be issued within six months or as soon as practicable, based if necessary on estimates.</p>
5	<p>If the <i>termination amount</i> is greater than the <i>termination value</i>, issue a demand to the Contractor for the difference. The Contractor is required to pay this within 10 working days of receiving the demand.</p> <p>If the termination value is greater than the termination amount, invite the Contractor to invoice for the difference; and pay the Contractor within 15 working days of receiving the invoice.</p>

Notes

a) The Employer may engage other contractors, use any things on the site and do anything necessary for the provision of the works.

b) The Employer may pay subcontractors and any suppliers to the Contractor any amounts due to them, and may subsequently demand the Contractor to repay these amounts. In order to ascertain what is due the Employer will have to make inquiries of the subcontractors and suppliers and only make the payment if the Employer is satisfied that the money is due. The Employer can, if unsure, decide not to pay. The Contractor would not have to reimburse an overpayment.

Continued on next page

3.3.8 Termination of Contract, Continued

**Consequences
for the
Contractor of
termination
on Contractor
default**

On termination of the Contract, the Contractor must leave the site in an orderly manner, and must comply with instructions issued by the Employer. In particular, the Contractor must:

- Not remove any things from the site unless instructed to do so by the Employer; if so instructed, the Contractor should promptly remove works items, temporary works and Contractor's things from the site;
 - Assign to the Employer, if instructed to do so, without further payment, the benefit of any subcontract, any contract for the supply of any works item, or any other contracts in relation to the works; and
 - Provide to the Employer all Works Requirements and Contractor's documents.
-

Section 3.4 Managing Risk in Progress

Overview

Introduction

Risk management runs for the entire lifetime of a construction project, and seeks to minimise exposure to events that might increase the cost or extend the time-span of the works.

Both the Contractor and the Employer take out insurance policies to mitigate the realisation of some of these risks; others are borne by those parties to the Contract that are best able to manage, control and mitigate them.

Risk allocation and transfer

Risk is *uncertainty of outcome*. Before the project is put out to tender, the likely risks are identified, and then allocated to the Employer or to the Contractor – the object at this stage is to place the risk with the party best placed to manage it.

The Employer seeks to *transfer* the optimal amount of risk possible to the Contractor to obtain greater price certainty while also ensuring that value for money is obtained. The level of risk transfer, however, should be based on the information made available in the tender documents – the more comprehensive the information, the greater the level of risk that can be transferred to the Contractor.

Contractors are required to take out insurance against certain risks, including public liability and professional indemnity – the details of required insurances are specified in the tender documents.

Effectively managing risk helps organisations deliver their objectives, while protecting their interests. In the context of capital works projects, good risk management helps employers to:

- Be more confident that projects will be completed on time and on budget;
 - Identify and quantify acceptable risk levels effectively; and
 - Take informed decisions when a risk is realised.
-

Continued on next page

Overview, Continued

In this section This section contains the following topics:

Topic	See Page
3.4.1 Responsibility for Loss and Damage Describes how different kinds of risks are allocated between the Employer and the Contractor.	141
3.4.2 Delay and Compensation Events Sets out how realised risks to the duration and costs of projects are managed.	143
3.4.3 Managing Contract Insurance Includes a brief overview of contract insurance requirements.	151

3.4.1 Responsibility for Loss and Damage

Introduction

The Contractor and the Employer are responsible for the risk associated with different types of loss, damage and injury, as set out in clauses 3.1–3.3 of the Contract.

For certain categories of risk, the Employer bears the entire risk – these are set out in clause 3.1. For other risks, including those that might lead to delays or claims for compensation by the Contractor, the Employer has some discretion as to how they can be allocated. The Employer may also apply different programme contingency thresholds to different classes of risk.

In the event of a risk being *realised*, it is very important to know who is bearing the risk – in other words who will accept the loss or damage that the realisation of the risk brings. The contractual responsibilities of the Employer and the Contractor in relation to risk items are described below.

Employer's responsibilities

The Employer is responsible for the risk of loss, damage or injury to the works resulting from any of the following (as defined in clause 3.1):

- Employer design;
- Contamination caused by radioactivity or other hazardous properties;
- Pressure waves caused by aircraft or other airborne objects;
- War, invasion, hostilities, terrorism (only if this is noted in Section D of the Schedule as a permitted exclusion from the Contractor's insurance), riot, civil commotion; and
- Use or occupation of the works by the Employer other than:
 - as provided for in the Contract; or
 - to the extent that the loss or damage is caused by the negligence of the Contractor, or the Contractor's personnel, or the Contractor's breach of contract.

Existing Facilities

The Schedule makes clear the level of risk that the Employer undertakes with regard to existing facilities. If the Employer does not want to carry this risk the word 'shall' should be deleted in the Schedule, Part 1D (Optional Insurance Provisions) – i.e. 'The Employer shall not have the risk of loss of and damage to its existing facilities and parts of the Works it uses or occupies, in accordance with sub-clause 3.8'. The default position is, if it is not deleted, then the Employer does not carry the risk. The risk relates to the loss or damage caused by any of the following:

- Fire, storm, tempest and flood;
 - Bursting or overflowing of water tanks, apparatus or pipes;
 - Explosion, impact and aircraft; or
 - Riot, civil commotion or malicious damage.
-

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3.4.1 Responsibility for Loss and Damage, Continued

**Contractor's
responsibility
for care of the
works**

The Contractor is responsible for the care of the works. This means that the Contractor must bear the risk of loss or damage to the works, equipment and facilities from the Starting Date up to the Date of Substantial Completion of the works.

The Contractor is also responsible for any loss, damage or injury that arises from defects in the execution of the works or any activities of the Contractor or his personnel.

The Contractor must promptly rectify any loss and damage for which the Contractor is responsible and bear any costs involved in doing so.

If loss of or damage to the works for which the Contractor is not responsible occurs before the Defects Certificate is issued, the Contractor must rectify it, if so instructed.

3.4.2 Delay and Compensation Events

Introduction

In the course of any construction project, different *events* can happen that have the effect of prolonging the time-to-completion of the project or of adding to the cost. The Employer, the ER and the Contractor need to manage the risk associated with such events:

- **Compensation events:** these affect the cost of the project.
- **Delay events:** these affect the time-to-completion of the project.

Some delay events are also compensation events – in other words, prolongation of the works may also add to the cost.

Compensation events

Compensation events are events which, if they occur, are not the Contractor's risk, and entitle the Contractor to be compensated for the effect the events have on the cost of the works. (This is a general definition – see the Contract conditions for particulars.)

Note: The Contractor must comply with the terms of the Contract in relation to giving notice to the ER of any compensation events.

If a compensation event occurs, the Contractor may seek an adjustment to the Contract Sum. The Contract defines the procedures for dealing with compensation events (clauses 10.3–10.5 and how they should be valued, 10.6).

Compensation events are listed in the Schedule, and include the following:

Compensation events for all contracts (traditional / design-and-build)	
▪	Instructions of the ER regarding: <ul style="list-style-type: none">▪ changing the Works Requirements (Change Orders)▪ search for defects where no defects are revealed by the search▪ suspension of all or part of the works▪ dealing with an item of archaeological interest or human remains found on the site (such events are compensation events only if stated as such in the Schedule)▪ rectifying loss of or damage to the works for which the Contractor is not responsible
▪	Utility owners failing or delaying the relocation or disconnection of utilities (such events are compensation events only if stated as such in the Schedule).
▪	Failure by the Employer to provide: <ul style="list-style-type: none">▪ access to the site▪ Employer's things▪ works items
▪	Unforeseeable interference by Employer's personnel
▪	Suspension by the Contractor in accordance with clause 12.3.

Continued on next page

3.4.2 Delay and Compensation Events, Continued

Compensation events (continued)

Additional compensation events for traditional contracts	
▪	The presence of unforeseeable ground conditions, man-made obstructions, unforeseeable utilities (such events are compensation events only if stated as such in the Schedule).
▪	Failure by the ER to give an instruction required under the Contract.
▪	A factual error in information on the site in the Works Requirements.
▪	A difference between the contract value in the Bill of Quantities and the contract value in the Works Requirements due to incorrect quantities or descriptions in the Bill of Quantities (such events are compensation events only if stated as such in the Schedule).

Delay events

Delay events are events which, if they occur, are not at the Contractor's risk (and subject to compliance with the Contract) entitle the Contractor to an extension to the Date for Substantial Completion of the works (and any affected section) equal to the amount of delay, taking into account only site working days. (This is a general definition; see the Contract conditions for particulars.)

Note: the Contractor must comply with the terms of the Contract in relation to giving notice to the ER of any delay events.

If a delay event occurs, the Contractor may seek an extension of time (EOT). The Contract defines the procedures for delay events (clause 9.3). If the delay is caused by a compensation event, the Contractor may also claim an adjustment to the Contract Sum. Delay events are listed in the Schedule, and include the following:

Delay events for all contracts (traditional / design-and-build)	
▪	Compensation events that cause delay (see the Compensation Events table above)
▪	Loss of or damage to the works at the Contractor's risk according to clause 3.2
▪	A delay caused by an act of a court or public authority
▪	A weather event
▪	A strike or lock out affecting the construction industry
▪	Dealing with an item of value or of archaeological or geological interest or human remains found on the site
▪	The presence of unforeseeable ground conditions, man-made obstructions, or unforeseeable utilities
▪	Utility owners failing/delaying the relocation/disconnection of utilities

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3.4.2 Delay and Compensation Events, Continued

Delay events (continued)

Additional delay events for traditional contracts	
▪	Compensation events that cause delay, but with the exception of the (optional) compensation event for a difference between the Bill of Quantities and the Works Requirements (see the last item in the Compensation Events table above)
▪	A strike or lockout affecting the construction industry generally or a significant part of it, <i>and not confined to employees of the Contractor or any Contractor's personnel</i>

Delays and extensions of time

The Contractor must give the ER full details of any potential delay as soon as possible (within 40 working days of becoming aware of the problem), and should outline the expected effect on the progress of the works.

If Substantial Completion of the works (or sections) is affected, then the Contractor will be allocated an extension of time, expressed in site working days, according to the contract and depending on the length of the delay.

Programme Contingency

The Contractor must factor in the Programme Contingency set by the Employer in tender documents both in the Contractor's tendered price and work programme for the project. This contingency must be reasonable and proportionate to the scope, complexity and duration of the Contract. Use of the contingency is at the Employer's discretion in accordance with the contract.

The Contractor's programme must take into account the programme contingency set by the Employer in Part 1K of the Schedule. The programme should clearly show how the contingency is accommodated relative to key critical activities and the Date for Substantial Completion as stated in Part 1G of the Schedule. This date is fixed and can only be changed if an extension of time is granted by the ER after the awarding of the contract. The Contract provides for the programme contingency to be there for Employer use up to the Date of Substantial Completion and it is not there for the Contractor to use.

Continued on next page

3.4.2 Delay and Compensation Events, Continued

Applying Program Contingency rules

Delays usually have a cost implication for the works. So, to provide for delays, the Contractor factors into the initial Contract Sum and work programme a contingency for delays *caused by compensation events* as described above.

To give effect to this contingency, the Employer includes in Part 1K of the Schedule two thresholds to be applied to delays *caused by compensation events*. Each of these thresholds is expressed as a number of site working days. In order to calculate the time extension entitlement, the thresholds are applied to the delays according to clause 9.4 of the Contract. Appendix K contains a flowchart to assist in this calculation and provides some examples. The result of the calculation varies according to the number of delay days and this may be summarised as follows:

If the number of delay days is...	Then ...
... less than or equal to the first threshold	... the Contractor does not get any time extension and bears the full cost of the delay up to the first threshold.
... greater than the first threshold, but less than or equal to the second threshold	... the Contractor gets a time extension and delay costs for the days after the first threshold <i>minus</i> half the number of days and delay costs after the first threshold, up to the second threshold.
... greater than the second threshold	... the Contractor gets a time extension and delay costs for the delay after the second threshold.

The cost of time extensions borne by the Employer is calculated based either on the daily rate(s) for delay cost or on the actual costs incurred by the Contractor – Part 1K of the Schedule specifies which method is to be used.

The Contractor is not entitled to seek compensation for delay events that are not compensation events – for examples, for adverse weather or strikes.

Concurrent Delays

When multiple events cause a delay, and one or more of the events is not a compensation event, there is no increase to the Contract Sum for delay cost for the period of concurrent delay. In other words, all the events contributing to the delay must be compensation events before any compensation can be considered.

Continued on next page

3.4.2 Delay and Compensation Events, Continued

Delays, time and compensation (continued)

Delays over Holiday Periods

Delay costs are payable only in respect of site working days. A site working day under the Contract is to be interpreted as a day that is not a Saturday, Sunday, a public holiday established under the Organisation of Working Time Act 1997 or Good Friday. All other days are site working days. Therefore, if a delay period includes Christmas, bank holidays or traditional summer holidays, these may be taken into account in calculating extension and costs. This does not apply to the Minor Works form.

Contractor claims for compensation

A contractor who wishes to make a claim in respect of a compensation event must notify the ER within 20 working days of the event. The Contractor then has a further 20 working days to give full details of the claim, including:

- All relevant facts concerning the claim;
- A detailed calculation of the amount claimed; and
- A proposal for an extension to the Date for Substantial Completion.

Monthly reports should be submitted to the ER where there are ongoing circumstances giving rise to a claim.

The ER's Response

On receipt of a contractor's claim, the ER must within 20 working days do one or more of the following:

- Instruct the Contractor to provide a detailed calculation of any adjustment to the Contract Sum, additional information or revised proposals (within a further 10 working days);
 - Notify the Contractor and the Employer that the claim is agreed (and make any resulting adjustments to the Contract Sum);
 - Assess any adjustments to the Contract Sum; and/or
 - Notify the Contractor that the proposed instruction will not be given.
-

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3.4.2 Delay and Compensation Events, Continued

Adjustments to the Contract Sum

If a compensation event occurs that requires additional, substituted or omitted work, the Contract Sum will have to be adjusted. The assessment of such an adjustment is set out in the Schedule and can be based on:

- Rates in the Pricing Document for similar work;
- Fair evaluation by the ER; or
- Using the number of hours worked by each category of work person multiplied by the tendered hourly rate plus other identified tendered costs and percentages for materials and plant.

The Employer or the ER should notify the Contractor if they believe the Contract Sum needs to be adjusted, or if monies are owed to them by the Contractor. The Contractor has 20 working days to reply and the ER should determine the matter in accordance with the Contract.

Measurement Errors where Quantities form part of the Contract

Where the Contract Sum is to be adjusted because of measurement errors in the Pricing Document, the first €500 of the error for each item in the Pricing Document is disregarded. The Contractor must bear the cost of any re-measurement he requests unless errors above this €500 threshold are discovered.

Consistent with the Government Decision of 2004, measure-and-value contracts are no longer to be used on public works projects. They have been replaced with lump-sum fixed-price contracts which exclude all the key elements of any measure-and-value contracts including contingency sums, provisional sums and provisional quantities. The only adjustment to quantities that is possible other than a measurement error with a value in excess of €500 for each item is where there is a *change order* altering the Works Requirements which results in an adjustment in quantities.

Measurement Errors where Quantities do not form part of the Contract

Where measurement errors arise in the Pricing Document (for example, in the Bill of Quantities) and quantities do not form part of the contract, the rule in relation to the Contractor carrying the first €500 for the error for each item in the Pricing Document is to be disregarded because the Contractor must now bear all the cost of the error. The opportunity to change quantities is even more restricted in this situation and only arises if there is a *change order* changing the Works Requirements which result in an adjustment in quantities.

Continued on next page

3.4.2 Delay and Compensation Events, Continued

Weather events

Extreme weather conditions can lead to delays. To deal with this, an objective and measurable approach is being adopted in relation to weather incidents that could trigger a delay event. Part 1K of the Schedule lists the aspects of weather that can be monthly thresholds for weather events. They are:

- Monthly rainfall figures;
- Number of days in each month with rainfall over 20mm;
- Number of days in each month where the minimum air temperature is below 0° Celsius;
- Number of days in each month where the maximum 10-minute wind speed exceeds 20 metres per second; and
- Any other events (such as tide heights) that might affect the works

If, in any month the value of any of these exceeds the 10-year-peak value for that month (according to historical data from the named weather station), this can be a delay event. It must, of course, cause an actual delay in order to be a delay event.

The Employer must name the weather station at which measurements will be taken, and with whose records the measurements will be compared. Refer to Appendix H for a list of weather stations.

Contractor Claims

Contractors who wish to claim time extensions for weather events must supply the ER with corroborating Met Éireann data for the period in question.

Met Éireann

Met Éireann's contact details are:

Met Éireann
Glasnevin Hill
Dublin 9

Tel: (01) 806 4200 Fax: (01) 806 4247

Email: met.eireann@met.ie URL: www.met.ie

Archaeology

The archaeological risk is an optional risk under the traditional and design-and-build contracts except for the Minor Works Contract where the risk is always retained by the Employer. If the risk had been defined as a compensation event in the Contract (Part 1K), any required cost adjustments are to be determined as set out in the clauses on compensation events (10.1) and programme contingency (9.4) in the Contract.

