

Capital Works Management Framework

Guidance Note

Public Works Contracts

GN 1.5

Public Works Contracts Guidance Notes
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Foreword

Purpose of this document

This document is one of a number of guidance notes aimed at facilitating the implementation of the measures in the Capital Works Management Framework (CWMF) introduced to achieve better value for money on publicly funded works projects.

The purpose of this 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 public works contracts. It is also intended as a strategic resource for the wider public sector.

This document only applies to the nine standard forms of contract (PW-CF1 – PW-CF9) that are developed for public works projects, the Public Works Contract for Early Collaboration (PW-CF10) and the Public Works Term Maintenance and Refurbishment Contract (PW-CF11) are intended for particular circumstances and guidance on these contracts is published separately.

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.

Audience

This document is intended primarily for the guidance of Sponsoring Agencies embarking on capital works projects. However, the role of the Sanctioning Authorities and any external consultants appointed in relation to the capital works projects is also considered.

Terminology in this guidance note

The title **Sponsoring Agency** changes to **Contracting Authority** once a contract for technical services for a works project is awarded. And **Contracting Authority** changes to **Employer** when a Works Contract is signed. The term **Client** is used throughout this guidance note as a generic term to cover the Sponsoring Agency / Contracting Authority / Employer.

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

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

Capital Works Management Framework

The Capital Works Management Framework (CWMF) is a structure that has been developed to deliver the Government's objectives in relation to public sector construction procurement reform. It consists of a suite of best practice guidance, standard contracts and generic template documents. For more information on the CWMF refer to Guidance Note GN 1.0

Chapter 1: Introducing the Contract

Overview

Introduction

This chapter provides an overview of the key features of the public works contracts (PW-CF1 – PW-CF9). The Public Works Contract for Early Collaboration (PW-CF10) and the Public Works Term Maintenance and Refurbishment Contract (PW-CF11) are intended for particular circumstances and guidance on these contracts is published separately

In particular, it describes the main constituent parts of the public works contracts 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.	9
1.2	Contract Types Describes the differences between design-and-build, traditional, and minor works contracts.	30
1.3	Legal Issues Relating to the Contract Covers some legal issues such as jurisdiction, interpretation and indemnity.	47

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.	9
1.1.2	Key Contract Dates Details of the key dates indicated in the Contract.	28

1.1.1 What's in the Contract

Overview

The parties to the Contract are the *Employer* and the *Contractor*. The following table sets out the composition of the Contract for forms of contract PW-CF1 to PW-CF5 and PW-CF6 to PW-CF8.

These forms of contract are referred to generically as the Public Works Contract throughout this guidance note.

Form of Contract		What the Contract Consists of
PW-CF1	Public Works Contract for Building Works designed by the Employer	<p>In the case of these five forms of contract, the Contract consists of the following, in order of precedence:</p> <ol style="list-style-type: none">1. The completed Agreement.2. The Letter of Acceptance and any post tender clarifications attached to it.3. The Contractor's completed Form of Tender and Schedule.4. The Contract Conditions.5. The Works Requirements; the completed Pricing Document and the Works Proposals (if any) identified in the Schedule. <p>These documents 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.</p>
PW-CF2	Public Works Contract for Building Works designed by the Contractor	
PW-CF3	Public Works Contract for Civil Engineering Works designed by the Employer	
PW-CF4	Public Works Contract for Civil Engineering Works designed by the Contractor	
PW-CF5	Public Works Contract for Minor Building and Civil Engineering works designed by the Employer	
PW-CF6	Short Public Works Contract (for Public Building and Civil Engineering Works designed by the Employer)	<p>In the case of this form of contract, the Contract consists of the following, in order of precedence:</p> <ol style="list-style-type: none">1. The Contract Conditions;2. The Contractor's tender submission (Form of Tender and Schedule), with the Acceptance provision signed by the Contracting Authority; and any post-tender clarifications attached to it; and3. Documents listed in the Schedule.4. Pricing document (if required)

Continued on next page

1.1.1 What's in the Contract, Continued

Overview (continued)

Form of Contract		What the Contract Consists of
PW-CF7	Public Works Investigation Contract	In the case of the Investigation forms of contract, the Contract consists of the following, in order of precedence: <ol style="list-style-type: none">1. The Contract Conditions;2. The Contractor's tender submission (Form of Tender and Schedule), with the Acceptance provision signed by the Contracting Authority; and any post-tender clarifications attached to it; and3. Documents stating the Scope – in the Schedule
PW-CF8	Public Works Short Form of Investigation Contract	
PW-CF9	Framework Agreement for Construction Work	In the case of the Framework, the Agreement sets out certain terms and rules governing the award of contracts, such as the form of public works contract to be used in awarding contracts, communications between parties, performance measurement and termination.

Agreement

The Contract Agreement between Employer and Contractor in the case of PW-CF1 to PW-CF5 is signed and where appropriate sealed. It states that the Contractor agrees to execute and complete (and in some instances design) 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.

The Contractor's completed Form of Tender states whether, and to what extent, the Contract Sum includes VAT.

Letter of Acceptance

In the case of the long forms of contract (PW-CF1, PW-CF2, PW-CF3, PW-CF4 and PW-CF5), the Letter of Acceptance (MF 1.4) is 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 pre-award clarifications with contractual significance should also be included with it.

In the case of forms of contract PW-CF6, PW-CF7 and PW-CF8, the binding contractual relationship is created when the Employer returns a copy of the Form of Tender with the Tender Accepted part properly signed and dated. Any post-tender pre-award clarifications with contractual significance should be attached to the Tender Acceptance when it is returned.

Continued on next page

1.1.1 What's in the Contract, Continued

Schedule for PW-CF1 to PW-CF5 (long forms of contract)

The Schedule is the part of the Contract that specifies the particular details relating to a particular project. In the case of the long forms of contract (PW-CF1 to PW-CF5), the Schedule refers to the detail contained in the Contract Conditions, and is in two parts:

- Part 1 is completed by the Employer; and
- Part 2 is completed by the Contractor with the exception of Part 2 E where the Employer completes the first column titled 'Element' and the Contractor completes the other 2 columns.

Part 1 of the Schedule

The Employer completes Part 1 of the Schedule before tenders are invited and includes with the Tender Form it in the tender invitation documents. The following table describes the contents of Part 1 of the Schedule. See 2.6.2 Completing the Schedule on page 1232 for more information on how to fill in the schedule.

Part	Content
A. Employer's Representative and Communications	<ul style="list-style-type: none">▪ Name, address and other details for the Employer and the Employer's Representative (ER); in particular, this includes details for notices from the Contractor to the Employer in relation to Contractor's Termination.▪ Details of the limitations to the ER's authority.
B. Documents	<ul style="list-style-type: none">▪ Details of the reference documents that define the nature of the works, including the Works Requirements, Works Proposals and Pricing Documents.
C Project Supervisor	<ul style="list-style-type: none">▪ Indicates whether or not the Contractor is to carry out the Health & Safety role of Project Supervisor for the Construction Stage (PSCS).
D Insurance	<ul style="list-style-type: none">▪ The insurance requirements, including any minimum indemnity limits required, permitted exclusions, optional provisions and required extensions.
E Performance Bond	<ul style="list-style-type: none">▪ Indicates whether or not the Contractor is required to give the Employer a performance bond; and if so, to what percentage of the Initial Contract Sum.
F Collateral Warranties	<ul style="list-style-type: none">▪ Details of any collateral warranties required in respect of specialists engaged under contract to the Contractor, including the value to be retained if not presented in time.

Continued on next page

1.1.1 What's in the Contract, Continued

Schedule for PW-CF1 to PW-CF5 (long forms of contract) (continued)

Part	Content
G Dates for Substantial Completion, Sections, Liquidated Damages, Retention	<ul style="list-style-type: none">▪ 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 of the Schedule – for which, see below);▪ The rate of liquidated damages for delay in delivery of the works or section of the works; and▪ The retention reduction on substantial completion of sections of the works.
H Early Completion	<ul style="list-style-type: none">▪ Indicates whether or not the ER may exercise the option to issue the certificate of Substantial Completion early.
I Defects Period	<ul style="list-style-type: none">▪ Specifies the duration of the Defects Period that applies to the Contract.
J Random Checks for Employment Records	<ul style="list-style-type: none">▪ Indicates whether or not the Employer may exercise the right to carry out random checks on the Contractor's employment records, pay records, and the conditions of employment of the Contractor's personnel.
K Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments	<ul style="list-style-type: none">▪ Details of the delay and compensation events that apply to the works.▪ Details of the programme contingency thresholds.
L Payment Particulars	<ul style="list-style-type: none">▪ Payment particulars, including details of the payment intervals.
M Price Variation	<ul style="list-style-type: none">▪ 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.
N Conciliation and Arbitration	<ul style="list-style-type: none">▪ Details relating to the appointment of a conciliator or arbitrator by one of the professional bodies failing agreement by the parties to make an appointment.
O Rights in Contractor's Documents	<ul style="list-style-type: none">▪ Indicates whether or not copyright and other rights in relation to the Contractor's documents and work proposals are to be transferred to the Employer.