If the archaeology risk is not a compensation event, it remains a delay event. In this case, the Contractor may be entitled to an extension of time, but not to an adjustment in the Contract Sum.

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3.4.2 Delay and Compensation Events, Continued

Ground conditions

The ground conditions risk is an optional risk under the traditional contracts except for the Minor Works Contract where the risk is always retained by the Employer. A compensation event will arise if the risk is retained as a compensation event and there are ground conditions which have been encountered that could not reasonably have been foreseen at tender stage – either from site investigation, from site inspections or from local knowledge of the geology and other surface and subterranean data of the area. The adjustment of the Contract Sum should be determined in the context of clauses 10.1 and 9.4.

3.4.3 Managing Contract Insurance

Contract requirements

Clauses 3.3–3.9 of the Contract outline the insurance requirements for the project. These are supplemented by insurance clauses in the Schedule specifying details such as limits, permitted exclusions and excesses (see Section 2.4 Insurance Provisions on page 58). The required insurance types are summarised as follows:

Insurance Type	Description
Insurance of the works	<p>The insurance shall name the Contractor, the Employer and any other person the Employer requires as co-insured. This insurance is required from the Starting Date. The insurance is placed in the joint names of the Contractor and the Employer.</p> <p>Insurance for each section of the works must be maintained until the certificate of Substantial Completion is issued for the section.</p>
Public liability and employers' liability	<p>The Contractor must have public and employers' liability insurance covering any accidents that happen during the project.</p>
Professional indemnity	<p>The Schedule may require the Contractor to maintain professional indemnity insurance for a period extending beyond the completion of the works.</p>

Maintaining insurance provision

The Contractor must maintain all of the insurance policies for the terms specified in the Contract, and may not reduce the cover without the prior approval of the Employer.

The Employer must be satisfied that the Contractor has maintained up-to-date policies as specified in the Contract and the Schedule. The ER may at any stage ask the Contractor to provide copies of policies and receipts for premiums paid. The Contractor must provide this documentation within 10 working days of the request being made.

In relation to professional indemnity insurance, a certificate in the standard format supplied with the Model Forms document and signed by the Contractor's broker or underwriters may be provided instead of a copy of the professional indemnity policy.

If the Contractor fails to maintain policies as agreed, the Employer may take out and pay for insurance, and subsequently demand that the Contractor pay the premiums.

Continued on next page

3.4.3 Managing Contract Insurance, Continued

In the event of a claim In the event of a successful claim against an insurance policy, the proceeds (less any professional fees paid by the Employer) must be paid into a bank account in the joint names of the Contractor and the Employer.

The Contractor may then be reimbursed on presentation of interim payment certificates for the value of the work done to remedy the loss or damage. If there is any outstanding balance on the completion of the remedial works, this is paid to the Employer.

Section 3.5 Managing Price Variation

Overview

In fixed-price lump-sum contracts, the price is fixed for 36 months after the Designated Date/Recovery Date or 30 months after the Contract Date, depending on which method of calculation has been specified in the Contract: PV1 or PV2.

- Within the fixed-price period, the Contract Sum may be adjusted (up or down) only in very particular circumstances resulting from material hyperinflation or certain legislative changes; and
- After the fixed-price period, the Contract Sum may be adjusted to take account of variations in prices.

This section describes how to implement adjustments to the Contract Sum using either PV1 or PV2. See 2.5.2 Managing Price Variation page 70 for an introduction to the concept of price variation.

Alternative methods of calculation

The way in which any adjustment to the Contract Sum is calculated is specified in the tender documentation and in the Contract. The two alternative methods deal with the adjustment as follows:

Method	See Page
PV1 – the Proven Cost Method Increases in the market prices are measured for: <ul style="list-style-type: none">(i) hyperinflation for materials only during the fixed price period; and(ii) for inflation in the period after the fixed-price period (after the 30-month contract duration). This approach involves establishing the average price of materials to determine the market adjustments and social partnership agreement payments to determine labour increases.	155
PV2 – the Formula Fluctuations Method Increases in the market prices are measured for: <ul style="list-style-type: none">(i) hyperinflation for materials only during the fixed price period, and(ii) for inflation in the period after the fixed-price period (after the 36 months from the Designated / Recovery Date). The adjustment is calculated using formulae and price indices published by the Central Statistics Office, the Consumer Price Index, and/or percentage increase(s) in Social Partnership Agreements	159

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Overview, Continued

Close off of fixed-price period

To avoid unnecessary administrative inconvenience, construction contracts with a duration of 30 months or longer should have a process in place whereby an interim certificate is issued at the end of the 30th month in order to close off the Contractor's risk transfer period (provided there is money due or to become due to the Contractor at that point under a contract).

This is particularly useful where the adjustment to the Contract Sum to take account of price variation is based on a formula (that is, where the Price Variation clause PV2 has been specified in the Contract) rather than on proven costs (see below).

If this is not done, and a certificate is subsequently submitted to cover a period that spans the fixed-price period and the variable price period, the items on the certificate to which variation applies must be identified and treated separately.

3.5.1 PV1: Proven Cost Method

Introduction

In the limited circumstances in which the Contract Sum may be adjusted to take account of variations in price (detailed in Chapter 2), the adjustment is calculated according to either clause PV1 or PV2 in the Contract.

This section deals with clause PV1, known as the Proven Cost Method.

Basis for calculation

Under PV1, the Contractor provides evidence by way of invoices to support any claim for increases (including hyperinflation increases) in the cost of materials incorporated in the works and also produces, for comparison purposes, evidence of the cost of those materials at the Designated Date/Base Date.

The Employer checks the validity of such claims independently by obtaining prices from a number of suppliers for the same materials in the same quantities and in the same timeframes, and compares them against the Contractor's claim.

Variations in labour cost recoupable by the Contractor are determined by reference to the Registered Employment Agreement (REA) rate at the Base Date and the general round increases conforming to the guidelines of Social Partnership at the time the work was done.

Validating claims

The Employer must verify that any claim for an increase in the Contract Sum as a result of increases in the costs of labour and materials is justified, and must also ensure that the Contract Sum is reduced to reflect downward variations in prices.

In support of the claim, the Contractor is required to produce invoices and credit notes for the material increases claimed. The Employer may in addition obtain from his consultants records of prices for those materials or he may use catalogues or price lists from other sources that help to establish market rates.

The price variation is measured from the Designated Date (ten days before the closing date for receipt of tenders) for hyperinflation and eligible changes in legislation, and from the Base Date for other eligible labour and material adjustments.

Continued on next page

3.5.1 PV1: Proven Cost Method, Continued

Adjustments for hyperinflation

At any time between the Contract Date and the Base Date (that is, within what is otherwise the 'fixed-price period'), the Contract Sum may be adjusted to reflect changes in the price of materials due to hyperinflation.

Hyperinflation of the price of any material is measured by:

- Checking the price for the same quantity of the same material at the Designated Date **and** at the first day of the month in which the purchase was made, selecting the highest of these prices;
- Calculating the percentage increase in the price at the time of purchase in relation to that selected price; and
- Checking if this percentage is greater than 50%, noting the excess.

The amount of the adjustment to the Contract Sum is calculated by taking the amount by which that percentage change exceeds 50% and applying it (by addition) to the price at the Designated Date.

Hyperinflation example with recovery

Concrete blocks for a contract (clause PV1 selected) are €1000 per 1000 at the Designated Date. At the beginning of month 6 of the Contract, the price of blocks falls to €800 per 1000. During month 6, the price goes up and blocks are purchased at €1600 per 1000.

The Contractor is entitled to claim €100 extra per 1000 blocks purchased in the month according to the calculation for hyperinflation as follows:

Price (A) @ Designated Date	€1000
Price (B) @ 1st Day in Month of Purchase	€800
Price (C) selected highest of A and B	€1000
Price (D) Paid @ Purchase Date	€1600
Is $D - C > 50\%$ of A?	Yes
Adjustment (increase) in price: $D - A - A/2$	€100

Continued on next page

3.5.1 PV1: Proven Cost Method, Continued

Hyperinflation example with no recovery

Consider a similar example where concrete blocks are €1000 per 1000 at the Designated Date of the Contract. The price of blocks during month 6 is €1600 per 1000 and they remain at this price at the start of month 7, however during month 7 block prices increases to €1800 per 1000, and it is at this point that the Contractor purchases more blocks.

The Contractor is not entitled to claim according to the measurement for hyperinflation as summarised in the following table:

Price (A) @ Designated Date	€1000
Price (B) @ 1st Day in Month of Purchase	€1600
Price (C) selected highest of A and B	€1600
Price (D) Paid @ Purchase Date	€1800
Is $D - C > 50\%$ of B?	No

Adjustments to take account of legislative changes

At any time during the execution of the Contract, the Contract Sum may be adjusted to reflect the impact on costs of:

- Changes in VAT, excise duty or tariffs, or import/export licensing requirements, and/or
- Changes to PRSI rates.

Such changes must not have been flagged in the Invitation to Tender – if they were, there is no recovery.

Continued on next page

3.5.1 PV1: Proven Cost Method, Continued

Adjustments after the 30- month fixed- price period

After the fixed-price period, the Contract Sum may be adjusted to take account of price variations, as follows:

Materials: If the price of the material at the purchase date is more than 10% above or below the price for the same quantity of the same material at the Base Date, the Contract Sum is adjusted. The adjustment amount is calculated by taking the amount by which the percentage increase or decrease exceeds 10% and applying it (by addition or subtraction) to the price at the Base Date.

Labour: The Contract Sum is adjusted to reflect any increase or decrease in labour costs, provided:

- The variation is a General Round variation (increase or decrease) under the current national Social Partnership Agreement; **and**
- The variation is made to the standard rates paid at the Base Date to workers according to the Labour Court's Registered Employment Agreement; **and**
- The variation comes into effect after the Base Date; **and**
- The revised payments have actually been made; **and**
- The Contractor has complied with the regulatory and legislative requirements set out in Clause 5.3 of the Contract.

Payment of variation amounts

Payments of the variation amounts are included in interim and final certificates and payments.

3.5.2 PV2: Formula Fluctuations Method

Introduction In the limited circumstances in which the Contract Sum may be adjusted to take account of variations in price (detailed in Chapter 2), the adjustment is calculated according to either clause PV1 or PV2 in the Contract.

This section deals with PV2.

Formulae When the Contract Sum is adjusted to take account of price variations under PV2, the adjustment is calculated using one of a number of formulae that are specified in the Contract.

The formulae for calculating the adjustment to the Contract Sum use the percentages and weightings given to each of the categories of materials, fuel and other components listed in Appendix 2 and Appendix 3 of the Contract, which should be attached to the Invitation to Tender, and:

- For **materials** and **fuel**: index figures published monthly by the Central Statistics Office (CSO);
- For **non-reusable temporary works**: the Consumer Price Index; and
- For **labour**: Social Partnership Agreements.

These are used to establish base figures for the various cost elements in the project, and to subsequently measure fluctuations in cost of those elements for which recovery is permitted throughout the life of the Contract.

These formulae are not intended to produce exact calculations of the actual costs incurred by the Contractor, but rather to produce a reasonable figure that is easily calculated, objectively verifiable, and based on prior agreement, with a mutually accepted level of risk.

Variations in the price of **overheads** and **plant** do *not* affect the Contract Sum at any time.

CSO indices The Central Statistics Office (CSO) publishes monthly construction material and fuel indices in its *Statistical Release* – tables 3A and 5 of the CSO's Wholesale Price Index correlate to the categories of materials and fuels used in the PV2 clause.

Absence of a relevant index In the absence of any relevant index or agreement, the Consumer Price Index is used in its place.

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Changes to a relevant index

If any index figure used to calculate an adjustment is subsequently revised by the CSO prior to the issue of the Final Certificate, then any such adjustment is recalculated using the revised index figure and the appropriate adjustment is made on the next certificate.

Failure to complete on time

The Contractor is not entitled to an adjustment for increases in labour and materials under price variations that occur after the Date for Substantial Completion or extension to that date. Costs incurred after that date (or extended date) are valued at the rate pertaining at the date set for Substantial Completion.

This means that the Contractor cannot benefit from greater increases under this clause than those that would have applied at the Date for Substantial Completion. In other words, the Contractor may not benefit from not completing on time.

Excluded amounts

The formulae for calculating price adjustments refer to Excluded Amounts. The full list of such amounts is in the Contract (Clause PV2.6). They include such items as amounts for unfixed materials, delay costs and items priced on actual cost that are excluded by virtue of their being based on current prices or subject to specific price arrangements, or are due to the default or negligence of the Contractor.

These Excluded Amounts are deducted from the amount payable in any Interim or Final Certificate prior to calculating price adjustments.

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Adjustments allowed within the fixed price period

Adjustments for hyperinflation and legislative change may be made as follows:

At any time between the Designated Date and the Base Date, the Contract Sum may be adjusted to take account of changes in the price of materials arising from...	...hyperinflation
At any time between the Designated Date and the Date for Substantial Completion, the Contract Sum may be adjusted to take account of changes arising fromspecific types of legislative changes

Note 1: The Contract Sum may be adjusted to take account of legislative change both within and outside the fixed-price period according to the rule above, provided that any such adjustment is not made elsewhere under another part of the Contract.

Note 2: The Contract Sum may not be adjusted to take account of increases in the cost of labour within the fixed-price period (except where such increases are the result of legislative change).

Legislative changes

Changes in VAT, excise duty or tariffs, or import/export licensing requirements that impact on the cost of materials or fuel, and changes to PRSI rates that affect the cost of labour may result in adjustments to the Contract Sum (provided impending changes of this nature were not flagged in the Invitation to Tender).

Hyperinflation

Compensation is payable if the CSO monthly index applicable to the certificate for any material or fuel is:

- 1. More than 50% above the index for that material or fuel at the Designated or Recovery Date; and**
- 2. More than 50% above the CSO monthly index for the same material or fuel in the month preceding the certificate.**

If **both** these conditions hold, compensation is payable based on the excess over 50% of the CSO monthly index for the same material or fuel at the Designated Date. This is further explained below.

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Compensation for hyperinflation in the cost of materials

The Contractor is entitled to partial recovery of increases in the cost of materials within the fixed-price period, if such cost increases are due to hyperinflation, as defined by the two conditions set out on page 161.

The formula for calculating the recovery in this circumstance is set out in the Contract as follows:

$$\frac{\{W \times Y \times Z \times P \times (F2 - F1)\}}{F1} - (50\% \times W \times Y \times Z \times P) = M$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of each material category affected by hyperinflation and used on the project in the period relating to the certificate, based on prices pertaining at the Designated Date.	
2	<i>Divide by</i> The total value, in terms of the Contract Sum, of the proportion assigned to that material in Appendix 3 of the Contract attached to the Invitation to Tender (to obtain the value P in the formula).	= P
3	<i>Multiply by</i> The percentage value assigned to Materials in Appendix 2 of the Contract attached to the Invitation to Tender.	P x Y
4	<i>Multiply by</i> The weighting assigned to the relevant Material Category in Appendix 3 to the Contract.	P x Y x W
5	<i>Multiply by</i> The Contract Sum (excluding VAT) less any Excluded Amounts and price adjustments <i>Note this result, you will need it again.</i>	P x Y x W x Z

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

(continued)

Step	Action	Element in formula
6	<i>Multiply by</i> The increase in the CSO Index for the relevant Material Category from the month prior to the date on which the materials were purchased.	$P \times Y \times W \times Z \times (F2 - F1)$
7	<i>Divide by</i> The CSO Index for the relevant Material Category at the month prior to the date on which the materials were purchased.	$\frac{P \times Y \times W \times Z \times (F2 - F1)}{F1}$
8	<i>Subtract</i> 50% of the result obtained in step 5 above.	$- 50\% \times W \times Y \times Z \times P$
	<i>Result</i>	M

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Compensation for hyperinflation in the cost of fuels

The Contractor is entitled to partial recovery of increases in the cost of fuels within the fixed-price period if such cost increases are due to hyperinflation, as defined by the two conditions set out on page 161.

The formula for calculating the recovery in this circumstance is set out in the Contract as follows:

$$\frac{\{W \times Y \times EV \times (F2 - F1)\}}{F1} - (50\% \times W \times Y \times EV) = N$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of work on the project in the period relating to the certificate, based on prices pertaining at the Designated Date.	= EV
2	<i>Multiply by</i> The percentage value assigned to Fuel in Appendix 2 of the Contract attached to the Invitation to Tender.	EV x Y
3	<i>Multiply by</i> The weighting assigned to the relevant Fuel Category in Appendix 3 of the Contract attached to the Invitation to Tender. <i>Note this result, you will need it again.</i>	EV x Y x W
4	<i>Multiply by</i> The increase in the CSO Index for the relevant Fuel Category from the month prior to the date on which the fuel was purchased.	EV x Y x W x (F2-F1)
5	<i>Divide by</i> The CSO Index for the relevant Fuel Category at the month prior to the date on which the fuel was purchased.	$\frac{EV \times Y \times W \times (F2-F1)}{F1}$
6	<i>Subtract</i> 50% of the result obtained in step 3 above.	- 50% x W x Y x EV
	<i>Result</i>	N

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Adjustments after the 36- month fixed- price period

From the Base Date (the first day of the 37th month after the Designated Date) up to the latest Date for Substantial Completion, the Contract Sum may be adjusted (up or down) to reflect variations in costs due to:

- General Round increases paid under the current national Social Partnership Agreement (for **labour**);
- Changes in the Consumer Price Index (for **non-reusable temporary works**); and
- Changes in the relevant CSO monthly indices (for **materials** and **fuel**).

For non-reusable temporary works, materials and fuel, the index figure for purchases after the Base Date must be more than 10% in excess of the index figure at the Base Date for the formula to yield a recoverable increase.

Overheads and plant are not subject to price variation at any time.

No compensation is payable for increases that arise after the latest Date for Substantial Completion, irrespective of the reason for the increase.

The calculation of adjustments to the Contract Sum for each of the four eligible categories is detailed in the following pages.

Adjustments after Date for Substantial Completion

After the Date for Substantial Completion, any adjustments to the Contract Sum are based on the relevant CSO figures and social partnership figures which are current or published at the Date for Substantial Completion.

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Variations in the cost of materials after the Base Date

The formulae for calculating adjustments to the Contract Sum arising from variation in the cost of materials after the Base Date are as follows:

A. Formula to be used where $A1 - B1$ is less than or equal to zero (i.e. where the prices are lower than at the Base Date):

$$\frac{W \times Y \times Z \times P \times (A1 - B1)}{B1} = K$$

B. Formula to be used where $A1 - B1$ is greater than zero (i.e. where the prices are higher than at the Base Date) – see step 8 below:

$$\left\{ \frac{W \times Y \times Z \times P \times (A1 - B1)}{B1} \right\} - (10\% \times W \times Y \times Z \times P) = K$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Note: No compensation is payable for increases in price of materials that are not one of the weighted categories in Appendix 3 of the Contract.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of the material category affected by the price increase and used on the project in the period covered by the certificate, based on the prices pertaining at the Designated Date	
2	<i>Divide by</i> The total value, in terms of the Contract Sum, of the proportion assigned to that material in Appendix 3 of the Contract attached to the Invitation to Tender (to obtain the value P in the formula).	= P
3	<i>Multiply by</i> The percentage value assigned to Materials in Appendix 2 of the Contract attached to the Invitation to Tender.	P x Y
4	<i>Multiply by</i> The weighting assigned to the relevant Material Category in Appendix 3 of the Contract attached to the Invitation to Tender.	P x Y x W

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

(continued)

Step	Action	Element in formula
5	<i>Multiply by</i> The Contract Sum (excluding VAT) <i>less</i> any Excluded Amounts and price adjustments. <i>Note the result, you will need it again.</i>	$P \times Y \times W \times Z$
6	<i>Multiply by</i> The change in the CSO Index for the relevant Material Category from the Base Date to the month in which the mid-date of the period covered by the certificate falls. (If the Index is lower on the later date, this figure is negative.)	$P \times Y \times W \times Z \times (A1 - B1)$
7	<i>Divide by</i> The CSO Index for the relevant Material Category at the Base Date.	$\frac{P \times Y \times W \times Z \times (A1 - B1)}{B1}$
8	If the result is:	= K
	Negative (i.e. if K is less than zero), reduce the Contract Sum by that amount;	
	Positive (i.e. if K is greater than zero), the calculation of K continues with Formula B, as follows: <i>Subtract 10% of the result obtained in step 5 above</i> If <i>that</i> result is positive, increase the Contract Sum by that amount; otherwise the Contract Sum is unaffected.	$- 10\% \times W \times Y \times Z \times P$

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Variations in the cost of fuel after the Base Date

The formulae for calculating adjustments to the Contract Sum arising from variation in the cost of fuel after the Base Date is as follows:

A. Formula to be used where $A1 - B1$ is less than or equal to zero (i.e. where prices are lower than at the Base Date):

$$\frac{W \times Y \times EV \times (A1 - B1)}{B1} = L$$

B. Formula to be used where $A1 - B1$ is greater than zero (i.e. where prices are higher than at the Base Date) – see step 6 below:

$$\frac{\{ W \times Y \times EV \times (A1 - B1) \}}{B1} - (10\% \times W \times Y \times EV) = L$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Note: No compensation is payable for increases in the price of fuel that are one of the weighted categories in Appendix 3 of the Contract.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of the work on the project in the period covered by the certificate, based on prices pertaining at the Designated Date.	= EV
2	<i>Multiply by</i> The percentage value assigned to Fuel in Appendix 2 of the Contract attached to the Invitation to Tender.	EV x Y
3	<i>Multiply by</i> The weighting assigned to the relevant Fuel Category in Appendix 3 of the Contract attached to the Invitation to Tender. <i>Note this result, as you will need it again.</i>	EV x Y x W
4	<i>Multiply by</i> The change in the CSO Index for the relevant Fuel Category from the Base Date to the month in which the mid-date of the period covered by the certificate falls. If the Index is lower on the later date, this figure is negative.	EV x Y x W x (A1 – B1)

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

(continued)

Step	Action	Element in formula
5	<i>Divide by</i> The CSO Index for the relevant Fuel Category at the Base Date.	$\frac{EV \times Y \times W \times (A1 - B1)}{B1}$
6	If the result is:	= L
	Negative (i.e. if L is less than zero), reduce the Contract Sum by that amount;	
	Positive (i.e. if L is greater than zero), the calculation of K continues with Formula B, as follows: <i>Subtract 10% of the result obtained in step 3 above</i> If <i>that</i> result is positive, increase the Contract Sum by that amount; otherwise the Contract Sum is unaffected.	$- 10\% \times EV \times Y \times W$

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Variations in the cost of non-reusable temporary works after the Base Date

The formulae for calculating adjustments to the Contract Sum arising from variation in the cost of non-reusable temporary works after the Base Date is as follows:

A. Formula to be used where $CPI^A - CPI^B$ is less than or equal to zero (i.e. where prices have fallen since the Base Date):

$$\frac{Y \times Z \times P (CPI^A - CPI^B)}{CPI^B} = K$$

B. Formula to be used where $CPI^A - CPI^B$ is greater than zero (i.e. where prices have risen since the Base Date) – see step 7 below:

$$\frac{Y \times Z \times P (CPI^A - CPI^B)}{CPI^B} - (10\% \times Y \times Z \times P) = K$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Note: No compensation is payable for increases in the price of non-reusable temporary works that are used in excess of the percentage specified in Appendix 2 of the Contract.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of the non-reusable temporary works affected by the price change and used on the project in the period covered by the certificate, based on the prices pertaining at the Designated Date.	
2	<i>Divide by</i> The total value of the non-reusable temporary works specified in the Contract Sum.	= P
3	<i>Multiply by</i> The percentage value assigned to non-reusable temporary works in Appendix 2 of the Contract attached to the Invitation to Tender.	P x Y

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

(continued)

Step	Action	Element in formula
4	<i>Multiply by</i> The Contract Sum (excluding VAT) <i>less</i> any Excluded Amounts and price adjustments. <i>Note the result, you will need it again.</i>	$P \times Y \times Z$
5	<i>Multiply by</i> The change in the Consumer Price Index from the month containing the Base Date to the month in which the mid-date of the period covered by the certificate falls. If the Index is lower on the later date, this figure is negative.	$P \times Y \times Z \times (CPI^A - CPI^B)$
6	<i>Divide by</i> The Consumer Price Index for the month containing the Base Date.	$\frac{P \times Y \times Z \times (CPI^A - CPI^B)}{CPI^B}$
7	If the result is:	= K
	Negative (i.e. if K is less than zero), reduce the Contract Sum by that amount;	
	Positive (i.e. if K is greater than zero), the calculation of K continues using Formula B, as follows: <i>Subtract 10% of the result obtained in step 3 above</i> If <i>that</i> result is positive, increase the Contract Sum by that amount; otherwise the Contract Sum is unaffected.	$- 10\% \times Y \times Z \times P$

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Increases in the cost of labour after the Base Date

The formula for calculating adjustments to the Contract Sum arising from variation in the cost of labour after the Base Date is as follows:

$$LV = Y \times GRI \times EV$$

Follow the steps set out below to apply this formula. A worked example of the calculation is in Appendix C.

Note: No compensation is payable for increases in cost of labour in excess of the percentage specified in Appendix 2 of the Contract.

Step	Action	Element in formula
1	Ascertain the net value (excluding VAT) of labour used on the project in the period covered by the certificate, based on the prices pertaining at the Designated Date.	EV
2	<i>Multiply by</i> The percentage value assigned to labour in Appendix 2 of the Contract attached to the Invitation to Tender.	EV x Y
3	<i>Multiply by</i> The percentage change (positive or negative) in the General Round of the current Social Partnership Agreement that came into effect after the Base Date and prior to the Date for Substantial Completion.	EV x Y x GRI
Result		= LV

General Round Increases exclude any increase in workers' wages that exceeds the percentage increases in basic pay in the private sector as agreed in the Social Partnership Agreement current at the time of the relevant certificate. All other increases are excluded, even where calculated as a percentage of a standard rate or resulting from any legislative enactment. For example, the Contractor is not entitled to any payment for:

- Local or site bargaining provisions;
- Any parity or restructuring increases;
- Any bonus under a site agreement, productivity, incentive, or other bonus; or
- Insurance premiums or other on-costs or consequential costs.

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Non-adjustable overheads and plant

No compensation is payable in respect of variations in the price of:

- Non-adjustable overheads; or
 - Plant.
-

Total increase on each certificate

The relevant formula is applied in respect of each material and/or fuel category, non-reusable temporary works and labour that has been subject to an increase in price, and the total increase for the relevant Adjustment Period is included in the Interim or Final Certificate as an adjustment.

Appendices

Overview

Contents

This section contains the following appendices that supplement the information in the main body of the guidance notes:

Appendix	See Page
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Appendix A: Comparison of Minor Works Contracts and Traditional Contracts

Comparison Table

The *Minor Works Contract for the Provision of Building and Civil Engineering Works Designed by the Employer* (the minor works contract / contract N° 5) is similar in most respects to the *Public Works Contract for the Provision of Building Works (Civil Engineering Works) Designed by the Employer* (the traditional contracts N° 1 and N° 3). The differences are summarised in the table below.

Clause in Traditional Contracts *	Differences in the Minor Works Contract
1.1 Definition of Section	Sectional completion of the works is not provided for.
1.6 Parent Company Guarantee	There is no requirement on the Contractor to provide the parent company guarantee by the Starting Date.
2.7 Legal Opinion	There is no clause requiring the provision of a legal opinion relating to a Contractor who is not an individual or company incorporated in Ireland.
3.3.1 Insurance of Employer's Property	Part 1D of the Schedule does not provide for an additional list of Employer's property which the Contractor must insure.
3.9.3 Extensions and Additional Requirements in the Schedule	Part 1D of the Schedule does not provide scope for the Employer to specify extensions and additional requirements in relation to insurances.
3.9.9 Owner-controlled Insurance	Does not provide for the insurance programme to be owner-controlled.
4.2.1(2) Supervisor	The Contractor must appoint a supervisor to the site, but the supervisor does not need to be appointed on a full time basis.
4.8 Value Engineering	Does not include a procedure for value engineering.
4.9 Programme	The content requirements for the programme are not as detailed. However, if more details are required they can be set out in the Works Requirements.
4.10 Progress Reports	The content requirements of progress reports are not as detailed.

* Clause numbers refer to the Contract Conditions.

Continued on next page

Comparison Table, Continued

Clause in Traditional Contract	Differences in the Minor Works Contract
5.4 Sub-contractors and Specialists	If the Contractor intends to sub-contract part of the works, other than in accordance with the Contract, the Contractor should obtain the consent of the Employer's Representative (ER).
7.9 Access	Does not contain the traffic obligations relating to the transport of large loads.
7.10 Condition of Site on Completion	There is no such clause relating to removing Contractor's Things
7.11 Working Times	There is no clause relating to the site working times of the Contractor's personnel.
8.5 Rejection of Defects	Does not contain a mechanism allowing the ER to reject the works if a defect deprives the Employer of substantially the whole benefit of the Works.
9.4 Programme Contingency	<p>There is only one threshold (stated in the Schedule) in relation to the number of site working days' delay.</p> <ul style="list-style-type: none"> ▪ If the delay is less than the threshold, there shall be no extension to the Date for Substantial Completion. ▪ If the delay exceeds the threshold, then only those days by which it exceeds the threshold may be added to the Date for Substantial Completion. <p>This clause does not apply to extensions of time resulting from delay events which are not also compensation events.</p>
9.7 Taking Over Part of the Works	Does not contain a provision relating to the take-over by the Employer of part of the works before Substantial Completion.
10.7.3 Delay Costs	Makes no provision for adjustment of the Contract Sum in the case of a compensation event resulting in seven or more consecutive non-working days leading to an extension of the Date for Substantial Completion.

Appendix B: Pre-Tender Checklists

B1 Invitation to Tender Checklist – Employer's Choices

As early as possible, and in any event before the Invitation to Tender for any public works is published, the Employer should be satisfied he has answers to the following questions:

Step	Action	Check
1	Is the scope of the works clearly defined in the Works Requirements?	
2	Has the level of site investigation required been identified and an appropriate site investigation report been prepared?	
3	Has the necessity for an archaeological report been determined and an appropriate preliminary archaeological report been prepared?	
4	Have the required bonds/securities/insurances been identified?	
5	Has the most appropriate procurement route been identified?	
6	Have all the tender documents been prepared?	
7	Is all the required information available to allow the Schedule (Part 1) to be completed?	

Note: Only when the Employer is satisfied that all the above-mentioned questions have been addressed to his complete satisfaction (and taking into account the appropriate guidance) should the Invitation to Tender be published.

B2 Consents and Licences Checklists

Main Checklist

The list below is the main checklist (non-exhaustive) of consents/licences that may be required in connection with a public works contract; those that are required should be identified in the Works Requirements:

Item	Consent/Licence	Check
1	Outline Planning Permission	
2	Planning Permission under the Planning and Development Act 2000	
3	Part 8 Planning and Development Regulations 2001	
4	Part 9 Planning and Development Regulations 2001	
5	Compulsory Purchase Orders (e.g. in accordance with the Housing Act 1966)	
6	Toll Scheme (Section 57 of the Roads Act 1993 as amended)	
7	Motorways Scheme Orders under the Roads Act 1993 (as amended)	
8	Wayleaves (Section 43 Gas Act 1976)	
9	Foreshore Licence under the Foreshore Acts 1933-2003	
10	Dumping at Sea permit (Dumping at Sea Act 2004 (No. 35))	
11	Agreements with State or Semi-State Bodies (for example, ESB, Coillte, NRA, OPW, Irish Rail)	
12	Rights of way/consents in relation to habitats, Special Areas of Conservation (SACs), Natural Heritage Areas (NHAs) (Wildlife Acts 1976-2000, Council Directives 79/409 EEC, 82/72/EEC, 92/43 EEC)	
13	Tree Felling licence (Forestry Act 1946)	
14	Approval of local fisheries boards (Fisheries (Tidal Waters) Act 1934)	
15	Appropriate licences / consents under the National Monuments Acts 1930 – 2004.	

Continued on next page

B2 Consents and Licences Checklists, Continued

Main Checklist (continued)

Item	Consent/Licence	Check
16	Bridge Order required in certain circumstances from the Minister of the Environment and Local Government (Local Government Act 1946)	
17	Consent of the Commissioners of Public Works to all new bridge proposals under Section 50 Arterial Drainage (Amendment) Act 1995	
18	Railway Order (Transport Railway Infrastructure Act 2001)	
19	Canal Bye Laws (Canals Act 1986 (Byelaws) 1988)	
20	Position of vehicle/mobile crane/hoist application	
21	Temporary Road Closure Application (Section 75 of the Roads Act 1993)	
22	Road opening licence/T-2 Licence (S13 subsection 10(b) of the Roads Act 1993)	
23	Hoarding/Scaffolding Licence	
24	Abnormal Indivisible Load (Road Traffic (Construction and Use of Vehicles) Regulations 2003)	
25	Effluent discharge licence	

Continued on next page

B2 Consents and Licences Checklists, Continued

Operation Licences

The list below is a subsidiary checklist (non-exhaustive) dealing with operation licences that may be required in connection with a public works contract; those that are required should be identified in the Works Requirements:

Item	Operation Licence	Check
1	IPC or IPPC Licence	
2	Water Abstraction Order (Water Supplies Act 1942)	
3	Waste Management (Licensing) Regulations 2000 to 2004	
4	Effluent Discharge Licence	
5	Waste Licence	
6	Air Pollution Licence	
7	Sewer Discharge Licence	
8	Radiological Licence (Issued by RPII), Radiological Protection Acts 1991– 2002	
9	Emissions Trading/GHG Emission Licence	
10	Dangerous Substances Licences (for example, storage of petroleum), Dangerous Substances Regulations 1979– 2002	

B3 Invitation to Tender Checklists

General Checklist

Questions that an employer needs to address in the tender invitation documents include the following (on a non-exhaustive basis):

Item	Question	Addressed
1	How are other contractors working on the site on behalf of the Employer to be managed?	
2	Is a parent company guarantee required, particularly in relation to open and restricted procedures?	
3	Should performance and retention bonds be required?	
4	What insurances are required and what excess limits should apply?	
5	What specific risks should be transferred to the Contractor?	
6	What specific risks should be retained by the Employer and what actions will be taken to mitigate those risks?	
7	What work items require a specialist to be selected or novated?	
8	Are delay costs to be paid to the Contractor on the basis of tendered daily rate(s), or on the basis of expenses actually incurred?	
9	What is the number of hours for each category of workperson to which the Contractor's tendered hourly rates will be applied for tender evaluation purposes?	
10	What are the costs of materials and plant to which the Contractor's tendered percentage additions will be added for tender evaluation purposes?	
11	What is the delay period (number of days) to which the Contractor's tendered daily delay rate will be applied for tender evaluation purposes?	