Continued on next page

1.1.1 What's in the Contract, Continued

Schedule for PW-CF1 to PW-CF5 (long forms of contract) (continued)

Part 2 of the Schedule

The Tenderer completes Part 2 of the Schedule with the exception of Part 2 E where the Employer completes the first column titled 'Element' and the Contractor completes the remaining 2 columns. Schedule Part 2 is then submitted with the tender. Part 2 of the Schedule specifies the following:

Part	Content
A Communications	<ul style="list-style-type: none">▪ Name, address and other details for the Contractor; in particular, this includes details for notices from the Employer to the Contractor in relation to Employer's Termination and notice of conciliation and arbitration.▪ The identity of the Contractor's Agent (for service of legal process) and contact details;
B Parent Company Guarantee (except PW-CF5)	<ul style="list-style-type: none">▪ Details of a Parent Company Guarantee (if required);
C Dates for Substantial Completion	<ul style="list-style-type: none">▪ The dates for substantial completion for the whole of the works and for sectional completion is to be completed by the Contractor – unless these are already entered by the Employer in Part 1 of the Schedule
D Adjustments to the Contract Sum including Delay Costs	<p>The values entered here by the Contractor are used by the Employer to determine any adjustments required to the Contract Sum arising from a compensation event.</p> <ul style="list-style-type: none">▪ Details of the Contractor's all-in tendered hourly rates;▪ Details of the Contractor's tendered percentage addition for costs of materials and costs of plant;▪ The tendered rate of delay costs. <p>These values are also used for comparison purposes by the Employer when assessing the most economically advantageous tender (MEAT) among competing tenderers – see 2.7.1 Comparing Tender Costs on page 138.</p>
E Specialists named by the Contractor	<ul style="list-style-type: none">▪ The name of one specialist to be entered by the Contractor for each of the specialist elements identified by the Employer.

Continued on next page

1.1.1 What's in the Contract, Continued

Schedule for PW-CF6

The Schedule for PW-CF6 is in one part only, to be filled in by the Employer. The following table presents a summary of the content of the Schedule.

Clause	Description
1.1	Identifies the Employer's Representative and the Time for Completion of the project.
1.3	Lists the documents that in addition to the Conditions and the Schedule make up the Contract. A Bill of Quantities should not be listed here but a pricing document derived from a Bill of Quantities or Schedule of Rates may be included to obtain the rates and prices identified in Clause 4.5.
2.6	Specifies the rate for liquidated damages for delays.
2.8	Deals with weather events that apply to the works.
3.15	Indicates when the Defects Certificate is to be issued.
4.1	Deals with interim payments
4.2	Sets the period in which payment must be made by the Employer.
10.3	Identifies the minimum indemnity limit for both employer liability insurance and public liability insurance. It also sets the maximum excess levels permitted for these insurances and for insurance of the Works.
10.4	Indicates minimum levels of insurance excess.
12.3	Percentage of the unpaid portion of the Price to be paid if the Employer terminates, clause 12.2 does not apply, and the Employer appoints another contractor within 12 months.
14	Indicates whether or not the Contractor is to be appointed as Project Supervisor for the Construction Stage.
15.2	The Employer can choose the body empowered to nominate a conciliator, in the event of a dispute if the parties cannot agree. If conciliation does not resolve the dispute the matter goes to the courts.

Continued on next page

1.1.1 What's in the Contract, Continued

Schedules for PW-CF7 and PW-CF8

The Schedules for PW-CF7 and PW- CF8 are in one part only, to be filled in by the Employer. The following table presents a summary of the content of the Schedule.

Clause	Description
1.1	Identifies the Employer's Representative; and the documents stating the Scope.
1.8	Indicates whether or not a performance bond is required; and whether or not the Contractor (or a Contractor nominee) is to be appointed as Project Supervisor for the Construction Stage.
3.1	Lists documents containing the Contractor's proposals (if any).
4.6	Indicates the weather station whose data will be used in determining weather events.
7.1	Indicates whether payment will be on the basis of milestones in the Milestones Table or on the basis of the Bill of Quantities.
12.3	Specifies the minimum indemnity for employer's liability insurance, for any one event.
12.4	Specifies whether or not professional indemnity insurance is required; and where it is, the minimum indemnity limit (annual aggregate).
12.5	Specifies the maximum excess levels permitted for insurances.
13.2	Indicates documents for which licences or copyright are required.
16.2	Specifies the person empowered to nominate an arbitrator in the event of a dispute if the parties cannot agree.

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1.1.1 What's in the Contract, Continued

Form of Tender Each tenderer should return the Form of Tender and Schedule attached with the following information included on them:

- The fixed lump sum tender price; and
- The signature of the principal(s).
- Part 2 of the Schedule and the Works Proposals specified in Part 1 (not applicable to PW-CF6, PW-CF7 and PW-CF8)

Furthermore, all the tender information required in the Form of Tender (and any attachments to it) should be supplied by the tenderers. Failure to provide such key information will result in a tender being declared invalid.

In the case of PW-CF1 to PW-CF5, once the tender is accepted a contract is formed – the consideration for the contract is expressed on the form of tender with the words:

‘In consideration of your providing us with the contract documents...’

If the formal contract entered into is subsequently declared void, ineffective, or otherwise terminated, for whatever reason, the Employer's liability will be as set out in clause 12.6 of the Contract Conditions (PW-CF1 to PW-CF5).

The wording on the form of tender states

‘..any damages for which you may be liable will not exceed the amount that would have been payable under clause 12.6 of the Conditions of the contract¹ on termination under clause 12.5 of the Conditions of the contract².

For more information on termination, see 3.3.8 Termination of Contract on page 193

Should the fixed price lump sum include VAT?

Where the Employer is a ‘principal contractor’ for VAT purposes, the fixed price lump sum should include standard rate VAT, but *not* reduced rate VAT.

Where the Employer is not a ‘principal contractor’ for VAT purposes, the fixed price lump sum should include VAT at both standard rate and reduced rate, as appropriate.

For more information, 1.3.4 VAT and the Contract on page 57.

Continued on next page

¹ PW-CF1 to PW-CF5

1.1.1 What's in the Contract, Continued

Using the correct Form of Tender

The correct form of tender must be used with each form of contract, as set out in the following table

For this Form of Contract ...	Use this Form of Tender.
PW-CF1 Public Works Contract for Building Works designed by the Employer	<i>FTS 1</i> Form of Tender and Schedule: Public Works Contract for Building Works designed by the Employer
PW-CF2 Public Works Contract for Building Works designed by the Contractor	<i>FTS 2</i> Form of Tender and Schedule: Public Works Contract for Building Works designed by the Contractor
PW-CF3 Public Works Contract for Civil Engineering Works designed by the Employer	<i>FTS 3</i> Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Employer
PW-CF4 Public Works Contract for Civil Engineering Works designed by the Contractor	<i>FTS 4</i> Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Contractor
PW-CF5 Public Works Contract for Minor Building and Civil Engineering works designed by the Employer	<i>FTS 5</i> Form of Tender and Schedule: Public Works Contract for Minor Building and Civil Engineering Works designed by the Employer
PW-CF6 Short Public Works Contract (for Public Building and Civil Engineering works designed by the Employer)	<i>FTS 6</i> Form of Tender and Schedule: Short Public Works Contract
PW-CF7 Public Works Investigation Contract	<i>FTS 7</i> Form of Tender and Schedule: Public Works Investigation Contract
PW-CF8 Public Works Short Investigation Contract	<i>FTS 8</i> Form of Tender and Schedule: Public Works Short Investigation Contract
PW-CF9 Public Works Framework Agreement	If there is a tender competition for an initial works project as part of the establishment of a framework agreement, use FTS 1 to FTS 8 as appropriate. Similarly for any subsequent mini-competitions under the framework agreement, use FTS 1 to FTS 8 as appropriate.

Continued on next page

1.1.1 What's in the Contract, Continued

Contract Conditions

The Contract Conditions PW-CF1 to PW-CF5 set out the legal obligations, roles and responsibilities of the parties (and those of their agents) in a contract. The Conditions have been drafted for each contract so that they are generic and to the greatest extent possible they are the same in all five. They vary to a small extent due to the nature of work they cover.

PW-CF6, PW-CF7 and PW-CF-8 present standard contract conditions that, by virtue of the type of project they are used for, are less complex or are more specialised than those for PW-CF1 to PW-CF5. PW-CF9 is a Public Works Framework Agreement.