B4 Tender Evaluation Checklist

The following checklist should be completed by the Employer in respect of all tenders being considered for public works contracts:

Step	Action	Check
1	Pricing document (completed by the tenderer)	
2	Tender total calculated	
3	Schedule (completed by tenderer) Parts 1 and 2	
4	Works proposals (completed by the tenderer)	
5	Daily rate of delay cost given (if applicable)	
6	Daily rates for valuing compensation events given	
7	Adjustments to cost of materials and plant for valuing compensation events	
8	Parent company guarantee (if required)	
9	Performance bond	
10	Insurances	

Appendix C: Price Variation Calculation under PV2 (Formula Fluctuations Method): Worked Examples

C1 Worked Examples: Overview

Introduction

This appendix contains a number of worked examples to illustrate the application of the various price fluctuation formulae.

All the examples are based on a hypothetical contract with the following characteristics:

- A four-year works contract
 - Designated Date: 15th January 2005
 - Base Date: 1st February 2008
 - Contract Sum (excluding VAT and any price adjustments): €6,285,000
 - Less: Excluded Amount for Specialists: €285,000
-
- €6,000,000**

Interim Certificates are submitted monthly

Each example starts by outlining the events that give rise to the claim for price variation, and then goes step by step through the calculation.

The examples cover the following situations:

	Reason for price variation	See Page
C2	Hyperinflation in the price of materials within the fixed-price period	186
C3	Hyperinflation in the price of fuel within the fixed-price period	187
C4	Increase in the price of materials after the fixed-price period	188
C5	Increase in the price of fuel after the fixed price period	190
C6	Increase in the cost of non-reusable temporary works after the fixed-price period	191
C7	Increase in labour costs after the fixed-price period	192

Note: All figures for indices and wage agreements used in this appendix are fictitious and are used merely to illustrate the working of the formulae. They are not to be used for actual calculations.

Continued on next page

C1 Worked Examples: Overview, Continued

Proportions and weightings used

The proportions and weightings for the different works elements used throughout the examples are shown in the tables below. Such proportions and weightings would be specified in Appendix 2 and 3 of the Contract.

<i>(From Appendix 2)</i> Work element	Percentage of Contract Sum
Labour	30%
Materials	30%
Fuel	10%
Non-reusable temporary works	5%
Plant	15%
Non-adjustable overheads	10%
Total	100%

<i>(From Appendix 3)</i> Material	Weighting
Stone, sand and gravel	0.08
Cement	0.00
Ready mixed mortar and concrete	0.20
Concrete blocks and bricks	0.00
Other concrete products	0.14
Structural steel and reinforcing metal	0.04
Structural steel	0.28
Reinforcing metal	0.00
Rough timber	0.00
Other timber	0.06
Bituminous macadam and asphalt	0.00
Bituminous emulsions	0.00
Electrical fittings	0.10
All other materials	0.10
Total	1.00

Continued on next page

C1 Worked Examples: Overview, Continued

<i>(From Appendix 3)</i> Fuel	Weighting
Electricity	0.50
Fuel Oil	0.50
Total	1.00

C2 Example: Hyperinflation in the price of materials within the fixed-price period

Variation details

In August 2006, the 18th Interim Valuation (relating to July 2006 – that is, within the fixed-price period) includes a claim for exceptional increase in the price of structural steel, as shown in the table below. 25% of the total amount of structural steel specified in the Contract Sum is affected by this price increase.

CSO Indices for structural steel	
January 2005 (the month of the Designated Date)	90
June 2006 (the month prior to the month in which falls the middle day of the period referred to in the Interim Certificate)	102
July 2006 (the month in which falls the middle day of the period referred to in the Interim Certificate)	190

Note: 190 is more than 50% of index figure at Designated Date (i.e. 90) and also more than 50% of index figure of the preceding month (i.e. 102).

Calculation

As the threshold for compensation has been reached, the compensation payable may be calculated as follows:

1. <i>Given P</i> The proportion of the total value of structural steel specified in the Contract Sum affected by this price increase (i.e. 25% of the 28% listed Appendix 2 to the Invitation to Tender).	25%
2. <i>Multiply by Y</i> The percentage value assigned to Materials in Appendix 2 to the Invitation to Tender.	$25\% \times 30\% = 7.5\%$
3. <i>Multiply by W;</i> The weighting assigned to structural steel in Appendix 3 to the Invitation to Tender.	$7.5\% \times 0.28 = 2.1\%$
4. <i>Multiply by Z;</i> The Contract Sum (excluding VAT) less any Excluded Amounts and price adjustments.	$2.1\% \times 6,000,000 = 126,000$
5. <i>Multiply by (F2-F1);</i> The increase in the CSO Index for structural steel from June 2006 to July 2006.	$126,000 \times (190-102) = 11,088,000$
6. <i>Divide by F1;</i> The CSO Index for structural steel in June 2006.	$11,088,000 / 102 = 108,706$
7. <i>Subtract (50% x W x Y x Z x P)</i> 50% of the result obtained in step 4 above.	$108,706 - (126,000/2) = 108,706 - 63,000$
Amount of increase in Contract Sum	= €45,706

C3 Example: Hyperinflation in the price of fuel within the fixed-price period

Variation details

In August 2006, the 18th Interim Valuation (relating to July 2006 – that is, within the fixed-price period) includes a claim for exceptional increase in the price of fuel oil, as shown in the table below.

The Effective Value for the Interim Valuation for the period up to 31st July 2006 is €1,000,000. (That is the value of work on the project in the period covered by the Interim Certificate.)

CSO Indices for fuel oil	
January 2005 (the month of the Designated Date)	90
June 2006 (the month prior to the month in which falls the middle day of the period referred to in the Interim Certificate)	113.2
July 2006 (the month in which falls the middle day of the period referred to in the Interim Certificate)	205

Note: 205 is more than 50% of index figure at Designated Date (i.e. 90) and also more than 50% of index figure of the preceding month (i.e. 113.2).

Calculation

As the threshold for compensation has been reached, the compensation payable may be calculated as follows:

1. <i>Given EV</i> The value (excluding VAT) of the work on the project in the period relating to the certificate, based on prices pertaining at the Designated Date.	€1,000,000
2. <i>Multiply by Y</i> The percentage value assigned to Fuel in Appendix 2 to the Invitation to Tender.	$1,000,000 \times 10\%$ $= 100,000$
3. <i>Multiply by W</i> The weighting assigned to fuel oil in Appendix 3 to the Invitation to Tender.	$100,000 \times 50\%$ $= 50,000$
4. <i>Multiply by (F2-F1)</i> The increase in the CSO Index for fuel oil from June 2006 to July 2006.	$50,000 \times (205 - 113.2)$ $= 50,000 \times 91.8$ $= 4,590,000$
5. <i>Divide by F1</i> The CSO Index for fuel oil for June 2006.	$4,590,000 / 113.2$ $= 40,548$
6. <i>Subtract (50% x Y x W x EV)</i> 50% of the result obtained in step 3 above.	$40,548 - (50,000/2)$ $= 40,548 - 25,000$
Amount of increase in Contract Sum	= €15,548

C4 Example: Increase in the price of materials after the fixed-price period

Variation details

In April 2008, the 38th Interim Valuation includes a claim for increases in the price of ready-mixed mortar and concrete and the price of structural steel which occurred on or after the Base Date (1st February 2008) – that is, after the end of the fixed-price period.

25% of the total amount of ready-mixed mortar and concrete specified in the Contract Sum is affected by this price increase.

10% of the total amount of structural steel specified in the Contract Sum is affected by this price increase.

The relevant CSO Indices for these materials are shown below:

CSO Indices for ready-mixed mortar and concrete	
February 2008 (the month in which falls the Base Date)	105.3
March 2008 (the month in which falls the middle day of the period referred to in the Interim Certificate)	126.36

CSO Indices for structural steel	
February 2008	109
March 2008	124

Note: The index figures for ready-mix mortar and concrete, and for structural steel when purchased (i.e. 126.36 and 124 respectively) are more than 10% in excess of the index figures at the Base Date (i.e. 105.3 and 109 respectively).

Continued on next page

C4 Example: Increase in the price of materials after the fixed-price period, Continued

Calculation As the threshold for compensation has been reached, the compensation payable or recoverable may be calculated as follows:

	Ready-mixed mortar and concrete	Structural steel
1. <i>Given P</i> The proportion of the total value of same material category specified in the Contract Sum that is affected by the price increase (i.e. 25% for ready-mixed mortar and concrete, and 10% for structural steel listed in Appendix 3 to the Invitation to Tender).	25%	10%
2. <i>Multiply by Y</i> The percentage value assigned to Materials in Appendix 2 to the Invitation to Tender.	$25\% * 30\% = 7.5\%$	$10\% * 30\% = 3\%$
3. <i>Multiply by W</i> The weighting assigned to the relevant Material Category in Appendix 3 to the Invitation to Tender.	$7.5\% * 0.2 = 1.5\%$	$3\% * 0.28 = 0.84\%$
4. <i>Multiply by Z</i> The Contract Sum (excluding VAT) <i>less</i> any Excluded Amounts and price adjustments.	$1.5\% * 6m = 90,000$	$0.84\% * 6m = 50,400$
5. <i>Multiply by (A1-B1)</i> The change in the CSO Index for the relevant Material Category from the Base Date to the month in which the mid-date of the period covered by the certificate falls. (If the Index is lower on the later date, this figure is negative.).	$90,000 * (126.36 - 105.3) = 90,000 * 21.06 = 1,895,400$	$50,400 * (124 - 109) = 50,400 * 15 = 756,000$
6. <i>Divide by B1</i> The CSO Index for the relevant Material Category at the Base Date.	$1,895,400 / 105.3 = 18,000$	$756,000 / 109 = 6,936$
7. The results are positive , so subtract 10% of the results obtained in step 4 above	$18,000 - 9,000 = 9,000$	$6,936 - 5,040 = 1,896$
Total amount of increase in Contract Sum		= €10,896

C5 Example: Increase in the price of fuel after the fixed-price period

Variation details

In April 2008, the 38th Interim Valuation (for the period to 31st March 2008) includes a claim for increases in the price of fuel oil which occurred on or after 1st February 2008 (the Base Date) – that is, after the end of the fixed-price period.

Amount (ex VAT) for work in the Interim Valuation, before retention: €1,575,000

Less: amount for unfixed materials (Excluded Amounts): €75,000

€1,500,000

The relevant CSO Indices for fuel oil are shown below:

CSO Indices for fuel oil	
January 2008 (the month in which falls the Base Date)	184.5
March 2008 (the month in which falls the middle day of the period referred to in the Interim Certificate)	212

Note: The index figure for fuel oil when purchased (i.e. 212) is more than 10% in excess of the index figures at the Base Date (i.e. 184.5).

Calculation

As the threshold for compensation has been reached, the compensation payable may be calculated as follows:

1. *Given EV*

The value (excluding VAT) of work on the project in March 2008, based on the prices pertaining at the Designated Date.

€1,500,000

2. *Multiply by Y*

The percentage value assigned to Fuel in Appendix 2 to the Invitation to Tender.

1,500,000 * 10%
= 150,000

3. *Multiply by W*

The weighting assigned to fuel oil in Appendix 3 to the Invitation to Tender.

150,000 * 0.50
= 75,000

4. *Multiply by (AI-BI)*

The change in the CSO Index for fuel oil from January 2008 to March 2008.

75,000 * (212-184.5)
= 75,000 * 27.5
= 2,062,500

5. *Divide by BI*

The CSO Index for fuel oil in January 2008.

2,062,500 / 184.5
= 11,179

6. The result is **positive**, so subtract 10% of the result obtained in step 3 above.

11,179 – 7,500

Amount of increase in Contract Sum

= €3,679

C6 Example: Increase in the cost of non-reusable temporary works after the fixed-price period

Variation details

In April 2008, the 38th Interim Valuation (for the period to 31st March 2008) includes a claim for increases in the price of non-reusable temporary works which occurred on or after 1st February 2008 (the Base Date) – that is, after the end of the fixed-price period. 25% of the total amount of non-reusable temporary works specified in the Contract Sum is affected by this price increase.

The relevant Consumer Price Indices are shown below:

Consumer Price Indices	
February 2008 (the month in which falls the Base Date)	119.3
March 2008 (the month in which falls the middle day of the period referred to in the Interim Certificate)	133.6

Note: The index figure for the non-reusable temporary works when purchased (i.e. 133.6) is more than 10% in excess of the index figure at the Base Date (i.e. 119.3).

Calculation

As the threshold for compensation has been reached, the compensation payable for the period up to 31st March 2008 is calculated as follows:

1. <i>Given P</i>	25%
The proportion of the total value of non-reusable temporary specified in the Contract Sum affected by this price increase (i.e. 25% of the 5% listed in Appendix 2 of the Contract).	
2. <i>Multiply by Y</i>	25% * 5%
The percentage value assigned to non-reusable temporary works in Appendix 2 of the Contract).	= 1.25%
3. <i>Multiply by Z</i>	1.25% * 6m
The Contract Sum (excluding VAT) less any Excluded Amounts and price adjustments.	= 75,000
4. <i>Multiply by (CPI^A - CPI^B)</i>	75,000 * (133.6 - 119.3)
The change in the Consumer Price Index from February 2008 to March 2008;	= 75,000 * 14.3
	= 1,072,500
5. <i>Divide by CPI^B</i>	1,072,500 / 119.3
The Consumer Price Index for February 2008.	= 8,990
6. The result is positive , so subtract 10% of the result obtained in step 3 above.	8,990 - 7,500
Amount of increase in Contract Sum	= €1,490

C7 Example: Increase in labour costs after the fixed-price period

Variation details

In April 2008, the 38th Interim Valuation (for the period to 31st March 2008) includes a claim for increases in labour costs that occurred on or after the Base Date (1st February 2008) – that is, after the end of the fixed-price period.

The labour costs (excluding VAT) for the period covered by the Interim Valuation amount to €1,500,000.

The current Social Partnership Agreement provides for the following general round pay increases in the private sector:

- 3% from 1st July 2007
- 2% from 1st February 2008

Calculation

The Contract Sum adjustment in the 38th Interim Valuation (for the period up to 31st March 2008) is calculated as follows:

1. *Given EV*

The value (excluding VAT) of labour used on the project in March 2008, based on the prices pertaining at the Designated Date;

1,500,000

2. *Multiply by Y*

The percentage value assigned to labour in Appendix 2 to the Invitation to Tender;

$1,500,000 * 30\%$
 $= 450,000$

3. *Multiply by GRI*

The percentage increase in the General Round of the current Social Partnership Agreement that comes into effect on or after 1st February 2008

$450,000 * 2\%$

Amount of increase recoverable

= €9,000

Appendix D: Sample Agreement

Agreement Page 1

Public Works Contract for Building Works Designed by the Employer

AGREEMENT

THIS AGREEMENT is made on 15 May 2006 **BETWEEN**
Any County Council, County Council Offices, Main Street, Anytown (the **Employer**)
AND John Smith, Civil Contracting Ltd.
whose registered office/principal place of business is at 14 Hill St., New Town (the **Contractor**).

BACKGROUND

The Employer has accepted the Contractor's tender to complete the Works.

THE EMPLOYER AND THE CONTRACTOR AGREE as follows:

- Article 1** The Contractor shall execute and complete the Works subject to and in accordance with the Contract and shall comply with its other obligations in the Contract.
- Article 2** The Employer shall pay the Contractor the Contract Sum subject to and in accordance with the Contract and shall comply with its other obligations in the Contract.
- Article 3** The initial Contract Sum including VAT is € 5,300,000 (Five million, three hundred thousand euro). *(insert in words)*. The initial Contract Sum is a lump sum and shall only be adjusted when the Contract says so.
- Article 4** The Contractor has satisfied itself before entering into the Contract of all the circumstances that may affect the cost of executing and completing the Works and of the correctness and sufficiency of the Contract Sum to cover the cost of performing the Contract. The Contractor has included in the initial Contract Sum allowances for all risks, customs, policies, practices, and other circumstances that may affect its performance of the Contract, whether they could or could not have been foreseen, except for events for which the Contract provides for adjustment of the initial Contract Sum.
- Article 5** The Contract consists of the following documents:
- this Agreement
 - the Letter of Acceptance and any post-tender clarifications listed in it
 - the attached Conditions and completed Schedule
 - the Works Requirements, completed Pricing Document, and Works Proposals identified in the attached Schedule
- Article 6** The Contract takes effect from the Contract Date.

Agreement Page 2

Public Works Contract for Building Works Designed by the Employer

The Employer

Given under the Employer's seal

.....
(names and signatures of persons authorised to authenticate the seal)

affix Employer's personal seal

OR Signed on behalf of the Employer

.....Patrick Murphy.....*Patrick Murphy*.....
(name and signature of person authorised to sign contracts on behalf of the Employer)

in the presence of

.....James Nolan.....*James Nolan*.....
(name of witness) (signature of witness)

.....Solicitor.....22 Oak Road, Anytown.....
(witness's occupation) (witness's address)

(Execution in accordance with the legislation governing the authority, or articles of association if a company)

The Contractor

Given under the Contractor's common seal

.....
(names and signatures of persons authorised to authenticate the seal)

affix common seal

OR Signed, sealed and delivered by

.....
(name of attorney) (signature of attorney)

as lawful attorney of the Contractor under a power of attorney dated

affix attorney's personal seal

in the presence of

.....
(name of witness) (signature of witness)

.....
(witness's occupation) (witness's address)

Agreement Page 3

Public Works Contract for Building Works Designed by the Employer

OR (if the Contractor is an individual)

Signed, sealed and delivered by

..... John Smith.....
(name of Contractor)

John Smith
.....
(signature of Contractor)

affix Contractor's personal seal

in the presence of

..... Henry Barrett.....
(name of witness)

Henry Barrett
.....
(signature of witness)

..... Solicitor.....
(witness's occupation)

..... 20 River Road, Old Town.....
(witness's address)

NOTE

If the Contractor is a company that is not a company incorporated in Ireland, execution will be in accordance with the law of its jurisdiction of incorporation for execution of a deed.

If the Contractor is a partnership or joint venture, execution must be by each member, using the blocks below.

Joint venture member 1

Given under the common seal of

.....
(name of joint venture member 1)

.....
(signatures of persons authorised to authenticate the seal)

affix common seal

OR **Signed, sealed and delivered by**

.....
(name of attorney)

.....
(signature of attorney)

as lawful attorney of
(name of joint venture member 1)

affix attorney's personal seal

in the presence of

.....
(name of witness)

.....
(signature of witness)

.....
(witness's occupation)

.....
(witness's address)

Agreement Page 4

Public Works Contract for Building Works Designed by the Employer

Joint venture member 2

Given under the common seal of

.....
(name of joint venture member 2)

.....
(signatures of persons authorised to authenticate the seal)

.....
affix common seal

OR Signed, sealed and delivered by

.....
(name of attorney)

.....
(signature of attorney)

as lawful attorney of
(name of joint venture member 2)

.....
affix attorney's personal seal

in the presence of

.....
(name of witness)

.....
(signature of witness)

.....
(witness's occupation)

.....
(witness's address)

Joint venture member 3

Given under the common seal of

.....
(name of joint venture member 3)

.....
(signatures of persons authorised to authenticate the seal)

.....
affix common seal

OR Signed, sealed and delivered by

.....
(name of attorney)

.....
(signature of attorney)

as lawful attorney of
(name of joint venture member 3)

.....
affix attorney's personal seal

in the presence of

.....
(name of witness)

.....
(signature of witness)

.....
(witness's occupation)

.....
(witness's address)

Appendix E: Sample Schedule

Schedule: Part 1

SCHEDULE

PART 1 (completed by the Employer before Tender)

A Employer's Representative and Communications *(Sub-clause 4.3 and 4.14)*

Details for sending notices under clauses 12 and 13 to the Employer are:

For the attention of:	Name	Patrick Murphy
	Address	County Council Offices, Main Street, Anytown

Details for sending other notices to the Employer are:

For the attention of:	Name	Patrick Murphy
	Address	County Council Offices, Main Street, Anytown
	Fax	023-3597
	Email	patrickmurphy@anycountycouncil.ie

The Employer's Representative is: Anthony Jones

Details for sending notices to the Employer's Representative are:

For the attention of:	Name	Anthony Jones
	Address	Jones & Jones, Consultant Engineers, High Street, Anytown
	Fax	023-2190
	Email	tonyjones@engine-consult-teo.ie

Limitations on the Employer's Representative's authority to perform its functions and powers under the Contract:

- Maximum adjustment to the Contract Sum for a single Change Order: €10,000.00 , unless approved by the Employer
- Maximum cumulative value of adjustments to the Contract Sum for Change Orders in any 3 month period €10,000.00 , unless approved by the Employer
- The Employer's Representative shall not make a Change Order causing or contributing to a reduction in safety, scope, quality or usefulness of the Works without the Employer's approval
- The Employer will decide whether to accept or reject a value engineering proposal
- The Employer must agree to reduce retention if the Defects Period is extended
- The Employer's Representative is to consult with the Employer in relation to any adjustment to the Contract Sum before determining the adjustment
- Where the Employer has appointed a quantity surveyor, the Employer's Representative is to consult with the quantity surveyor in relation to any adjustments to the Contract Sum before determining the adjustment
-
-

Schedule Part 1, continued

Public Works Contract for Building Works Designed by the Employer

B Documents

Works Requirements

The Works Requirements are:

Specification Ref No. SP1011
Drawing No. 101-149, 159-195
Bill of Quantities Ref. No. BQ 101

Pricing Document

The Pricing Document is:

Bill of Quantities Ref. No. BQ 101

Method of Measurement

If there is a Bill of Quantities, the method of measurement according to which it was prepared and measurements are to be made is (except when any statement or general or detailed description of the work in the Contract shows to the contrary):

Method of Measurement for Road Works, NRA March 2000

C Property in Contractor's Documents *(Sub-clause 6.4)*

Ownership in Contractor's Documents and Works Items described in sub-clause 6.4.2 does/does not transfer to the Employer in accordance with sub-clause 6.4. *(If neither deleted, read as 'does not'.)*

D Insurance *(Clause 3)*

Insurance of the Works: minimum amount insured for professional fees % of the Contract Sum. (If none stated, 12.5%)

Minimum indemnity limits for public liability and employers' liability insurance:

- public liability insurance: € for any one event, but this limit may be on an annual aggregate basis for products liability, collapse, vibration, subsidence, removal and weakening of supports and sudden and accidental pollution. (If not stated, €6,500,000)
- employers' liability insurance: € for any one event. (If not stated, €13,000,000)

Maximum excess for insurance:

- insurance of Works and other Risk Items: € (If not stated, €10,000)
- public liability: € in respect of property damage only. (If not stated, €10,000) There shall be no excess for death, injury or illness.
- employers' liability: no excess

Schedule Part 1, continued

Public Works Contract for Building Works Designed by the Employer

Permitted Exclusions from the Insurances

Permitted exclusions from all insurances	<ul style="list-style-type: none"> war, invasion, act of foreign enemies, hostilities (whether war is declared or not), civil war, rebellion, revolution, insurrection or military or usurped power pressure waves caused by aircraft or other airborne objects travelling at sonic or supersonic speeds contamination by radioactivity or radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or its components, in each case not caused by the Contractor or the Contractor's Personnel terrorism (<i>delete if terrorism insurance is required</i>) asbestos (<i>delete if asbestos insurance is required</i>)
Permitted exclusions from insurance of the Works and other Risk Items	<ul style="list-style-type: none"> use or occupation of the Works by the Employer except in connection with the Works unless otherwise specified in the Works Requirements: cost of making good defects in the Works but not damage caused by such defects to other sound parts of the Works wear, tear, normal upkeep or normal repair or gradual deterioration inventory losses loss of use or any consequential loss of any nature including penalties for delay, non-completion or non-compliance failure of information technology mechanical or electrical breakdown but not resulting damage cessation of the Works for more than 3 months
Permitted exclusions from public liability insurance	<ul style="list-style-type: none"> persons under a contract of service or apprenticeship with the insured property of the insured or in the insured's custody or control other than existing premises and their contents temporarily occupied for the purposes of the Works defective workmanship or materials but not resulting damage mechanically propelled vehicles within the meaning of the Road Traffic Acts loss or damage due to design/ design for a fee/ defective workmanship, materials or design but including its consequences (<i>delete two, if two not deleted, permitted exclusion is 'loss or damage due to design'</i>) gradual pollution or contamination territorial limits unless otherwise specified in the Works Requirements: aircraft and waterborne craft finances, penalties, liquidated damages
Permitted exclusions from employer's liability insurance	<ul style="list-style-type: none"> offshore work liability compulsorily insurable under the Road Traffic Acts
Permitted exclusions from professional indemnity insurance	<ul style="list-style-type: none"> Persons under a contract of service or apprenticeship with the insured. Ownership, use, occupation or leasing of mobile or immobile property Effecting or maintenance of insurance of or in connection with the provision of finance or advice on financial matters Dishonest, malicious, criminal or deliberate illegal acts Libel and slander Insolvency Fines, penalties, liquidated damages or any penal, punitive, exemplary, non-compensatory or aggravated damages Failure of information technology Contractual liability that would not apply in the absence of the contract

Optional insurance provisions

The Employer ~~shall~~ / shall not have the risk of loss of and damage to its existing facilities and parts of the Works it uses or occupies, in accordance with sub-clause 3.8. (*Delete as applicable. If none deleted, the Employer shall not have this risk, and sub-clause 3.8 shall not apply.*)

Insurance of the Works and other Risk Items shall include the following property of the Employer, other than the Works and Works Items, and the minimum sum for which this property is to be insured shall be:

Description of property	
Minimum sum for which this property is to be	

If Insurance of the Works and other Risk Items is to include terrorism cover, the minimum sum insured shall be € .
The Contractor ~~shall~~ / is not required to (*delete one*) extend the insurance of the Works and other Risk Items for a Section that has reached Substantial Completion until the Employer's Representative issues the certificate of Substantial Completion for the whole Works.

Schedule: Part 1, continued

Public Works Contract for Building Works Designed by the Employer

Required extensions to Insurance:

Professional indemnity insurance is / is not required. *(Delete one. If neither deleted, professional indemnity insurance is not required.)* If required, the professional indemnity insurance is to be kept in place for _____ years after Substantial Completion of the Works is certified by the Employer's Representative.

If required, the minimum indemnity limit for professional indemnity insurance shall be € _____ for each and every claim or series of claims arising from the same originating cause/annual aggregate limit. *(Delete one).*
The maximum excess shall be € _____. *(If none stated, €50,000)*

E Performance Bond *(Sub-clause 1.5)*

A performance bond is / is not required. *(Delete one. If none deleted, bond is required.)*

The amount of the performance bond shall be 7.5% of the initial Contract Sum up to certification of Substantial Completion of the Works, and 15% of the initial Contract Sum for the subsequent period stated in the form of bond in the Works Requirements. *(If not stated, 25% up to Substantial Completion, and 12.5% for 15 months after that.)*

F Collateral Warranties *(Sub-clause 5.5)*

Collateral warranties are required from the following categories of Specialists, by the following dates; and the amount withheld from payments under sub-clause 11.4.1 are as follows:

Category of Specialist	Date for warranty	Amount withheld
Mechanical & Electrical	01 June 2007	€50,000

G Dates for Substantial Completion, Sections, Liquidated Damages, Retention

<i>(Employer to complete names of sections)</i>	<i>Date for Substantial Completion (unless to be completed by Contractor in part 2) (Last day of period starting on the Contract Date or date)</i>	<i>Rate of liquidated damages</i>	<i>Reduction in retention on Substantial Completion of Section</i> (%)
The Works	24 months	€10,000.00 per week	
Section:	18 months	€5,000.00 per week	
Section:	24 months	€10,000.00 per week	
Section:		€ _____ per _____	
Section:		€ _____ per _____	

H Early completion *(Sub-clause 9.6)*

The Employer's Representative is/is not required to issue the certificate of Substantial Completion if the Works or a Section reaches Substantial Completion before its Date for Completion. *(Delete as applicable. If neither deleted, read as 'is required'.)*

I Defects Period

The initial Defects Period is 18 months from the date of Substantial Completion of the Works. *(If none stated, one year.)*

J Random Checks for Employment Records

Sub-clause 5.3.3A(2) shall be/shall not be part of the Contract. *(Delete as applicable. If neither deleted, read as 'shall be'.)*

Schedule: Part 1, continued

Public Works Contract for Building Works Designed by the Employer

K Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments *(Sub-clauses 9.3, 9.4, 10.1, 10.6, 10.7)*

Delay Events and Compensation Events are as follows: (Employer to select 'Yes/No' as required for Compensation Events 17-21. If any box is blank, read as 'No'.)

Event	Delay Event	Compensation Event
1. The Employer's Representative gives the Contractor a Change Order	Yes	Yes
2. The Employer's Representative directs the Contractor to search for Defects or their cause and no Defect is found, and the search was not required because of a failure of the Contractor to comply with the Contract	Yes	Yes
3. The Employer's Representative directs the Contractor to suspend work under sub-clause 9.2	Yes	Yes
4. The Contractor suspends work in accordance with sub-clause 12.3	Yes	Yes
5. There is a factual error in information about the Site or setting out information in the Works Requirements. [This does not include an error of interpretation.]	Yes	Yes
6. The Employer takes over part of the Works before Substantial Completion of the Works and any relevant Section	Yes	Yes
7. The Employer's Representative does not give the Contractor an instruction required under sub-clause 4.5.4 within the time required under sub-clause 4.11.2 when the Contractor has asked for the instruction in accordance with sub-clause 4.11.1	Yes	Yes
8. The Employer does not allow the Contractor to occupy and use a part of the Site in accordance with sub-clause 7.1	Yes	Yes
9. The Employer does not give the Contractor a Works Item or other thing as required by the Contract when the Contractor has asked for it in accordance with sub-clause 4.11.1	Yes	Yes
10. Employer's Personnel interfere with the execution of the Works on the Site, and the interference is unforeseeable and not in accordance with the Contract	Yes	Yes
11. The Employer instructs the Contractor under sub-clause 3.2.3 to rectify loss of or damage to Risk Items for which the Contractor is not responsible	Yes	Yes
12. Loss of or damage to the Works that is at the Contractor's risk in accordance with clause 3.2	Yes	No
13. A weather event as described below	Yes	No
14. A strike or lockout affecting the construction industry generally or a significant part of it, and not confined to employees of the Contractor or any Contractor's Personnel	Yes	No
15. Delay to the Works caused by the order or other act of a court or other public authority exercising authority under Law, that did not arise as a result of or in connection with an act, omission or breach of Legal Requirements of the Contractor or the Contractor's Personnel or a breach of the Contract by the Contractor	Yes	No
16. A breach by the Employer of the Contract delaying the Works that is not listed elsewhere in this table.	Yes	Yes
17. A difference between the Contract value of the Works according to the quantities and descriptions in the Bill of Quantities [taking into account the method of measurement identified below when it applies] and the Contract value of the Works described in the Works Requirements, because the Bill of Quantities, when compared with the Works Requirements: <ul style="list-style-type: none"> ■ includes an incorrect quantity or ■ includes an item that should not have been included or ■ excludes an item that should have been included or ■ gives an incorrect item description ■ and the difference for an item in, or that should have been in, the Bill of Quantities is more than €500. 	No	Yes
18. An item of value or archaeological interest or human remains is found on the Site, and it was unforeseeable	Yes	Yes
19. The Contractor encounters on the Site unforeseeable ground conditions or man-made obstructions in the ground, other than Utilities	Yes	No
20. The Contractor encounters unforeseeable Utilities in the ground on the Site	Yes	No
21. Owners of Utilities on the Site do not relocate or disconnect Utilities as stated in the Works Requirements, when the Contractor has complied with their procedures and the procedures in the Contract, and the failure is unforeseeable	Yes	Yes

Schedule: Part 1, continued

Public Works Contract for Building Works Designed by the Employer

Notes on the above table

1. **Utilities** means conducting media and apparatus for water, sewage, electricity, gas, oil, telecommunications, data, steam, air, or other services, and associated apparatus and structures.
2. A condition, circumstance or occurrence is **unforeseeable** if an experienced contractor tendering for the Works could not have reasonably foreseen it on the Designated Date, having inspected the Site and its surroundings and having satisfied itself, insofar as practicable and taking into account any information in connection with the Site provided by the Employer, as to all matters concerning the Site, including its form and nature and its geotechnical, hydrological and climatic conditions.
3. A **weather event** is when for any month between the Starting Date and the Date for Substantial Completion of the Works, the value for any of the weather data listed below, as measured at _____ weather station, is higher than the highest value occurring at least once every 10 years in the corresponding month of the year, on average according to historical data from the same station:
 - cumulative rainfall for the month
 - number of days in the month with rainfall exceeding 20mm
 - number of days with minimum air temperature less than 0° Celsius
 - number of days with maximum mean 10 minute wind speed exceeding 20 metres per second
 -

If no weather station is named above, the Met Éireann weather station nearest the Site shall be used. If the weather station named above, or the nearest one, does not measure or record data for any of the above weather, the nearest station to the Site that measures and records that data shall be used for that weather.