The following are the standard forms of contract that include the contract conditions:

Code	Form of Contract
PW-CF1	Public Works Contract for Building Works designed by the Employer
PW-CF2	Public Works Contract for Building Works designed by the Contractor
PW-CF3	Public Works Contract for Civil Engineering Works designed by the Employer
PW-CF4	Public Works Contract for Civil Engineering Works designed by the Contractor
PW-CF5	Public Works Contract for Minor Building and Civil Engineering works designed by the Employer
PW-CF6	Short Public Works Contract for Building and Civil Engineering Works designed by the Employer
PW-CF7	Public Works Investigation Contract
PW-CF8	Public Works Short Investigation Contract
PW-CF9	Public Works Framework Agreement

Note: The Contract Conditions document is sometimes incorrectly referred to as 'the Contract'. See the table entries on **What the Contract Consists of** on page 9 (PW-CF1 to PW-CF6) and page 10 (PW-CF7 and PW-CF8).

Note: The *Arbitration Rules for Use with Public Works and Construction Services Contracts* is standard for all forms of contract.

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1.1.1 What's in the Contract, Continued

Contract Conditions (continued)

No amendments permitted

There should be no amendments made to any of the standard forms of contract. 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.'

Provisional Sums and Prime Cost Sums are not permitted

Employers should note that Provisional Sums and Prime Cost Sums, formerly used in public works contracts, are no longer permitted under PW-CF1 to PW-CF6. In the case of PW-CF7 and PW-CF8, Prime Cost Sums are not permitted however Provisional Sums up to a value of 20% of the contract value are allowed where quantities cannot be measured.

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 required for Employer-designed projects and a fully detailed Output Specification, Statement of Constraints and Functional Requirements are required for Contractor-designed projects.

A *Prime Cost Sum* was a sum included by the Employer in the contract to cover work or services to be executed by a nominated sub-contractor or for materials or goods to be supplied by a nominated supplier. These works, goods and materials must now be fully detailed by the Employer in the tender documents (for Employer-designed contracts) to allow Contractors to competitively price them in their tender submissions.

Continued on next page

1.1.1 What's in the Contract, Continued

Works Requirements for PW-CF1 to PW-CF5

The Works Requirements in contracts PW-CF1 to PW-CF5 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 B – see page 238.

Site investigation and archaeology reports may be provided as background information. In exceptional circumstances where 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 ensuring that tender cost certainty is maintained up to 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 in order to refine it may be changed or supplemented by any additional information required by the Contractor to satisfactorily complete the works – the Employer or the Employer's Representative (ER) provides such information by way of a *change order*. The issue of *change orders* should only be for essential requirements that were unforeseeable prior to tender

Note: The Works Requirements remain the property of the Employer and the Contractor can only use them for the sole purpose of executing the works.

Continued on next page

1.1.1 What's in the Contract, Continued

Works Requirements for PW-CF1 to PW-CF5 (continued)

Changes to Works Requirements for PW-CF1 – PW-CF5

The scope of the Works defined in the Works Requirements should not change. 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 error are not compensation events. (Compensation events are detailed in Part 1K of the Schedule.)

The *change order* when it involves a compensation event should include instructions as to how the works in the *change order* are to be valued, and the value should be added to the Contract Sum.

When work in the Works Requirement is to be omitted, the Employer's Representative should issue a *change order* removing the work and identifying its value – which should then be deducted from the Contract Sum

Works Requirements for PW-CF6 to PW-CF8

Public Works Short Form of Contract (PW-CF6)

There are no specific titles in Short Public Works Contract (PW-CF6) for Employer's design information, Contractor's contract information or the pricing document. This information, along with the Form of Tender, Tender Acceptance the Schedule and other documents are listed under clause 1.3 of the Schedule and collectively form the contract. A bill of quantities should not be included as a contract document with the Public Works Short Form.

The works may be changed by an instruction issued (under clause 3.4 of the contract conditions) by the Employers Representative.

Public Works Investigation Contracts (PW-CF7 and PW-CF8)

The scope of a Public Works Investigation contract (PW-CF7, PW-CF8) is defined by the specification, drawings, schedules and bills of quantities identified in clause 1.1 of its Schedule. By including a bill of quantities in the scope of the contract, the quantities listed in the bill may subsequently be changed by way of an instruction from the Employer's Representative. This is permissible under PW-CF7 and PW-CF8, but **not** under PW-CF1 to PW-CF5.

The scope may be changed by an instruction issued (under clause 2.1) by the Employers Representative.

Continued on next page

1.1.1 What's in the Contract, Continued

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.

Under clause 2.2 of PW-CF1 to PW-CF5 and clause 15 of PW-CF6, the Contractor is 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 (or back-up document) during the tender procedure. 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, and 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.

1.1.1 What's in the Contract, Continued

Pricing Document

The Pricing Document enables the Employer to prescribe to prospective tenderers the way they should break down their tendered lump-sum price and to provide details of other tender cost information. The different forms of contract have different requirements in relation to the Pricing Document, as set out in the following table:

- **PW-CF1 to PW-CF5:** 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.
- **PW-CF6:** There is no reference to a Pricing Document in the Contract Conditions for PW-CF6. A pricing document may be listed under Clause 1.3 of the Schedule but a Bill of Quantities should not be listed in this Clause. It should instead be derived from a Bill of Quantities or Schedule of Rates in the manner permitted under Section 6 of ITT-W4 and ITT-W5 to provide the rates and prices referenced in Clause 4.5 of the Contract Conditions to evaluate completed work or any compensation events that may arise under the Contract.
- **PW-CF7 and PW-CF8:** There is no reference to a Pricing Document in the Contract Conditions for PW-CF7 or PW-CF8. However, a document with the same or a similar function (for example, a Bill of Quantities) could be included as one of the contract documents specified under Clause 1.1 of the Schedule.

VAT and the Pricing Document

Where appropriate, the Pricing Document should indicate what items attract the standard, exempt and zero VAT rates.

Form of the Pricing Document or of documents with a similar function

The form of the Pricing Document may vary at the Employer's discretion. For example, it may consist of a formal Bill of Quantities, a Pricing Schedule, a Contract Sum Analysis, or a single page pricing summary. See **Compiling the Content of the Pricing Document** on page 127 for more details.

Continued on next page

1.1.1 What's in the Contract, Continued

Pricing Document (continued)

Fixed-price Lump Sum Contracts

Contracts are to be awarded on a lump-sum fixed-price basis for a defined scope of work, and are to be awarded on a competitive basis following a tender competition. This lump-sum fixed price may not be altered except in very limited circumstances, including the following:

	Limited circumstances include:
PW-CF1 to PW-CF5	<ul style="list-style-type: none">For legislative changes, hyperinflation, the recovery of labour and material price increases above 10% after the Base Date (i.e. after 36 months from Designated Date). <p>Note: in the case PW-CF5 there is no choice as to which price variation method should be used – only the proven cost method may be used.</p> <ul style="list-style-type: none">For compensation events, as listed in Part 1K of Schedule
PW-CF6	<ul style="list-style-type: none">For compensation events, as listed in clause 4.4There is no provision for any price variation included under PW-CF6
PW-CF7 to PW-CF8	<ul style="list-style-type: none">If the quantities in the Scope of the Contract are changed by a written instruction from the Employer's Representative (under Clause 2.1), the resultant change in quantities will change the Contract Sum.

Bill of Quantities as a Pricing Document

A Bill of Quantities is a document that describes and quantifies in accordance with a standard method of measurement (amended where necessary to suit public works contracts) 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 tender². The use of a Bill of Quantities helps to ensure a good response to the tender competition.

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 PW-CF5 form of contract (minor works).

Continued on next page

² Formerly, 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.

1.1.1 What's in the Contract, Continued

Bill of Quantities as a Pricing Document (continued)

Bill of Quantities for PW-CF6

There is no provision for a Bill of Quantities to be part of the PW-CF6. Clause 4.3 of the contract conditions states that *'The Price will change only as expressly provided for in this Contract. The Contractor's cost of performing this Contract is all at the Contractor's risk except to the extent that the Price is to be increased under this Contract'*. Clause 4.4 provides that the price will change where an instruction is given that *'changes the Works or constraints in this Contract'*. Note that clause 4.3 does not mean that only price increases are permitted under PW-CF6. Clause 4.5 makes it clear that both increases and decreases may occur and clause 4.3 is referring to price increases in the context of the Contractor carrying all risks that might give rise to such increases with the exception of changes that arise in connection with Compensation Events.

Whilst a Bill of Quantities may be issued by the Employer for pricing purposes or Tenderers may be required to prepare a Bill of Quantities as part of their submission it should not be listed under clause 1.3 of the Schedule as one of the documents that forms the Contract.

For greater detail refer to section **2.6.3 Compiling the Content of the Pricing Document** page 127.

Bill of Quantities for PW-CF7 and PW-CF8

In the case of investigation contracts (PW-CF7 and PW-CF8), the Bill of Quantities is included in the Scope of the Contract if it is listed under Clause 1.1 in the Schedule. This means that the priced Bill of Quantities forms part of the Contract.

Continued on next page

1.1.1 What's in the Contract, Continued

Works Proposals (PW-CF1 to PW-CF5)

In the case of PW-CF1 to PW-CF5, the Works Proposals state how the Contractor proposes to carry out the works in response to the Employer's Invitation to Tender. Usually this will include method statements, details of the 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 design-and-build (Contractor-design) or traditional (Employer-design).

Design-and-build (Contractor-designed)

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, which would include design drawings of temporary and permanent works, finishes schedules, calculations and all necessary information to enable the Employer's Representative (ER) to assess the proposal technically in the Tender Evaluation.

Traditional (Employer-designed)

In a traditional contract the Works Proposals may include details of the roles and activities of the Contractor's management personnel dedicated to the project, the initial management arrangements – including systems, methods, project programme, 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 acquired, 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 HS&W (Health, Safety and Welfare) protection.

Continued on next page

1.1.1 What's in the Contract, Continued

Works Proposals (PW-CF6 to PW-CF8)

There is no reference to Works Proposals in the Contract Conditions for PW-CF6, PW-CF7 or PW-CF8. However, this does not preclude the Employer from requiring documents such as method statements or programmes to be submitted as part of the Contractor's proposals and included in the contract.

- In the case of PW-CF6, the Employer may specify (at Clause 1.3 of the Schedule) what documents are to be included in the contract.
 - In the case of PW-CF7 and PW-CF8, there is provision for Works Proposals under Clause 3 of the Contractor's Proposals. These, however, are not limited to the provisions in Clause 3, and further provisions can be included under Clause 1.1 'Scope' in the Schedule.
-

1.1.2. Key Contract Dates

Dates defined in the Contract

The following key dates are identified in the Contract:

Date	Form of Contract	Description
Contract Date	PW-CF1 to PW-CF5	The date the Employer issues the Letter of Acceptance.
	PW-CF6 to PW-CF8	The date on the Tender Acceptance is sent to the Contractor
Starting Date	PW-CF1 to PW-CF5	The date on which the Contractor proposes to start the works. This must be within the time limit set in the contract.
	PW-CF6	Within 5 working days after the Contract comes into effect.
	PW-CF7 and PW-CF8	Within 7 days of the last date for permission to start a task.
Date for Substantial Completion	PW-CF1 to PW-CF5	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. On building contracts this has traditionally been referred to as the Date for Practical Completion.
Time for Completion	PW-CF6	This is the construction period stated in the Schedule or such other approved extended period until substantial completion is reached at which time the facility should be available to be taken over.
Performance Period for a Task	PW-CF7 and PW-CF8	This is the period for a Task in the Task Table within which work is to be completed after permission to start is granted.

Continued on next page

1.1.2. Key Contract Dates, Continued

Dates defined in the Contract (continued)

Date	Form of Contract	Description
Defects Period	PW-CF1 to PW-CF5	This is the date that defines the period after substantial completion during which any defects must be rectified – this usually lasts 12 months.
	PW-CF6	This is the period stated in Schedule after the date for which the Works are certified substantially complete. The default period is between 12 and 13 months.
	PW-CF7 and PW-CF8	Not applicable.
Designated Date	PW-CF1 to PW-CF5	The date 10 days before the last day for receipt of the Contractor's tender for the works. Relevant only for the price variation provision.
Recovery Date	PW-CF1 to PW-CF5	The Designated Date adjusted by the period of delay to the Starting Date that results from the actions or omissions of the Contractor. Relevant only for the price variation provision.
Base Date	PW-CF1 to PW-CF5	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.

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 2.5.3 Price Variation on page 1110.

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

1.2 Contract Types

Overview

The decision

The Capital Works Management Framework includes nine generic forms of contract (Contract Conditions) for use in different circumstances. Before embarking on a public works project, the Contracting Authority / Employer needs to identify the contract type that is most suitable.

Nature of Works	Contract Type	Code	Contract
Building Works	Traditional	PW-CF1	Public Works Contract for Building Works designed by the Employer
	Design-and-Build	PW-CF2	Public Works Contract for Building Works designed by the Contractor
Civil Engineering Works	Traditional	PW-CF3	Public Works Contract for Civil Engineering Works designed by the Employer
	Design-and-Build	PW-CF4	Public Works Contract for Civil Engineering Works designed by the Contractor
Minor Works, Building and Civil Engineering	Traditional	PW-CF5	Public Works Contract for Minor Building and Civil Engineering works designed by the Employer
Building and Civil Engineering	Traditional	PW-CF6	Short Public Works Contract for Public Building and Civil Engineering Works
Investigation, above and below ground, Building and Civil Engineering	Traditional	PW-CF7	Public Works Investigation Contract
		PW-CF8	Public Works Short Investigation Contract
Framework Agreement	–	PW-CF9	Public Works Framework Agreement

Continued on next page

Overview, Continued

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

Topic		See Page
1.2.1	1.2.1 Employer-Designed (Traditional) Projects Describes traditional (employer-designed) contracts where the Contractor builds to a design already provided (PW-CF1, PW-CF3, PW-CF5 and PW-CF6).	32
1.2.2	1.2.2 Contractor-Designed (Design-and-Build) Contracts Describes contracts where the Contractor undertakes to design and build the works (PW-CF2 and PW-CF4).	35
1.2.3	1.2.3 Investigation Forms of Contract Describes contracts that are used for investigation works carried out in advance of permanent works. (PW-CF7 and PW-CF8)	37
1.2.4	1.2.4 Public Works Contracts and Heritage Strategy Describes how the heritage strategy is implemented using the public works contracts, typically using combinations of Employer-Designed public works contracts.	38
1.2.5	1.2.5 Framework Agreement Describes framework agreements and how they can be established.	42

1.2.1 Employer-Designed (Traditional) Projects

Definition: Employer- Designed

An Employer-designed (traditional) project is one where the design is carried out directly by the Sponsoring Agency or by consultants engaged by the Sponsoring Agency. When the design is complete it forms the basis for a tender obtained through a competitive process which, if accepted, allows the design to be constructed by the successful contractor.

The works contractor is responsible for the construction and delivery of the facility and for the quality of workmanship and materials used – which are checked by the Sponsoring Agency's Employer's Representative.

Its main disadvantage (from an implementation point of view) is that the technical and management experts involved with the project are not part of a single integrated team with a single point responsibility for both design and construction. Instead the design team is separate from the construction team and each work independently of each other. In such an arrangement there are no contractual ties between the parties and the only common feature is that both parties have been engaged by the Sponsoring Agency.

Why choose Employer- Designed?

Employer-design contracts are most appropriate in the following circumstances:

- Refurbishment or alteration of existing buildings or facilities;
 - Works on historic buildings or on heritage sites;
 - Works that a contractor might be unable to scope accurately, or where there are significant unknowns leading to significant risks;
 - If the Contracting Authority cannot commit to proceeding to the construction stage until the design has been fully developed (it is important to ensure in this situation that adequate funding is in place before tenders are sought);
 - Where a design competition is held;
 - Where the Contracting Authority has in-house design capacity, or wishes to use design capacity from elsewhere in the public sector, or if the Contracting Authority wishes to build to a pre-existing standard design;
 - If the Contracting Authority needs to retain a high level of control over the quality aspects of the design; and
 - If the Contracting Authority wishes to retain control over the design process, or to choose between alternative proposed solutions
-

Why not choose Employer- Designed?

By retaining control over the design, the Contracting Authority reduces the scope of the Contractor to offer innovative solutions that may offer better value for money, either in construction (i.e. buildability) or in terms of whole-life costs. As the designer and the construction Contractor are contracted separately, there is the potential for conflict between them which could give rise to cost and time overruns. Furthermore, the resolution of such conflicts, if they arise, requires additional administrative effort and possibly costs on the part of the Contracting Authority.

Continued on next page

1.2.1 Employer-Designed (Traditional) Projects, Continued

Which Employer-Designed contract to use

Where a traditional contract is being used, the Employer includes detailed designs in the tender documentation, and prospective contractors bid for the build element of the project only.

In deciding which traditional contract to use, the Employer should consider the nature, complexity and value of the project. The project budget should be well established at Definitive Project Brief stage – including the value of the main construction contract. The following table summarises the choices that the Sponsoring Agency takes in deciding which contract to use.

If the project is ...	and the works are ...	Then use ...
Worth less than €5 million and more than €500,000 (including VAT)	Civil Engineering – or – Building Works	PW-CF5
Worth less than €500,000 (including VAT)	Civil Engineering – or – Building Works	PW-CF6
Worth less than €500,000 (including VAT) and there are exceptional circumstances	Building Works	PW-CF5
	Civil Engineering	PW-CF5
Worth less than €5 million and more than €500,000 (including VAT) and there are exceptional circumstances (<i>see note on Exceptional Circumstances below</i>)	Building Works	PW-CF1 or PW-CF5
	Civil Engineering	PW-CF3 or PW-CF5
Worth €5 million (including VAT) or more	Building Works	PW-CF1
	Civil Engineering	PW-CF3

Investigation Contracts

The Public Works Investigation Contract (PW-CF7) must be used for building or civil engineering investigation works above and/or below ground with a value of €50,000 (including VAT) or more.