4. In sub-clause 9.4:
 - the **first threshold** is 30 Site Working Days of delay caused by Compensation Events
 - the **second threshold** is 30 Site Working Days of delay caused by Compensation Events
5. The definition of craftspersons in part 2E (sub-clause 10.6.4(1)) includes the following additional categories:

Categories



6. In sub-clause 10.6.4(3), the rates to be used to determine the cost of plant are the rates in _____ and any rates in the Pricing Document.
7. In sub-clause 10.7, the amount to be added for delay cost is *(Delete as applicable. If neither deleted, second bullet read as deleted.)*:
 - ~~the daily rate tendered by the Contractor in the Schedule, part 2E (clause 10.7.1(1))~~
 - the expenses unavoidably incurred as a result of the delay (clause 10.7.1(2))
8. For purposes of clause 10.7, the Contractor is to tender in part 2E:
 - a single daily rate for delay costs
 - separate daily rates for delay costs for each of the following periods/portions of the Works:
 -
 -
 -
 - (If the above are blank, Contractor is to tender a single daily rate)

L Payment Particulars (Clause 11)

Period for interim payment is Monthly. (If none stated, monthly.) Minimum amount for interim payments, except release of retention, is €0. (If none stated, there is no minimum.) When permitted by the Pricing Documents, up to 90% of the Contract value of unfixed Works Items may be included in an interim payment. (If none stated, 90%).

The retention percentage is 3%. (If none stated, 10%).

M Price Variation (Sub-clause 10.8)

~~Clause PV4~~ / Clause PV2 attached to this Schedule is part of the Contract. *(Delete as applicable. If none deleted, Clause PV1 shall apply).*

N Conciliation and Arbitration

Sub-clause 13.1.2

Failing agreement, the conciliator will be appointed by _____.

Sub-clause 13.2

The arbitration rules are the Public Works Arbitration Rules, 2007. The person or body to appoint the arbitrator, if not agreed by the parties, is _____.

Schedule: Part 2

Public Works Contract for Building Works Designed by the Employer

PART 2 (Completed by the Contractor and included with Tender)

A Communications (Sub-clause 4.14)

The details for sending notices under clauses 12 or 13 to the Contractor are:

For the attention of:	Name	John Smith
	Address	Civil Contracting Limited, Hill Street, New Town

The details for sending other notices to the Contractor are:

For the attention of:	Name	John Smith
	Address	Civil Contracting Limited, Hill Street, New Town
	Fax	023- 5472
	Email	johnsmith@civilcontract-teo.ie

The Contractor's agent in the Republic of Ireland for service of legal process is:

For the attention of:	Name	
	Address	

Note: An agent in the State must be named if the Contractor's registered office or other principal place of business is outside the State.

B Parent Company Guarantee (Sub-clause 1.6)

The Contractor shall provide a parent company guarantee in the form in the Works Requirements from:

Parent company	Name	Smith Holdings Limited, Hill Street, New Town
	Address	
	Registered Address	
	Place where incorporated or organised	

Note: Tenderers must name a guarantor if parent company has been identified for purposes of suitability assessment.

Schedule: Part 2, continued

Public Works Contract for Building Works Designed by the Employer

C Works Proposals

The Works Proposals are the following:

WP Ref: JS-101

D Dates for Substantial Completion

Date for Substantial Completion Number of Working Days after the Contract Date (to be completed by Contractor in Tender <i>ONLY</i> if not completed by Employer in Part 1)	
The Works	
Section 1: (Employer to complete name of Section)	
Section 2: (Employer to complete name of Section)	
Section 3: (Employer to complete name of Section)	
Section 4: (Employer to complete name of Section)	

E Adjustments to the Contract Sum including Delay Costs (Sub-clauses 10.6 and 10.7)

The Contractor's tendered hourly rates for labour and related costs (including PRSI, benefits, tool money, travelling time and country money) are specified in the following table. (If left blank, or stated as a negative value, read as zero.)

Craftspersons	€	per hour
General Operatives	€	per hour
Apprentices	€	per hour

- **Craftspersons** means those categories of work persons described as 'craftsmen' or 'electricians' in employment agreements registered under the Industrial Relations Acts 1946 to 2004, and, any additional categories listed in part 1K
- **General Operatives** means all direct labour other than craftspersons and apprentices
- **Apprentices** means categories of work persons under a contract of apprenticeship for trades whose practitioners fall within the above definition of Craftspersons

The Contractor's tendered percentage addition for costs of materials	%
The Contractor's tendered percentage addition/deduction for costs of plant	%

All of the above shall include on-costs, overheads and profit, and exclude VAT. (If either of the above is left blank, read as zero.)

The Contractor's tendered rate of delay costs per Site Working Day, excluding VAT, is:	€
--	---

Schedule: Part 2, continued

Public Works Contract for Building Works Designed by the Employer

If part 1K states that separate rates are to be tendered for separate periods or parts of the Works, the Contractor's tendered rates are as follows:

Period/portion of the Works (part 1K)		Tendered Rate
	€	per Site Working Day
	€	per Site Working Day
	€	per Site Working Day

Appendix F: Department of Finance Guidelines on Methods of Measurement

F1 Overview

Public Works Contracts are based on the principle of lump-sum fixed-price Contracts, and where rules of measurement (such as CESSM, ARM3 and NRA rules) are referred to in a contract, there must be no possibility of a conflict arising between this principle and the content of the rules.

The Department of Finance publishes amendments to the standard rules of measurement to align them with the principle of lump-sum, fixed-price contracts. For contracts that reference rules of measurement, the Employer must include these amendments with the tender documents.

This appendix includes samples of the Department of Finance approved amendments to the following methods of measurement:

- *Civil Engineering Standard Method of Measurement* 3rd Edition (CESMM3);
- *Agreed Rules of Measurement Issue 3* (ARM3); and
- National Roads Authority's *Method of Measurement for Road Works*.

This appendix is not to be regarded as the authoritative text of the Department of Finance's approved amendments; rather, its purpose is to give an idea of the scale and scope of the amendments required to ensure adherence to the lump-sum, fixed-price principle.

F2 Amendments required when using CESMM3

Overview

The following Department of Finance approved list of amendments is to be made to the *Civil Engineering Standard Method of Measurement 3rd Edition* (CESMM3) when the rules are being used on the new Public Works Contracts Designed by the Employer.

New CESMM3 Guidance Notes – May 1996

Omit: The first item in the guidance note which relates to a worked example in relation to Paragraph 5.6. ‘Dayworks’

Section 1: Definitions

Amend: Paragraph 1.2. to read ‘Conditions of Contract means the Public Works Contract for Civil Engineering Works Designed by the Employer (February 2007), developed by the Department of Finance for use on public sector construction projects’.

Amend: The text in paragraph 1.4. to read ‘All references to clauses are references to clauses numbered in the Public Works Contract for Civil Engineering Works Designed by the Employer and references to paragraphs are references to paragraphs numbered herein’.

Amend: The word ‘Engineer’ to read ‘Employer’s Representative’ in Paragraph 1.6.

Omit: The words in bold in Paragraph 1.7. ‘Bill of Quantities’ means a list of items giving brief identifying descriptions and estimated quantities of the work comprised in a Contract.

Omit: Paragraph 1.8. ‘Daywork’ means the method of valuing work on the basis of time spent by the workmen, the material used and the plant employed.

Section 2: General Principles

Amend: Paragraph 2.1. to read ‘...in conjunction with the Public Works Contract for Civil Engineering Works Designed by the Employer and....’

Continued on next page

F2 Amendments required when using CESMM3, Continued

Section 5: Preparation of the Bill of Quantities

Omit: Text in paragraph 5.2 (c) 'Dayworks Schedule' No reference to Dayworks in Contracts.

Omit: Paragraph 5.6. 'The Daywork Schedule, if any, shall comprise either:

a) a list of the various classes of labour, materials and plant for which Daywork rates or prices are to be inserted by the tenderer together with a statement of the conditions under which the Contractor shall be paid for work executed on a Daywork basis,

or

b) a statement that the Contractor shall be paid for work executed on a Daywork basis at rates and prices calculated by adding the percentage additions stated in the *Schedule of Dayworks carried out incidental to Contract Work* issued by the Federation of Civil Engineering Contractors to the rates and prices contained in the aforementioned *Schedules* and by making further adjustments as follows.

Schedule 1: Labour	addition/deduction* of - + per cent
Schedule 2: Materials	addition/deduction* of - + per cent
Schedule 3: Plant	addition/deduction* of - + per cent
Schedule 4: Supplementary charges †	addition/deduction* of - + per cent

* Appropriate deletion to be made by the Contractor when tendering.

† Percentage to be inserted by the Contractor when tendering.

‡ Supplementary charges shall not include the charges referred to in notes and conditions 2(ii), 3 and 6 of Schedule 4.

Payments shall be made under the conditions and using the rates and prices contained in the edition of the aforementioned *Schedules* current at the date of execution of the Daywork.'

Omit: Paragraph 5.7. 'Provisional Sums for work executed on a Daywork basis may be given comprising separate items for labour, materials, plant and supplementary charges. Where a Daywork Schedule of the form stated in sub-paragraph (b) of paragraph 5.6. is used each Provisional Sum shall be followed by an item for the adjustment referred to in that sub-paragraph. The price inserted against each such item shall be calculated by applying the percentage addition or deduction inserted by the Contractor in the Daywork Schedule to the amount of the associated Provisional Sum.'

Continued on next page

F2 Amendments required when using CESMM3, Continued

Section 5: Preparation of the Bill of Quantities

(Continued)

Omit: Paragraph 5.15. ‘The estimated price of work to be carried out by a Nominated Sub-Contractor shall be given in the Bill of Quantities as a Prime Cost Item. Each Prime Cost Item shall be followed by

(a) an item for a sum for labours in connection therewith which, in the absence of any express provision in the Contract to the contrary, shall include *only*

(i) in any case in which the Nominated Sub-contractor is to carry out work on the Site for allowing him to use temporary roads, scaffolding, hoists, messrooms, sanitary accommodation and welfare facilities which are provided by the Contractor for his own use and for providing space for office accommodation and storage of plant and materials, for disposing of rubbish and for providing light and water for the work of the Nominated Sub-contractor, and

(ii) in any case in which the Nominated Sub-contractor is not to carry out work on the Site for unloading, storing and hoisting materials supplied by him and returning packing materials, and

(b) an item expressed as a percentage of the price of the Prime Cost Item in respect of all other charges and profit.’

Omit: Paragraph 5.16. ‘Where any goods, materials or services supplied by a Nominated Sub-contractor are to be used by the Contractor in connection with any item, reference shall be made in the description of that item, or in the appropriate heading or sub-heading, to the Prime Cost Item under which the goods or materials or services are to be supplied.’

Omit: Paragraph 5.17. ‘Provision for contingencies shall be made by giving Provisional Sums in the Bill of Quantities and not by increasing the quantities beyond those of the work expected to be required. Provisional Sums for specific contingencies shall be given in the general items of the Bill of Quantities. A Provisional Sum for a general contingency allowance, if required, shall be given in the Grand Summary in accordance with paragraph 5.25.’

Amend: paragraph 5.22 the ‘£’ symbol to ‘€’ symbol

Omit: Paragraph 5.25. ‘A Provisional Sum for a general contingency (the General Contingency Allowance), if required, shall be given in the Grand Summary following the total of the amounts brought forward from the Part Summaries.’

Omit: the words from paragraph 5.26. ‘.....and the General Contingency Allowance, if any (see paragraph 6.3, 6.4 and 6.5).’

Omit: the words from paragraph 5.27. ‘.....the amount of the General Contingency Allowance, if any.....’

Continued on next page

F2 Amendments required when using CESMM3, Continued

Section 6: Completion, Pricing and Use of the Bill of Quantities

Amend: text in paragraph 6.1 from ‘pounds sterling with pence inserted as decimal fractions of one pound’ to read ‘euro with cent inserted as decimal fractions of one euro’.

Amend: paragraph 6.4. to read ‘For the purposes of clause **11** interim additions or deductions on account of the amount, if any, of the Adjustment Item shall be made by instalments in interim certificates in the proportion that the amount referred to in clause **11.1.2.(1)** bears to the total of the priced Bill of Quantities before the addition or deduction of the amount of the Adjustment Item and a statement to this effect shall appear in the Preamble to the Bill of Quantities. Such interim additions or deductions shall be made before deduction of the retention moneys, and shall not exceed in the aggregate the amount of the Adjustment Item. If by the date of issue pursuant to clause **9.6.** of the Certificate of Substantial Completion for the whole of the Works any balance of the amount of the Adjustment Item is outstanding it shall be added to or deducted from the moneys then due.’

Omit: paragraph 6.5. ‘In determining the effective Value for the purposes of the Contract Price Fluctuations clause, if applicable, account shall be taken of any addition to or deduction from the amounts due to the Contractor under clause 60 in respect of the Adjustment Item.’

Section 7: Method- Related Charges

Amend: text in paragraph 7.6 as follows ‘.....but shall be deemed to be prices for the purposes of clauses **10(6).**’

Amend: paragraph 7.7. to read ‘Method-Related Charges shall be certified and paid pursuant to clauses 11.1.2(1) and a statement to this effect shall appear in the Preamble to the Bill of Quantities.’

Amend: paragraph 7.8 to read ‘In the event of the satisfactory execution of any part of the Works which has been the subject of an item for a Method-Related Charge using, whether in whole or in part, a method other than that described in the item the Contractor shall nevertheless be entitled to payment of the Method-Related Charge or the balance thereof, as the case may be, by such installments at such times and upon such events as may from time to time be agreed between the Engineer and the Contractor. In default of such agreement the Method-Related Charge, or the balance then unpaid, shall be treated as if it were an addition to the Adjustment Item referred to in paragraph 6.3 and 6.4 (amended) and allowed to the Contractor by way of installments in interim certificates accordingly. The amount of a Method-Related Charge shall be neither increased nor decreased by reason only of any change in method made by the Contractor, unless such change has been ordered by the Employer’s Representative, in which case the provisions of clause **10.6** shall apply.’

Continued on next page

F2 Amendments required when using CESMM3, Continued

Class A: General Items (Continued)

Omit: reference to Provisional Sums and Prime Cost Items included in comments just under heading.

No 1. First Division ‘Contractual requirements’

Amend: Coverage Rules C1 to read ‘Items for insurance classed as *contractual requirements* shall be deemed to include only provision of insurances in accordance with clauses 3.3 , 3.6.3.7. (optional) and 3.8. unless otherwise stated.’

No 2. First Division ‘Specified requirements’

Omit: from Measurement Rules M2 the words ‘.....of which the value is to be ascertained and determined by admeasurement in accordance with clause 56(1).....’

No 4. First Division ‘Provisional Sums’

Omit: this section completely i.e. First, Second and Third Divisions; Measurement Rules, Definition Rules, Coverage Rules and Additional Description Rules.

No 5. First Division ‘Nominated Sub-contracts which include work on the Site’

Omit: this section completely i.e. First, Second and Third Divisions; Measurement Rules, Definition Rules, Coverage Rules and Additional Description Rules.

No 6. First Division ‘Nominated Sub-contracts which do not include work on the Site’

Omit: this section completely i.e. First, Second and Third Divisions; Measurement Rules, Definition Rules, Coverage Rules and Additional Description Rules.

Class B: Ground Investigation

No 1. First Division ‘Trial pits and trenches’

Amend: ‘Removal of obstructions’ Second Division; change the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

Amend: ‘Pumping’ Second Division; change the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

No 2. First Division ‘Light cable percussion boreholes’

Amend: ‘Chiselling to prove rock or to penetrate obstructions’ Second Division; change the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

Continued on next page

F2 Amendments required when using CESMM3, Continued

**Class B:
Ground
Investigation
(Continued)**

No 5. First Division ‘Site tests and observations’

Amend: ‘Permeability’ Third Division; change the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump-sum figure for the work described is tendered).

No 8. First Division ‘Professional Services’

Amend: ‘Technician, Technical Engineer and Engineer or geologist’ Second Division; change the units of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

**Class C:
Geotechnical
and Other
Specialist
Processes**

No 6. First Division ‘Diaphragm walls’

Amend: ‘Waterproofed joints’ Second Division to be referred to as ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

**Class D:
Demolition
and Site
Clearance**

No 4 AND 5. First Division ‘Buildings; other structures’

Amend: ‘Brickwork, Concrete, Masonry, Metal, Timber, No predominant material’ Second Division to be measured should be referred to as ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered)

**Class E:
Earthworks**

Measurement Rules M1

Omit: Where boundaries between different materials are not shown on the Drawings, the work should be measured as a “Sum” (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).’

***No 6. First Division ‘Filling’:
Measurement Rule M20***

Replace: ‘Where rock filling is deposited into soft areas the volume shall be measured in the transport vehicles at the place of deposition’ **with** ‘Where rock filling is deposited into soft areas an approximate volume shall be given in the description and referred to as “Sum” (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

Continued on next page

F2 Amendments required when using CESMM3, Continued

**Class E:
Earthworks
(Continued)**

Measurement Rule M21

Replace: ‘Where filling is to be deposited below water, and the quantity cannot be measured satisfactorily by any other means, its volume shall be measured in the transport vehicles at the place of deposition.’ **with** ‘Where filling is to be deposited below water a “Sum” should be included (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).’

**Class Q:
Piling
Ancillaries**

No 7. First Division ‘Obstructions’

Amend: the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

**Class Y:
Sewer And
Water Main
Renovation
and Ancillary
Works**

No 8. First Division ‘Interruptions’

Amend: the unit of measurement from ‘h’ to ‘Sum’ (this is a Contractor’s risk for which a lump sum figure for the work described is tendered).