The Public Works (Short) Investigation Contract (PW-CF8) should be used for small building or civil engineering investigation works above and/or below ground with a value of €50,000 (including VAT) or less. In certain circumstances investigation works with a value of €50,000 (including VAT) or less may continue to use the Public Works Investigation Contract PW-CF8 if this is considered more appropriate.

Continued on next page

1.2.1 Employer-Designed (Traditional) Projects, Continued

Exceptional Circumstances

On projects valued below €5 million, it is more usual to use the Minor Works Contract (PW-CF5). In certain exceptional circumstances, however, where the Employer deems the Contract to be sufficiently complex, or there are other circumstances such as a sectional handover or greater risk transfer, PW-CF1 or PW-CF3 may be used instead – see Appendix A: Comparison of Minor Works Contracts and Traditional Contracts on page 236.

Similarly for projects valued below €500,000, it is more usual to use the Short Public Works Contract (PW-CF6). However in certain circumstances, where the Employer deems that the works are of a particular nature, PW-CF1, PW-CF3 or PW-CF5 may be used instead. The Short Public Works Contract (PW-CF6) should not be used for projects with a value in excess of €500,000 (including VAT) or where specialists are required.

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 (under Part 1K of the Schedule) all the compensation events that are allowed including those risks linked to compensation events that may or may not be transferred. The Employer retains the cost risk for 12 of the 21 risks listed in Part 1K of the Schedule. There is a minimum of 1 optional risk that the Employer is not responsible for and a maximum of 5 (depending on the Contract PW-CF1 to PW-CF5) that the Employer has the option to transfer them to the Contractor. (This does not apply to PW-CF6, PW-CF7 or PW-CF8.).
 - The Contractor is entitled to compensation from the Employer in the event that one of the optional risks *included in the Contract* and not transferred to the Contractor being realised. (This does not apply to PW-CF6, PW-CF7 or PW-CF8.)
-

1.2.2 Contractor-Designed (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 a detailed functional specification setting out the Employer's requirements against which prospective contractors can frame their bids. Any specimen drawings which the Employer has used to further develop the output requirements should be included in the Works Requirements or as background information enclosed with the tender documents.

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 not have regard to these designs in any tender proposal.

Otherwise, if the designs are in the Works Requirements they are not to be changed and should be regarded as input design information which tenderers must accommodate as 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. In deciding on whether a project should be design-and-build, Employers should be conscious of the estimated cost of the project verses the potential tendering costs to ensure that tendering costs are not going to be disproportionately high relative to the estimated cost of the project. Furthermore, 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.

Continued on next page

1.2.2 Contractor-Designed (Design-and-Build) Contracts,

Continued

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 1K these events are always retained by the Employer. Where these optional risks are retained by the Employer, the Contractor may seek compensation from the Employer in the event that one or more of these risks 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 gradually depending on which Programme Contingency threshold has been used up – see 2.6.2 Completing the Schedule on page 123

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
-

1.2.3 Investigation Forms of Contract

Definition: Investigation studies

Investigation studies are works that are carried out in advance of permanent works to identify and quantify potential risks that are concealed.

The contracts used have been specially developed to suit all types of investigation work that might be carried out for public projects. There are two Public Works Investigation Contracts one (PW-CF8) is for small studies with a value of less than €50,000 (including VAT) and the other (PW-CF7) is for medium to large studies with a value of €50,000 (including VAT) or more.

Contract		When to use
PW-CF7	Public Works Investigation Contract	For medium to large studies with a value of €50,000 (including VAT) or more.
PW-CF8	Public Works Short Investigation Contract	For small studies with a value of less than €50,000 (including VAT)

Why choose an Investigation Contract

When using the Public Works Contracts there is a requirement that all design work should be comprehensively defined as input specifications and designs (i.e. the traditional approach) or output specifications (i.e. design and build) before a project is put out to tender. This means that all unknown risks in so far as possible in relation to design are identified and resolved before the tender competition. An investigation study should be conducted in the following circumstances:

Below Ground	Where excavations are required, the site should be subjected to a site investigation so that any subsequent design of the facility to be provided can be comprehensively defined and detailed based on factual ground information.
Above Ground	Where refurbishment/alteration work to an existing structure is required all areas that are concealed should be opened up and investigated so that any subsequent design can be comprehensively defined and detailed based on factual information before tenders are sought for the main works.

1.2.4 Public Works Contracts and Heritage Strategy

Introduction

The Public Works Contracts (Employer Design) can be used to great effect for construction works on heritage projects. Such projects relate to works to protected structures, existing structures within the curtilage of a protected structure or the attendant ground, or structures to which the National Monuments Acts apply.

Two-contract strategy

Public expenditure on construction works for heritage projects is subject to the same constraints as expenditure for works on a green field site. The constraints are value for money, greater cost certainty at tender stage and more efficient delivery of projects. To ensure greater cost certainty at tender stage is achieved on heritage projects, which by their nature involve working with existing structures where the type and quantum of work is difficult to define in advance, a heritage contract strategy has been developed. The strategy involves the use of two public works contracts and the need for the procurer to have a competent knowledge of the procurement rules.

The two public works contracts in question are; an Investigation contract (i.e. PW-CF7 and PW-CF8) to inform the design and tender documentation prior to tendering main works package using an Employer-Designed fixed price lump sum contract (i.e. PW-CF1, PW-CF3, PW-CF5 or PW-CF6).

The appropriate use of the two contracts (i.e. the Investigation contract and the Employer Design fixed price lump sum contract) should achieve the objective set at the outset i.e. greater cost certainty at tender stage.

Investigation contracts

In any one heritage project, the investigation contracts need to be balanced with the main contract so that the greater portion of the construction work is done under the main contract.

Ultimately the purpose of investigation contracts is to obtain sufficient information to allow comprehensive designs and specifications be developed and competitively priced so as to ensure greater cost certainty for main works at contract award stage.

The investigation contract is a stand alone contract which includes the facility for the Employers Representative to instruct the contractor to change the 'scope' (clause 7.5 of PW-CF7 and PW-CF8) of the work as may be deemed appropriate. Under 'Scope' the investigation contracts allow for opening up inaccessible areas for examination, and permanently or temporarily making good any elements which have been disturbed.

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1.2.4 Public Works Contracts and Heritage Strategy, Continued

Heritage specialists

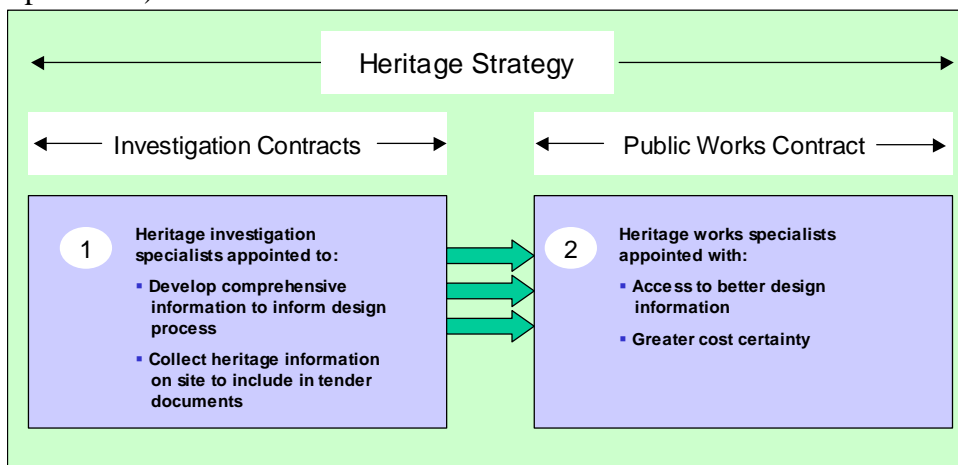
Specialist works form a significant part of heritage contracts. To ensure the integrity of work to protected structures, it is important that control is exercised over the specialists selected to undertake this work. There are two equally important roles that specialists fulfil on heritage projects, each of which is described in more detail below.

1. **Heritage investigation specialists** are appointed by the Contracting Authority under an investigation contract (PW-CF7 or PW-CF8). They carry out investigation studies and tests so that the Design Team can determine in as thorough a manner as possible the likely scope and quantum of the works that will subsequently be undertaken by a main contractor under a separate Public Works Contract.
2. **Heritage works specialists** are employed by the Works Contractor to carry out the detailed specialist work specified and illustrated in the Works Requirements. They are named in tender documents (i.e. Works Requirements) in panels for the specialist areas of work identified in the Works Requirements.

In limited situations heritage investigation specialists may be engaged for both parts of the heritage project: i.e. both the investigation and execution work. In particular, there are two situations in which this can arise:

- **Where no works contractor is involved:** in this case the heritage investigation specialist appointed by the Contracting Authority carries out all the work, investigation and execution under the Investigation Contract (PW-CF7 or PW-CF8)
- **Where the heritage investigation specialist's contract is novated to the Works Contractor:** in this case the heritage investigation specialist appointed by the Contracting Authority carries out the initial investigation work under the Investigation Contract (PW-CF7 or PW-CF8), and later that contract is novated to the Works Contractor for the execution of the detailed specialist works specified in the Works Requirements.

The diagram below illustrates the heritage strategy and the relationship between the Investigation Contract (heritage investigation specialists) and the Public Works Contract, Employer Design (incorporating the heritage works specialists).



Continued on next page

1.2.4 Public Works Contracts and Heritage Strategy, Continued

Heritage investigation specialists and the Investigation Contract

The heritage investigation specialist appointed under an Investigation Contract is responsible for carrying out tests, opening up structures, gathering and collating all the necessary heritage-related information, which can subsequently be drawn on and can assist in the development of designs and specifications that are to be included in the tender documents for the main contract. This approach brings a number of key advantages:

- Comprehensive design information is developed earlier in the cycle, and before the Contractor for the construction stage is appointed;
 - Authoritative heritage information is included in the tender documents; and
 - Greater cost certainty is achieved because the full heritage implications of the project are known in advance of the appointment of the main Contractor.
-

Heritage works specialists and the Public Works Contract

Following a tender competition for the main contract for a heritage project, the successful Main Contractor is appointed under the *Public Works Contract for Building Work Designed by the Employer* (PW-CF1, PW-CF5 and PW-CF6). The design information in the main contract tender documentation will have been influenced by the outputs from the proceeding Investigation contract. The tender competition for the main works should be between competent contractors experienced in heritage work who have won a place on a short list in a separate competition.

The heritage works specialist is employed by the Contractor, and can be:

- Pre-qualified with Works Contractors who identify their specialists in the Works Contractors' suitability assessment material submitted; or
- Included on a panel in main contract tender documents drawn up by the Employer; and can then be selected by Works Contractors and named in their main contract tenders; or
- Alternatives proposed by Works Contractors in their tenders to those on a panel in main contract tender documents. Note that if the panel arrangement is used, then this must be made clear by the Employer in the tender documents.

Note: If there is a panel of specialists included in the tender documents, the Contractor must be allowed to propose alternatives of his choice. This must be made clear by the Employer in the tender documents.

Pricing of specialists' work

At tender evaluation stage the Pricing Document of the preferred tenderer should be examined to see that a reasonable allocation of money has been identified for each area of specialist work. If it is felt that the price is too low and the Employer is otherwise satisfied with the rest of the main contract tender price, a more realistic price should be arrived at for the specialist area of work through the re-balancing of rates and included (in consultation with the tenderer – prior to issue of notice to unsuccessful tenderers) without affecting the overall tendered fixed price for the main works (in accordance with section 8.2 of the *Invitation to Tender Document (ITTW 1, ITTW 2)*).

Continued on next page

1.2.4 Public Works Contracts and Heritage Strategy, Continued

Combining specialist roles

In limited situations heritage investigation specialists may be engaged for both parts of the heritage project i.e. both investigation and execution work. There are two situations where this can arise:

- **Where no works contractor is involved:** in this case the heritage investigation specialist appointed by the Contracting Authority carries out all the work, investigation and execution under the Investigation Contract (PW-CF7 or PW-CF8).
- **Where the heritage investigation specialist's contract is novated to the Works Contractor:** in this case the heritage investigation specialist appointed by the Contracting Authority carries out the investigation work under the Investigation Contract (PW-CF7 or PW-CF8) and when complete the Investigation contract is novated to the Works Contractor so that the specialists can assist with the execution of the detailed specialist works specified in the Works Requirements

Note: in both situations the scoping and specifying of the specialist work in the main contract tender documents is done by the Contracting Authority's Design Team.

Insurance

The PW-CF7 and PW-CF8 Investigation contracts allow for alternative insurance arrangements to be used. These can either rely on the provisions in Clause 12 of the Conditions as the default or on an alternative as set out in the Scope of the Contract.

1.2.5 Framework Agreement

Definition: Framework Agreement

In effect, a framework agreement is an agreement between a Sponsoring Agent and one or more works contractors which sets out terms and conditions under which specific purchases can be made during the term of the agreement. Article 1(5) of Directive 2004/18/EC defines a framework agreement as:

‘... an agreement between one or more contracting authorities and one or more economic operators, the purpose of which is to establish the terms governing contracts to be awarded during a given period, in particular with regard to price and, where appropriate, the quantity.’

Article 32 of Directive 2004/18/EC sets out the conditions and procedures under which agreements must be set up and contracts based on the agreements awarded³.

Collusion

Contracting Authorities need to exercise care when setting up Framework Agreements to ensure that they do not inadvertently create an environment that allows competitors on Framework Agreements to collude with each other so as to fix prices. Furthermore, Contracting Authorities should continuously monitor the operation of their Framework Agreements to search for any suspicious signs of collusion. If, there is any suspicion whatsoever the contracting authority should suspend all procurement activity under the relevant Framework Agreement until such time as the suspicions have been fully investigated and the contracting authority is satisfied that there is nothing to be concerned about.

Continued on next page

³ Regulations 33, 34 and 35 of SI No.329 of 2006 implement Article 32 of Directive 2004/18/EC.

1.2.5 Framework Agreement, Continued

Using a Framework Agreement

Framework arrangements are covered by Directive 2004/18/EC as implemented by SI 329 of 2006. The rules in the Directive are designed to ensure that contracts and panel placement under Framework Agreements are awarded in an open, transparent and competitive manner. The Framework Agreement form of contract (PW-CF9) should be executed separately by each party to the Framework Agreement to contractually bind them to the framework agreements for public works projects.

Strategic purchasing policy in relation to construction works is a matter for each Contracting Authority to decide on. Some of the areas where such a policy might apply are:

- The establishment of panels of specialists for public works contracts;
- Multiple works projects for which there is a generic design;
- Multiple low-value works projects;
- Strategic centralised purchasing; and
- Purchasing by a Central purchasing body.

In normal circumstances framework agreements should last for a fixed period (maximum of 4 years) set at the outset and should provide an economic and efficient means of procuring works projects. Only those who are admitted at the outset can participate in the framework – it is not open to Sponsoring Agencies to admit new entrants during the course of the agreement.

Using a Framework Agreement (continued)

As requirement for each project arises under a Framework Agreement, the Contracting Authority invites those participants listed on the Framework Agreement who are in a position to perform the contract to tender for the work in a mini-competition. The successful tenderer subsequently enters into a contract with the Contracting Authority (as Employer). The Short Public Works Contract (PW-CF6) is normally used for this purpose; however the threshold rules for use in relation to PW-CF1, PW-CF3 and PW-CF5 also apply.

Main advantages of using a Framework Agreement

The main advantage of establishing a Framework Agreements is that the Contracting Authority only needs to advertise (in the OJEU and on the eTenders website) just once – announcing the intention to set up the framework. Individual projects can be awarded following a call off mini-competition under the framework which does not involve advertising.

Note: Procuring works projects outside a framework is allowable where, for instance, a Contracting Authority believes that the terms of a framework do not fit a particular requirement or that more advantageous terms can be obtained outside the framework, or there is suspicion of collusion.

Continued on next page

1.2.5 Framework Agreement, Continued

Managing a Framework Agreement

The Contracting Authority needs to manage framework agreements very carefully, particularly for specialist, technical or complex works; and before deciding on a framework, the Contracting Authority should assess whether or not it is suitable in a particular situation. For example, a framework arrangement might not be suitable for long-term works contracts that could run longer than the duration of the framework agreement

Under Directive 2004/18/EC and SI No 329 of 2006, the duration of framework agreements is limited to a maximum of 4 years. However, there is provision to allow for longer periods in exceptional circumstances where it can be justified by the nature of the work that is subject to the framework agreement. An example might be where in order to execute a works contract a contractor has to incur a certain level of expenditure; and if the recovery of that expenditure cannot be achieved within a normal maximum 4-year period, a longer term framework may be justified.

How does a Framework Agreement work

A framework agreement is established using many of the features involved in a standard tendering procedure. Normally the total value of contracts to be awarded under framework agreements would exceed the relevant EU threshold and therefore the rules set out in the EU Directives must be followed. Such rules cover procurement in relation to open and restricted procedures; and in exceptional circumstances in relation to competitive dialogue and negotiated procedures. In practice, therefore most frameworks would be established using the open or restricted procedure.