F3 Amendments required when using ARM3

Table of Amendments

The following Department of Finance approved list of amendments is to be made to the *Agreed Rules of Measurement Issue 3 (ARM3)* when the rules are being used on the new Public Works Contracts Designed by the Employer:

Page	Change
3	<p>4 Bills of Quantities</p> <p>Omit last two sentences which read:</p> <p style="padding-left: 40px;"><i>Work which cannot be measured shall be given as a Provisional Sum. Work of which the extent is not known shall be described as Provisional or given in a Bill of Approximate Quantities</i></p>
6	<p>11 Provisional or Prime Cost Sums – omit all text in this part, which reads:</p> <p style="padding-left: 40px;"><i>Provisional or Prime Cost Sums shall be defined as follows unless otherwise provided in the Conditions of Contract.</i></p> <p style="padding-left: 80px;">a. <i>The term ‘Provisional Sum’ is defined as a sum provided for work or for costs which cannot be entirely foreseen, defined or detailed at the time the tendering documents are issued.</i></p> <p style="padding-left: 80px;">b. <i>The term ‘Prime Cost Sum’ is defined as a sum provided for work or services to be executed by a nominated sub-contractor or for materials or goods to be obtained from a nominated supplier</i></p> <p style="padding-left: 40px;"><i>Any provision for contingencies shall be given as a Provisional Sum</i></p>
7	<p>2.1 Form, type and conditions of contract – omit last two sentences of first paragraph which reads:</p> <p style="padding-left: 40px;"><i>When the standard conditions provide for alternative or optional clauses the clauses which are to apply shall be stated. Amendments to standard conditions shall be given in full.” All of second paragraph which reads “Where the conditions of contract are not standard or not published for general use the conditions shall be set out in full in the tender documents or a schedule of clause headings shall be given where a full set of conditions is supplied with the tender documents. In either case where the conditions provide for alternative or operational clauses, the clauses which are to apply shall be stated.</i></p> <p>Replace last paragraph with the following text:</p> <p style="padding-left: 40px;"><i>If the Schedule Part 1 of the Public Works Contract requires insertions to be made, these insertions shall be set out in the Bill of Quantities. Where the PV2 is being used as indicated in Part 1M of the Schedule the proportions of labour, Materials, Fuel and non-adjustable overheads in Appendix 2 should be set out in the Bill of Quantities. Furthermore in relation to PV2 the weightings applicable to the list of materials in Appendix 3 should be set out in the Bill of Quantities.”</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
8	<p>2.3 Employer's liability</p> <p>Omit all text in this part, which reads:</p> <p style="padding-left: 40px;"><i>Where the cost of insuring any liability of the Employer is required to be included in the Contract Sum such cost shall be given as a Provisional Sum.</i></p>
8	<p>2.5 Obligations and restrictions imposed by the Employer:</p> <p>a) Omit second sentence of (h) which reads:</p> <p style="padding-left: 40px;"><i>Alternatively a provisional or prime cost sum shall be given</i></p> <p>b) Also omit the words in (k) which read:</p> <p style="padding-left: 40px;"><i>the cost of his telephone calls shall be given as a Provisional Sum.</i></p>
9	<p>Omit heading as follows</p> <p style="padding-left: 40px;"><i>3 Work by Nominated Sub-Contractors, Goods and Materials from Nominated Suppliers and Work by Public Bodies</i></p> <p>And replace with:</p> <p style="padding-left: 40px;"><i>3 Work by Public Bodies</i></p>
9/10	<p>Note: Single point responsibility means the replacement of nominated subcontractors and suppliers with Specialists using different measurement rules. The new rules are (i) existing measurement rules other than those in part Section 3 (see below) are not to be amended (ii) that the measurement of Preliminaries and measured items under existing rules in relation to Specialist works are deemed to include for everything required by a Specialist including general and specialist attendances.</p> <p>Omit the following text:</p> <p>3.1 Work by nominated sub-contractors</p> <p style="padding-left: 40px;"><i>Work which is required to be carried out by a nominated sub-contractor shall be given as a Prime Cost Sum. The name of the firm to be nominated shall be given (if known) together with a description of the sub-contract work.</i></p> <p style="padding-left: 40px;"><i>An item shall be given for any profit by the Contractor</i></p> <p style="padding-left: 40px;"><i>'Attendance' is the work to be executed or services to be provided by the Contractor by way of assistance to or facilitation of a nominated sub-contractor. 'General attendances' are listed in Rule 4z of this section and are provided to all nominated sub-contractors. 'Special attendances' are those which the Contractor may be required to provide to specific nominated sub-contractors in addition to general attendance.</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
9/10	<p><i>Where special attendance is to be provided by the Contractor an item shall be provided for each such item of attendance and full information on the nature of the attendance required shall be stated in the description. In particular, where the following items of special attendance are to be provided, the requirements stated shall be complied with in the description of the attendance:</i></p> <ul style="list-style-type: none"> <i>a. Temporary access roads and hardstandings required in connection with, for example, structural steelwork, precast concrete components, piling, heavy items of plant-description of traffic to be catered for, width of carriageway, extent of accessway to be provided and remedial works to be carried out to the trafficked areas.</i> <i>b. Weatherproof covered storage and accommodation – floor area to be provided together with details of any enhancements required such as minimum eaves heights, lighting levels, power supply requirements, heating, ventilation, water and drainage services and, where a requirement, site location.</i> <i>c. Power supplies giving the phase and maximum electrical loading to be allowed for – the nominated sub-contractor shall be deemed responsible for the provision of transformers and temporary distribution cabling unless otherwise stated in the description.</i> <i>d. Scaffolding –the area of elevation or, in the case of ceiling access, the area to be scaffolded. Where access towers are to be provided the number, size and height of the towers shall be stated. The provision of scaffold boards and ladders and of all certification required for safe use shall be deemed to be included.</i> <i>e. Unloading, hoisting and distributing – the size and weight of the items and their destination in the work shall be described.</i> <i>f. Maintenance of specific temperature and humidity levels – the required temperatures and humidity levels shall be stated. The provision of plant and all necessary fuel/power supplies shall be deemed to be included. Any restrictions on the use of the permanent mechanical installation of the building shall be stated.</i>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
	<p><i>For all other special attendance items to be provided by the Contractor, the scope of the work required of the Contractor shall be detailed in the description.</i></p> <p><i>In the case of all special attendance items the provision, maintenance and removal of any plant, equipment or work required and the reinstatement of any part of the Works disturbed shall be deemed to be included.</i></p> <p><i>The provision of any special attendance not listed in the Bill of Quantities shall be deemed to be in the PC Sum for the nominated sub-contract</i></p> <p><i>‘Builder’s work’ to be carried out by the Contractor in connection with work by nominated subcontractors shall be given in accordance with the appropriate requirements of these Rules.</i></p> <p>3.2 Goods and materials from nominated suppliers</p> <p><i>Goods and materials which are required to be obtained from nominated suppliers shall be given as a Prime Cost Sum. The name of the supplier to be nominated shall be given if known.</i></p> <p><i>An item shall be given for any profit required by the Contractor.</i></p> <p><i>Fixing goods and materials shall be given in accordance with the appropriate sections of these Rules. Taking delivery, unloading, storing and hoisting the goods and materials and returning packing materials to the nominated supplier carriage paid and obtaining credits therefore shall be deemed to be included with the items for fixing. Particulars shall be given where the Contractor is required to pay the costs of conveying goods and materials to the site and/or any special packing or similar requirements.</i></p> <p>3.3 Work by Utility Providers</p> <p><i>Work which is to be carried out by a Statutory Authority, Public Undertaking or Public or Private Utility Provider shall be so described and given as a Provisional Sum.</i></p> <p><i>An item shall be given to cover any on-costs and profit required by the Contractor.</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
10	<p>3.4. Work by others engaged directly by the Employer – omit second sentence which reads:</p> <p style="padding-left: 40px;"><i>Any attendance required shall be given in accordance with Rule 3.1 and 4z</i></p> <p>Note: The new rule to be included says that requirements by others are to be fully described and an item is to be given which includes for everything including general and specialist attendances.</p>
11	<p>4 General facilities and obligations – omit text in (z) which reads:</p> <p style="padding-left: 40px;"><i>General attendance on nominated sub-contractors which shall be deemed to include the use of Contractor’s temporary roads, hardstandings, standing scaffolding, standing power operated hoisting plant, the provision of temporary lighting and water supplies, clearing away and disposal of rubbish, provision of space for the sub-contractors own offices and the storage of his plant and materials and the use of the messrooms, sanitary accommodation and welfare facilities.</i></p>
21	<p>Main heading, Excavation and Earthwork: Excavation, subheading Information Required – omit references to:</p> <p style="padding-left: 40px;"><i>Ground Investigation Reports indicating the nature of the ground” and “The ground water level and date when established (pre-contract level)</i></p> <p style="padding-left: 40px;">and</p> <p style="padding-left: 40px;"><i>Ground water subject to periodic changes such as tidal effects</i></p>
21	<p>Main heading Excavation and Earthworks: Excavation, table heading Categories, column two row seven, item 12, omit the following text:</p> <p style="padding-left: 40px;"><i>...below ground water level</i></p>
22	<p>Main heading Excavation and Earthworks: Excavation, table heading Measurement Rules, row four, items 7 and 8 omit the following text:</p> <p style="padding-left: 40px;"><i>Where ground investigation reports are not available a description of the ground and pre-contract water level which has been assumed shall be stated and Ground water level shall be re-established at the time the various excavation works are carried out and the measurement of ‘Extra on excavation items for being below ground water level’ shall be adjusted accordingly</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
23	<p>Main heading Excavation and Earthworks: Excavation, table heading Categories, column two, row four, omit the word:</p> <p style="padding-left: 40px;"><i>water</i></p> <p>And, column three, row six omit the words:</p> <p style="padding-left: 40px;"><i>10 surface, 11 ground, 12 contaminated ground</i></p>
24	<p>Main heading Excavation and Earthworks: Excavation, Table heading Measurement Rules, row three, omit the following text:</p> <p style="padding-left: 40px;"><i>Disposal of ground water shall only be measured where a corresponding item for excavating below ground water level is measured and shall be adjusted accordingly if post contract water levels differ from the pre contract levels.</i></p>
25	<p>Main heading Excavation and Earthworks: Excavation, Subheading Information Required, omit text which states:</p> <p style="padding-left: 40px;"><i>Ground Investigation Reports.</i></p>
25	<p>Main heading Excavation and Earthworks: Underpinning, table heading Measurement Rules, row two, omit the following text:</p> <p style="padding-left: 40px;">2 below ground water level .</p> <p style="padding-left: 40px;">7 Where ground investigation reports are not available a description of the ground and the pre-contract water level which has been assumed shall be stated.</p> <p style="padding-left: 40px;">8 Ground water level shall be re-established at the time the various excavation works are carried out and the measurement of 'Extra on excavation items for being below ground water level' shall be adjusted accordingly.</p>
27	<p>Main heading Piling: Piles, subheading Information Required, – omit text which states:</p> <p style="padding-left: 40px;"><i>Ground Investigation Report indicating nature of the ground</i></p> <p>and</p> <p style="padding-left: 40px;"><i>The ground water level and date when established (pre-contract level)</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
94	<p>Main heading Mechanical Installation: Generally, table heading Measurement Rules, row two – omit text which reads:</p> <p style="padding-left: 40px;"><i>4 Connections to public mains, making good public highway and any other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a Provisional Sum.</i></p>
106	<p>Main heading Electrical Installations: Generally, table heading Measurement Rules, row two – omit text that reads:</p> <p style="padding-left: 40px;"><i>4 Connections to public mains, making good public highway and any other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a Provisional Sum.</i></p>
143	<p>Main heading Drainage – omit reference to ground water in accordance with section D.</p>
143/4	<p>Main heading Drainage: Below Ground, subheading Information Required – omit text that reads</p> <p style="padding-left: 40px;"><i>Ground investigation reports and details of ground water in accordance with Section D.</i></p> <p>Table heading Measurement Rules, first row – omit the following text:</p> <p style="padding-left: 40px;"><i>1. The ground water level shall be re-established at the time the various excavation works are carried out and is described hereinafter as the post contract water level.</i></p> <p>and</p> <p style="padding-left: 40px;"><i>2. Excavating trenches below ground water level shall be measured where the ground water level is above the bottom of the trench and shall be adjusted accordingly if the post contract water level differs from the pre-contract water level.</i></p> <p>and</p> <p style="padding-left: 40px;"><i>4. Where ground investigation reports are not available a description of the ground and the pre-contract water table which has been assumed shall be stated.</i></p>

Continued on next page

F3 Amendments required when using ARM3, Continued

Table of Amendments (continued)

Page	Change
148	Main heading Drainage: Below Ground , table heading Measurement Rules , row three – omit text that reads: <i>4. Connections to public mains, making good public highway and any other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a Provisional Sum.</i>
157	Main heading Fittings: Fittings Equipment and Furniture , table heading Categories , row 6 – omit text that reads: <i>...by a nominated supplier or....'</i>

F4 Method of Measurement for Roads Works

Chapter I: Definitions (March 2000)

Page 8 **omit** 1(e) items designated ‘Provisional’ are items for which the quantities of work to be executed cannot be determined with the same degree of accuracy as other items but for which it is deemed necessary to make provision.

Chapter II: General Principles (March 2000)

Method of Measurement

- i. Page 10.1(a) **omit** the following text ‘The Method of Measurement is intended for use for road contracts based on the 3rd edition of the IEI Conditions of Contract. The use of the Method of Measurement requires appropriate amendments to Clause 57 of the IEI Conditions and to the Appendix to the Form of Tender. The requisite amendments have been incorporated in the current edition of “CONDOC” published by the Department of the Environment/National Roads Authority. If it is intended to use the Method of Measurement with other conditions of contract, amendments will be required to the Method of Measurement.’
- ii. Page 10.1(a) **add** the following text ‘The Method of Measurement is intended for use for road contracts based on the Public Works Contract for Civil Engineering Works Designed by the Employer or the Public Works Contract for Civil Engineering and Building Works Designed by the Employer.’

Bill of Quantities

- i. Page 10.2(b) **omit** the following text ‘Items included in the Bill of Quantities for Work to be executed or goods, materials or services to be supplied by a Nominated Subcontractor shall be followed by separate items for:
 - i. Labours in connection therewith in the form of a lump sum.
 - ii. All other charges and profit in connection therewith in the form of a percentage.’

Items in the Bill of Quantities

Page 11. 4 **omit** the following text on the last and part of the second last line ‘(apart from Provisional Sums and Prime Cost Items which may be required)’.

Continued on next page

F4 Method of Measurement for Roads Works, Continued

Chapter III: *Table 1*

Preparation of Bill of Quantities (July 2001)

- i. Page 21. Column *Level 1 Division and Level 2 Construction Heading*, **omit** text in second last row which reads '(x)Daywork'.
 - ii. Page 21. Columns
 - a. *Level 1 Division* – **omit** text in last row which reads '(xi) PC and Provisional Sum'.
 - b. *Level 2 Construction Heading* – **omit** text in last row which reads 'PC and Provisional Sum'.
 - c. *Notes* – **omit** text in last row which reads 'To include PC and Provisional Sums not allocated to a particular construction heading'.
-

Chapter III: Preambles to Bill of Quantities (July 2001)

Page 25. 7 **omit** the following text:

'Labours in connection with Nominated Sub-contractors shall include:

- i. in the case of work or services executed – for affording the use of existing working space, access, temporary roads, erected scaffolding, working shelters, staging, ladders, hoists, storage, latrines, messing, welfare and other facilities existing on Site and the provision of protection, water, electricity for lighting and clearing away rubbish and debris arising from the work;
- ii. in the case of goods, materials or services supplied – for taking delivery, unloading, storing, protecting and returning crates, cartons and packing materials.'

Reimbursement by the Employer of Fees, Rates, Taxes and Engineer's Telephone Calls.

Page 26. 11 **omit** the following text:

'The Employer will reimburse the Contractor the actual price paid by the Contractor in respect of:

- i. fees, rates and taxes – the sums certified by the Engineer as properly repayable to the Contractor in accordance with Clause 27 of the Conditions of Contract.
- ii. Engineer's telephone calls – telephone calls charged to the number or numbers allocated to the Engineer.

Any other cost, charge or expense in respect of these items shall be allowed for in the rates and prices for temporary accommodation.'

Continued on next page

F4 Method of Measurement for Roads Works, Continued

Chapter III, Preambles to Bill of Quantities (July 2001) (continued)

Structures designed by the Contractor

Page 27. 16 **omit** the text in first paragraph 'In respect of each priced Bill for a structure designed by the Contractor, the Contractor shall prepare a priced schedule of quantities. This priced schedule shall be prepared in accordance with the relevant Chapters and Series of the Method of Measurement and submitted to the Engineer for his acceptance within 7 working days of the date of the Engineers approval in writing of the Contractor's design. References to such structures and associated works within Chapters and Series other than Series 2500 are included to enable the Contractor to prepare the priced schedule of quantities and to enable the Engineer to prepare a Bill of Quantities where a specifically designed option is included for such a structure.