It is also possible, however, that the total value of the contracts awarded under some frameworks will not exceed the threshold (€5,000,000⁴ excluding VAT) and in such cases the national guidelines for awarding below threshold contracts can be followed for both the award of an initial contract (if applicable) and for places on the framework agreement.

Continued on next page

⁴ EU Threshold with effect from January 2012 to 31 December 2013. Thresholds are revised every two years. Full and up to date thresholds can be checked on the EU public procurement website <http://simap.europa.eu/>.

1.2.5 Framework Agreement, Continued

Setting up a Framework agreement

The Contracting Authority must advertise its intention to establish a framework agreement on the eTenders website and where appropriate in the OJEU.

Content of the eTenders and OJEU notice

The Notice should indicate the following:

- That it is the Contracting Authority's intention to establish a framework agreement;
- That the framework agreement is for a single or a stated number of contractors/specialists;
- The duration of the framework agreement;
- The estimated total value of all contracts to be procured under the proposed framework agreement; and
- Whether an open or restricted procedure is being used to appoint suitable candidates to the framework agreement.

Open tendering process to determine participation in a framework

A standard open tendering procedure may be used to establish a single or multi-participant framework. A single participant framework involves the award of the complete framework contract to one contractor who is also awarded the follow-on contracts under the framework without further competition on a draw-down basis. This type of framework requires that all award criteria for the agreement and follow-on contracts as well as all the suitability criteria are established at the outset. Bona fide tenders are evaluated using the award criteria to determine which one of them is the most economically advantageous tender and is therefore the most eligible to be awarded the framework contract.

In the case of a multi-participant framework tenderers are invited to compete for a place on the framework. There may, or may not be an award of an initial contract when the framework is being set up. The criteria used to establish a framework are suitability and award criteria and in order to satisfy the transparency principle they should be published in the contract notice. This enables the contracting authority to establish the eligibility of interested parties for a place on the framework and, if an initial contract is to be awarded, to determine which is the most economically advantageous tender. All applicants that meet the minimum suitability (criteria) and award standards should be included in the framework agreement.

Restricted tendering process to determine participation in a framework

Alternatively, under a restricted procedure, candidates may be shortlisted under suitability assessment criteria and appropriate award criteria. Those who are shortlisted are placed on a panel on the Framework Agreement and may subsequently be invited to tender in mini-competitions for individual draw-downs of the framework agreement as they arise.

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1.2.5 Framework Agreement, Continued

Setting up a Framework agreement (continued)

Following award of framework agreement

Following the award of the framework agreement, each participant should:

- Sign a Framework Agreement form (PW-CF9);
- Participate in mini-competitions when invited during the life of the framework agreement; and
- If awarded a contract from a mini-competition, execute one of the Public Works Contracts (PW-CF1 to PW-CF8).

The Contracting Authority should endeavour to ensure that there is no opportunity for collusive tendering among the participants in the framework.

Award Criteria

The published notice (in the *OJEU* or the eTenders website) or the information supplied to candidates must include details of:

- The basis for admission to the framework agreement; and
- Indicative ranges for the criteria for the award of contracts that will arise within the ambit of the agreement.

No substantive changes or modifications in award criteria are permitted during the operation of the framework. For that reason, the Contracting Authority should (when advertising the establishment of the framework agreement) set out indicative ranges (rather than precise values) for the weighting of criteria for subsequent contract awards. Mini competitions for the award of contracts can operate within those indicative ranges and at criteria weightings that are appropriate for the particular contract award.

Small and medium-sized enterprises

As part of the decision to establish a framework agreement, consideration should be given to how the proposed arrangements will impact on small and medium sizes enterprises. In selecting participants for a framework, contracting authorities should ensure that where smaller enterprises can meet the requirements for the terms of the framework, their inclusion should be facilitated.

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	48
1.3.2	Indemnities Deals with the Contractor's and the Employer's requirements to provide indemnities	50
1.3.3	Executing the Contract / Executing the Contract as a Deed Covers legal issues relating to the execution of the Contract.	51
1.3.4	VAT and the Contract Deals with how VAT is handled under the Contract.	57

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.

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 counter-party) 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 (in the context of health & safety) that the Project Supervisor for the Design Process (PSDP) and the Project Supervisor for the Construction Stage (PSCS) 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 239) 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 Schedule⁵, 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; and
 - The Employer may copy, modify and use the Contractor's documents for any purpose in connection with the Works.
-

⁵ PW-CF1 to PW-CF5; Clause 13.2 of PW-CF7 and PW-CF8. PW-CF6 does not have a similarly worded copyright provision however it does include under clause 11.2 an entitlement for the Employer to copy, modify, adapt and translate for any purpose documents that the Contractor provides to the Employer.

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 2.4 Insurance Provisions on page 90.

Contractor's indemnity

In general terms, the Contractor indemnifies the Employer and the Employer's employees against liability resulting from the Contractor's infringements of property rights (including intellectual property rights) arising out of 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 the Employers 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 to the extent that the loss is covered by the Employer's indemnities under the Contract.

Employer's indemnity

The Employer indemnifies the Contractor against liability for; the Employer's negligence, or the Employer's infringement of property rights (including intellectual property rights) resulting from the unavoidable use of the Works Requirements and Employer's Things, or the unavoidable damage resulting from the Works being executed in accordance with the Works Requirements, or from the use or occupation of the site to provide the works in accordance with the Works Requirements.

The Employer's indemnity does not cover liability for death, injury or illness of the Contractor's personnel.

The indemnity for Employer's negligence covers for example, an employee of the Employer damaging the property while doing a test. This indemnity does not extend to claims by Contractor's personnel, who are the Contractor's responsibility.

1.3.3 Executing the Contract / Executing the Contract as a Deed

How is the Contract / Deed executed

The Contract between the Employer and the Contractor must be executed by both parties.

On the Employer's side, the Contract / Deed must be:

In the case of (a Contract executed as) a **Deed**, sealed with the Employer's common seal, authenticated by signatures of authorised persons; *or*

In the case of a **Contract** (not executed as a Deed), signed on behalf of the Employer by an authorised person, in the presence of a witness.

On the Contractor's side, the Contract / Deed must be:

In the case of (a Contract executed as) a **Deed**:

- Sealed with the Contractor's common seal, authenticated by signatures of authorised persons; *or*
- Signed, sealed and delivered by a lawful attorney in the presence of a witness; *or*
- Signed, sealed and delivered by the Contractor who affixes his personal seal in the presence of a witness;

Note: There is no provision under Irish law (as there is under UK law) for a company to execute a document as a deed by signature only.

In the case of a **Contract** (not executed as a Deed):

- Signed on behalf of the Contractor by an authorised person in the presence of a witness; *or if the Contractor is an individual, or*
- Signed by the Contractor in the presence of a witness.

Where the Contractor is a partnership or joint venture, the Contract must be executed by each joint member:

- Given under the member's common seal, authenticated by signatures of authorised persons; *or*
- Signed, sealed and delivered by a lawful attorney for the member in the presence of a witness; *or*
- Signed on behalf of the member by an authorised person in the presence of a witness.

Note: The benefit of a contract being a deed is that the twelve-year statute of limitations will apply instead of the six years for contracts that are signed under hand only. For a deed to be created in this jurisdiction, a construction contract must be executed under seal. The legislation in the UK is different – there, once the contract states that it is a deed then that is all that is required to make it a deed and no seal is required

Continued on next page

1.3.3 Executing the Contract / Executing the Contract as a Deed, Continued

How is a document sealed?

A document (such as a Contract) is validly sealed when some act is done by the person sealing it with the intention of sealing the document. It is common practice for the person to use a special sealing device to make an impression in the document, for example, the company's name, or to affix a sticker to the document. However the person can also seal the document in many other ways, including affixing a ribbon to or pouring some wax on the document.

How is a company's seal authenticated?

The procedure to be followed in authenticating a company's seal is set out in the company's *Memorandum and Articles of Association*. The usual requirement is for a director to sign the document to which the seal is affixed and for the document to be countersigned by one of the following:

- Another director;
- The company secretary; or
- Some other person appointed by the directors for that purpose.

Ensuring that a company's common seal is properly authenticated

To ensure that a Contractor company's seal is properly authenticated the Employer should take the following steps:

Step	Action
1	Ask the company to provide a certified copy of their current <i>Memorandum and Articles of Association</i> . This will set out the procedure for authenticating the company's seal.
2	Where the <i>Memorandum and Articles of Association</i> set out the formal requirements for use of a company's seal, carry out a Companies Registration Office (CRO) search to determine who the directors (including alternate directors) and secretary of the company are. If the directors have appointed a person to countersign the affixing of the company seal, you should request from the company a certified copy of the board resolution appointing that person.
3	Check the signatories' names against those who are permitted to sign, and countersign the affixing of the seal in the case of a deed or other document to be executed under seal.