The quantities, rates and prices in the priced schedule of quantities shall in each case, when extended and totalled, give the amount entered in the priced Bill of Quantities against the item for the relevant structure designed by the Contractor.

The priced schedule of quantities shall only be used for the valuation of monthly statements and for the valuation in accordance with Clause 52 of the Conditions of Contract of variations ordered by the Engineer in connection with structures designed by the Contractor.

Unless specifically stated to the contrary in the Contract the measurement of the Works affected by the incorporation of the Contractor's design shall be based on the Tender documents and not on the Works as amended and completed to incorporate the Contractor's design.

The parts of the Works included by the Contractor in the priced schedule of quantities shall include all the parts of the Works within the Designated Outline except those designed and scheduled by the Engineer as not to be included.

Earthworks within the Designated Outlines shall not be included by the engineer in the earthworks schedules.'

Note: This text is being omitted because this is an exercise that should be done before the contract is awarded when the rebalancing of rates is being considered.

Chapter IV: 1.Units and Method of Measurement (March 2000) – Series 100: Preliminaries (March 2000)

Definition

Page 31. 1 make the following changes:

- i. **omit** text on last line of (a) which reads '...Clause 48 (1) of the ..'
- ii. **omit** text second line of (b) which reads 'Maintenance Certificate in accordance with Clause 61(1) of the Conditions of Contract' and replace it with 'Defects Certificate in accordance with Clause 8.7 of the Conditions of Contract'.
- iii. **omit** reference on last line of (d) to 'Maintenance Period' and insert 'Defects Period'.

Continued on next page

F4 Method of Measurement for Roads Works, Continued

**Chapter IV:
2.Units and
Method of
Measurement
(March 2000)
– Series 300:
Fencing
(March 2000)**

Measurement

Page 53. 2 **omit** text on second line of first paragraph which states ‘under Clauses 19 and 22 of the conditions of contract’ and insert the words ‘under the contract’.

**Chapter I, II,
III: SECTION
2. Notes for
Guidance on
the Method of
Measurement
for Road
Works.**

Dayworks

Page 7 item 5 **omit** following text in last sentence ‘Clause 11 of’

Hard Material

Page 7 item 6 **omit** following text ‘Where it is anticipated work will be required to be executed on a daywork basis, attention is drawn to the current edition of ‘CONDOP’ which sets out the means of providing for Dayworks in the Contract.’

Testing

- i. Page 7 item 7 **omit** the following text ‘Clause 36(3) of the Conditions of Contract calls for the Contractor to meet the cost of tests to be carried out by him.’
- ii. Page 8 item 7 **omit** text in last sentence of last paragraph ‘...of Clause 36...’

Telephone Calls

Page 8 **omit** the following text ‘Telephone calls made by the Engineer are reimbursable in the case of the certified actual price but the cost of telephone rental and installation is not reimbursable, as it is included in the item coverage for temporary accommodation.’

**CHAPTER IV
Series 100-
2700:
SECTION 2.
Notes for
Guidance on
the Method of
Measurement
for Road
Works**

Series 500: Tabulated Drainage Example (March 2000)

Drains and Sewers Tabulated Drainage Example

Page 18 **omit** note at end of example which reads ‘Note: Adjustment rate ‘D’ shall apply to both increases and decreases of average depth in excess of 150mm, and will result in either a positive or negative adjustment of the rate.’

Series 1,400: Electrical Work for Road Lighting and Traffic Signs.

Earth Electrodes

Page 39 item 2 **omit** last sentence which reads ‘Such surveys cannot be done at tender stage where electrodes are to be installed on embankments or in the bottoms of deep cuttings and it is suggested that the quantities billed in such cases are marked “provisional”’.

Series 2,700: Accommodation Works and Works for Statutory Undertakers
General

Page 65 item 1 **omit** last sentence which states ‘If neither of these options can be used and accommodation works and works for privately and publicly owned services and supplies are anticipated but cannot be defined then a Provisional Sum may be included in the Bill of Quantities.’

Appendix G: Useful Contacts List

National Monuments Section

National Monuments Section
Department of the Environment, Heritage & Local Government
Dún Scéine
Harcourt Street
Dublin 2
Telephone: (01) 411 7100

Financial Regulator

The Financial Regulator
PO Box 9138
College Green
Dublin 2
Telephone: (01) 410 4000
Email: infor@financialregulator.ie
URL: www.ifsra.ie

Met Éireann

Met Éireann
Glasnevin Hill
Dublin 9
Telephone: (01) 806 4200
Fax: (01) 806 4247
Email: met.eireann@met.ie
URL: www.met.ie

Central Statistics Office

Central Statistics Office
Skehard Road
Cork.
Telephone: (021) 4535000
Fax: (021) 4535555
Email: information@cso.ie
URL: www.cso.ie

Appendix H: Met Éireann Weather Stations

Location of Weather Stations

Met Éireann's main weather stations are located at:

Belmullet	Clones	Malin Head
Birr	Cork Airport	Mullingar
Casement Aerodrome	Dublin Airport	Rosslare
Claremorris	Kilkenny	

Rainfall levels and temperatures

In addition, rainfall levels and temperatures are recorded at the following locations:

County	Location
Clare	Carron
Cork	Fermoy (Moore Park), Sherkin Island, Ballincurragh
Donegal	Ballyshannon, Glenties
Dublin	Phoenix Park, Merrion Square
Galway	NUIG, Maam Valley, Connemara National Park, Ballygar
Kerry	Ardfert
Leitrim	Ballinamore
Limerick	Mount Russell
Louth	Ardee
Mayo	Straide
Meath	Warrenstown
Offaly	Derrygreenagh
Sligo	Ardarmon
Tipperary	Fethard
Waterford	Waterford, Dungarvan
Wexford	Johnstown Castle, John F. Kennedy Park, Clonroche

Appendix I: Work Requirements Content

The documents containing the Work Requirements provided by the Employer are identified in Part One of the Schedule. The following table lists items that the Employer should consider including in the Works Requirements.

Traditional Contracts	Design and Build Contracts
Preliminary Particulars <ol style="list-style-type: none"> 1. The name, nature and location of the Works; 2. A general description of the Works; 3. The names and addresses of the Employer and Consultants. Consents Planning and other consents obtained or to be obtained by the Employer.	Preliminary Particulars <ol style="list-style-type: none"> 1. The name, nature and location of the Works; 2. A general description of the Works; 3. The names and addresses of the Employer and Consultants. Consents Where Planning and other consents are referred to or where they are identified as 'to be obtained by the Employer'.
The Site⁸ <ol style="list-style-type: none"> 1. Site boundaries; 2. Means of access; 3. Restrictions on access; 4. Position of the Works; 5. Information on adjacent / abutting structures; 6. Limitations (if any) on use of the Site; 7. Other work on the Site to be carried out concurrent with the Works by the Employer's Personnel or others; 8. Facilities of the Employer to be operated and maintained by the Contractor; 9. Specific site rules and regulations. 	The Site <ol style="list-style-type: none"> 1. Site boundaries; 2. Means of access; 3. Restrictions on access; 4. Position of the Works; 5. Information on adjacent / abutting structures; 6. Limitations (if any) on use of the Site; 7. Other work on the Site to be carried out concurrent with the Works by the Employer's Personnel or others; 8. Facilities of the Employer to be operated and maintained by the Contractor; 9. Specific site rules and regulations.

Continued on next page

⁸ The Employer may wish to include the following or alternatively refer to them in the Works Requirements as background information:

- Site surveys including locations of any utilities;
- Site investigation report;
- Archaeology and other reports.

I Work Requirements Content, Continued

Traditional Contracts	Design and Build Contracts
Sections Definition of sections into which the Works are divided for purposes of sectional completion.	Sections Definition of sections into which the Works are divided for purposes of sectional completion.
Drawings, Specifications, Schedules and Reports <ol style="list-style-type: none"> 1. General arrangement, working and construction drawings; 2. Materials and Workmanship specifications; 3. Performance specifications applicable to contractor-designed or specialist-designed elements of the works. 	Drawings, Specifications, Schedules and Reports Note that for Design and Build Contracts, such information can consist of an output specification setting out the functional requirements that the facility should accommodate together with the expected functional life, maintenance requirements, etc. or it can contain a full specimen design. A number of options exist: <ol style="list-style-type: none"> 1. Pure output specification; 2. Output specification and specimen design; 3. Output specification and specimen design which cannot be changed; 4. More developed decision.
Specialists <ol style="list-style-type: none"> 1. Designs to be prepared and/or works to be undertaken by Specialists; 2. Novated specialists including details of the original appointment and form of novation agreement; 3. Names and all relevant details of Specialists selected by the Employer. 	Specialists <ol style="list-style-type: none"> 1. Designs to be prepared and/or works to be undertaken by Specialists 2. Novated specialists including details of the original appointment and form of novation agreement.

Continued on next page

I Work Requirements Content, Continued

Traditional Contracts	Design and Build Contracts
Restrictions and Obligations <ol style="list-style-type: none"> 1. Limitations on working hours; 2. Hoardings, fences, screens, temporary roofs, advertising rights; 3. Maintenance and protection of existing services on, under or over the site; 4. Execution of work in a specific order; 5. Road closure restrictions, alternative route restrictions; 6. Maintenance of specific temperature or humidity levels; 7. Temporary accommodation and facilities for the use of the Employer including heating, lighting, furnishing and attendance details; 8. Installation of telephones and facsimile machines for the use of the Employer; 9. Any other obligation or restriction. 	Restrictions and Obligations <ol style="list-style-type: none"> 1. Limitations on working hours; 2. Hoardings, fences, screens, temporary roofs, advertising rights; 3. Maintenance and protection of existing services on, under or over the site; 4. Execution of work in a specific order 5. Road closure restrictions, alternative route restrictions; 6. Maintenance of specific temperature or humidity levels; 7. Temporary accommodation and facilities for the use of the Employer including heating, lighting, furnishing and attendance; 8. Installation of telephones and facsimile machines for the use of the Employer; 9. Any other obligation or restriction.
Health and Safety Appointments of Project Supervisor for the Construction Stage	Health and Safety <ol style="list-style-type: none"> 1. Appointment of Project Supervisor for the Design Phase; 2. Appointment or Project Supervisor for the Construction Stage.

Continued on next page

I Work Requirements Content, Continued

Traditional Contracts	Design and Build Contracts
Contract <ol style="list-style-type: none"> 1. Form of performance bond; 2. Form of parent company guarantee; 3. Form of appointment of Contractor as PSCS; 4. Certificate in respect of professional indemnity insurance; 5. Owner controlled insurances (if required); 6. Certificate in respect of Pay and Conditions of Employment; 7. Form of collateral warranty; 8. Form of bond for payment in respect of materials off-site; 9. Terms of appointment of Conciliator; 10. Form of conciliation payment bond; 11. Arbitration rules. 	Contract <ol style="list-style-type: none"> 1. Form of performance bond; 2. Form of parent company guarantee; 3. Form of appointment of Contractor as PSDP and PSCS; 4. Certificate in respect of professional indemnity insurance; 5. Owner controlled insurances (if required); 6. Certificate in respect of Pay and Conditions of Employment; 7. Form of collateral warranty; 8. Form of bond for payment in respect of materials off-site; 9. Terms of appointment of Conciliator; 10. Form of conciliation payment bond; 11. Arbitration rules.
Contractor's Documents <ol style="list-style-type: none"> 1. Documents to be provided; 2. Submission procedures; 3. Provision of data to facilitate the Employer and /or other contractors and its timing; 4. Procedures which the Contractor is to follow in carrying out his design. 	Contractor's Documents <ol style="list-style-type: none"> 1. Documents to be provided; 2. Submission procedures; 3. Provision of data to facilitate the Employer and /or other contractors and its timing; 4. Procedures which the Contractor is to follow in carrying out his design.
Reporting Special reporting requirements, for example planning software to be used.	Reporting Special reporting requirements, for example, planning software to be used.
Confidential Matters	Confidential Matters
Title Statement of any materials from excavation and demolition to which the Contractor will have title.	Title Statement of any materials from excavation and demolition to which the Contractor will have title.

Continued on next page

I Work Requirements Content, Continued

Traditional Contracts	Design and Build Contracts
QA and Testing (not already in specifications) <ul style="list-style-type: none">1. Quality Assurance procedures;2. Quality Assurance inspections;3. Items to be inspected or tested before delivery to the Site, including details;.4. Tests and test descriptions of tests to be carried out by the Contractor, the ER and others, including tests to be passed before Substantial Completion.	QA and Testing (not already in specifications) <ul style="list-style-type: none">1. Quality Assurance procedures;2. Quality Assurance inspections;3. Items to be inspected or tested before delivery to the Site, including details;4. Tests and test descriptions of tests to be carried out by the Contractor, the ER and others, including tests to be passed before Substantial Completion.

Appendix J: Compensation Event Time Extension Entitlements

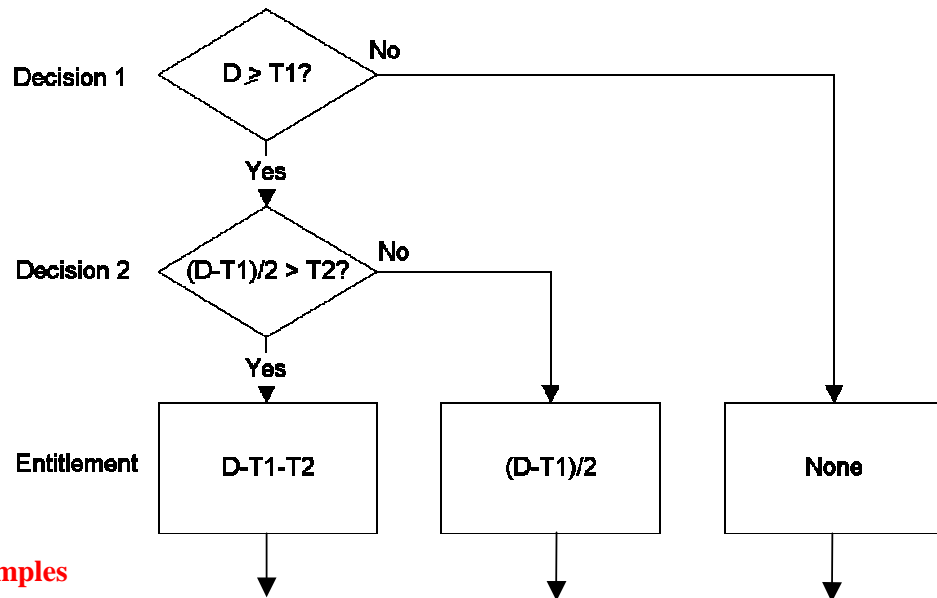
Calculation Flowchart

The method of calculating the Contractor's Time Extension and resulting compensation entitlement (in days) is summarised in the flowchart below. The following abbreviations are used:

T1 = **first threshold** specified in the Schedule, Part 1K (this is stated as a number of days)

T2 = **second threshold** specified in the Schedule, Part 1K (this is stated as a number of days)

D = the total number of days' delay due to compensation events.



Calculation Examples

	Example A	Example B	Example C
Threshold 1	20	20	20
Threshold 2	30	30	30
Total Delay	90	60	19
Decision 1	Is 90 ≥ 20? Yes	Is 60 ≥ 20? Yes	Is 19 ≥ 20? No
Decision 2	Is (90-20)/2 > 30? i.e. is 35 > 30? Yes	Is (60-20)/2 > 30? i.e. is 20 > 30? No	Not applicable
Formulae	D-T1-T2	(D-T1)/2	None
Calculation	90-30-20	(60-20)/2	–
	40	20	nil

Continued on next page

Appendix K: Specialists Procurement Options

Sample Project

Sub-section 2.1.2 details the options for procurement of specialists. The table below illustrates how these options might be used on a sample building project, valued at €69.35m, (excluding VAT) that includes the work packages parcels listed in column 2. The specialist works packages account for 13.48% of the total project value.

Type of work package	Specialists in WR, works for works <€1m	Novated Specialists in WR	Specialist named by Contractor in Works Proposals	Separate Contractor in WR	Specialist named by Employer in WR, without competition, project below EU threshold	Specialist named by Employer in WR, alternative offered by Contractor in Works Proposals	Specialist named by Employer in WR, following a competition, project below EU threshold	Total (excluding VAT)
1 Demolition work		2						2.00
2 Excavate/disposal of contamination soil		3						3.00
3 Removal/disposal of asbestos	1							1.00
4 Piling			5					5.00
5 Main entrance door	0.35							0.35
6 Glazed wall tiling	1							1.00
7 Clay floor tiling	1							1.00
8 Mechanical Services						8		8.00
9 Electrical services						7		7.00
10 Internal Wall finish (conference room)	0.2							0.20
11 Atrium roofing							10	10.00
12 Structural Steelwork	1							1.00
13 Lift Installation	1							1.00
14 Floor escalator	0.95							0.95
15 Landscape work	0.85							0.85
16 Curtain Walling							10	10.00
17 Supply and installation of special equipment				0				0.00
17 Floor carpets	1							1.00
18 Marble finish to reception area	1							1.00
Subtotal: Specialist work	9.35	5	5	0	0*	15	20	54.35
Main Contractor's work								15.00
Total								69.35

* Because this category applies to below threshold contracts

WR = Works Requirements

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