Continued on next page

1.3.3 Executing the Contract / Executing the Contract as a Deed, Continued

How is a document sealed? (continued)

These steps should provide sufficient comfort that the Contractor company's common seal has been properly authenticated. Further steps that may be taken include:

- Where the document is signed in your presence, obtain some form of proof of identity of the signatories;
- Where the document is executed in counterparts, have the signatures notarised;
- Have the affixing of the signatures to the sealed document witnessed and the details of the witness inserted on the document;

Obtain an opinion on valid execution from the Contractor company's solicitors.

Ensuring that a power of attorney has been validly executed

For a company to grant power of attorney, the following two conditions must be satisfied:

- The Memorandum and Articles of Association of the company must give directors the authority to grant power of attorney;
- The Board of Directors of the company must pass a resolution granting power of attorney.

Once these conditions are in place, the company may then grant the power of attorney to a named person or firm.

Note: Section 15 of the Power of Attorney Act 1996 does not require a power of attorney to be executed under seal, however documents executed under power of attorney may be executed under hand or under seal.

Continued on next page

1.3.3 Executing the Contract / Executing the Contract as a Deed, Continued

Ensuring that a power of attorney has been validly executed (continued)

Ensuring that a power of attorney is properly authenticated

To ensure that the person acting with the Contractor's power of attorney is properly authenticated, the Employer should take the following steps:

Step	Action
1	Ask the company to provide a certified copy of their current <i>Memorandum and Articles of Association</i> . This will set out the procedure for granting power of attorney.
2	Obtain a certified copy of the resolution of the board of directors granting the power of attorney.
3	Obtain proof of the power of attorney by having the company provide: <ul style="list-style-type: none">▪ The original power of attorney document (that is, the document granting the power of attorney);▪ A copy of the power of attorney document certified by the company granting the power of attorney to a solicitor or a member firm of an approved stock exchange; and▪ A copy of the power of attorney document which has been attested by the Central Office of the High Court – where the power of attorney has been deposited in the Central Office of the High Court (pursuant to Section 22 of the Powers of Attorney Act, 1996).
4	Obtain proof of identity of the attorney.
5	Check that the Contract document has been personally signed and sealed by the attorney and witnessed.

Continued on next page

1.3.3 Executing the Contract / Executing the Contract as a Deed, Continued

Ensuring that a company has the authority to execute contracts under hand

For a company to be able to execute a contract under hand (i.e., by signature), the following two conditions must be satisfied:

- The *Memorandum and Articles of Association* of the company must give directors or the Managing Director the authority to execute documents;
 - The Board of Directors of the company must pass a resolution granting directors or the Managing Director the authority to execute documents;
- or
- A Managing Director can execute a contract under hand without a separate board resolution once the company has the authority to execute such a contract under the terms of its *Memorandum and Articles of Association*;
- or
- The Board of Directors can pass a resolution to give any other person (in that person's employment contract) the authority to execute a contract.

Once these conditions are in place, the directors or Managing Director may execute contracts under hand.

To ensure that each person signing the Contract on behalf of the Contractor is properly authenticated, the Employer should take the following steps:

Step	Action
1	Ask the company to provide a certified copy of their current <i>Memorandum and Articles of Association</i> . This will set out the procedure for executing documents.
2	Obtain a certified copy of the resolution of the board of directors granting the power to execute documents.
3	Obtain proof of identity of the person(s) signing.
4	Obtain proof that the party signing the contract has the authority under its contract of employment to do so.

Consequences if the signatory has the required authority

Where a director or employee of the Contractor company executes a contract within their express authority, the Employer may enforce the executed contract against the Contractor company.

Continued on next page

1.3.3 Executing the Contract / Executing the Contract as a Deed, Continued

Ensuring that a company has the authority to execute contracts under hand (continued)

Consequences if the signatory does not have the required authority but has apparent authority

Where the signatory does not have the required authority but acts in such a way that it appears to have the required authority, the Contractor company will also be bound by the actions of the signatory where:

- The Contractor's company (through a person with actual authority) represents to the Employer that the arrangement entered into under apparent authority of a signatory will be binding on the company;
- The Employer relies on this representation; and
- The Memorandum and Articles of Association of the company neither forbid that type of transaction nor the delegation of the power to an agent.

The Employer is entitled to infer that all requirements of the *Memorandum and Articles of Association* have been complied in relation to the valid delegation of authority to the signatory – usually by the passing of a board resolution. This will require the Employer to establish the pre-conditions to the delegation of authority contained in the *Articles of Associations*. There is also a requirement for the Employer to act in good faith in relying on the representation.

Consequences if the signatory acts outside their actual or apparent authority

Where the signatory acts outside their actual or apparent authority, the Contractor's company will not be bound unless it subsequently ratifies the execution of the Contract, (which is not one which the company is prevented from executing under its Memorandum and Articles of Association).

1.3.4 VAT and the Contract

Introduction

The way VAT is treated under the Public Works Contracts depends on whether or not the Employer is a 'principal contractor' for VAT purposes. Bodies such as local authorities, Government departments and larger public bodies are likely to be registered as 'principal contractors'; others will not, as they are not required to be so registered by legislation. Employers should be aware of their status in this respect.

In all cases, however, the Employer is required (under clause 11.7.2 of the Contract) to pay the Contractor (or the Revenue Commissioners, as appropriate) any VAT arising on the supply under the Contract.

The following table summarises the differences that apply for employers who are 'principal contractors' and those who are not.

	Employer is a 'Principal Contractor'	Employer is NOT a 'Principal Contractor'
VAT in tenders	<p>The Employer invites tenderers to submit tenders that include standard-rate, exempt and zero rate VAT, but are exclusive of the reduced rate VAT.</p> <p>The Pricing Document should, where appropriate, allow space for the tenderer to insert amounts to which VAT at the standard, exempt and zero rates rate (but not at the reduced rate) can be added, so that the total amount for VAT in the tender can be established.</p>	<p>The Employer invites tenderers to submit tenders that include VAT at all VAT rates.</p> <p>The Pricing Document should allow space for the tenderer to insert amounts to which all of the different VAT rates apply, so that the total amount for VAT in the tender can be established.</p>
VAT on invoices	<p>Invoices that the Contractor submits to the Employer include standard-rate, exempt and zero rate VAT, but are exclusive of the reduced rate VAT.</p>	<p>Invoices that the Contractor submits to the Employer include VAT at all rates.</p>
Payment of VAT to the Revenue	<p>The Contractor is responsible for all VAT at the standard, exempt and zero rates (but not at the reduced rate) and includes these in its VAT return to the Revenue.</p> <p>The Employer calculates the reduced rate VAT that applies, and remits this directly to the Revenue Commissioners.</p>	<p>The Contractor is responsible for all VAT (including the reduced rate), and includes all VAT in its VAT return to the Revenue.</p>

Continued on next page

1.3.4 VAT and the Contract, Continued

Which VAT rate applies

The reduced rate and standard rates of VAT apply as follows:

- The **reduced rate** of VAT applies to items that are fixed in position in a building; and
- The **standard rate** of VAT applies to fittings – for example, furniture and light fittings. The Pricing Document should indicate what items attract the standard rate.

The 'two thirds' rule

The Revenue Commissioners have a 'two thirds rule' to prevent materials that are liable for the standard rate being sold with the lower, building rate.

The rule says that, where the value of materials used in works of construction exceeds two thirds of the total charge for the works, the VAT liability on that work is at the standard rate rather than the building rate. For example, a contract that consists only of fitting a very expensive door set in a building might easily be caught by the rule and be VAT liable at the standard rate rather than at the building rate.

This 'two thirds rule' applies only where the Employer is not a 'principal contractor'.

VAT and the Contract Sum

The Contractor's completed form of tender states whether, and to what extent, the Contract Sum includes VAT.

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 and Contract Strategy for Public Works Contracts* (GN 1.4)
- *Procurement Process for Consultancy Services (Technical)* (GN 1.6 series); and
- *Procurement Process for Works Contractors* (GN 2.3).

Continued on next page

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.	62
2.2	Pre-Tender Reports Describes the reports to be considered prior to and during the preparation of the tender invitation.	75
2.3	Bonds and Guarantees Explains the options the Contract provides regarding bonds and guarantees.	82
2.4	Insurance Provisions Outlines the Contract requirements for insurance on the project.	90
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.	101
2.6	Preparing to Invite Tenders Summarises what the Employer has to do before publishing the Invitation to Tender.	118
2.7	Evaluating Tender Submissions Deals with considerations and calculations the Employer has to make in relation to rates and prices during the evaluation of the tender documents.	137

2.1 Suitability Assessment and Procurement of Specialists

Overview

Introduction This section deals with 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	62
2.1.2	Procurement of Specialists Details the options and procedures used for the procurement of specialists	63

2.1.1 Suitability Assessment of Contractors

Suitability Assessment procedure

The suitability assessment procedure involves inviting applicants or tenderers to submit information about themselves (and their named specialists where so requested by the Employer) by responding to 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.

Restricted and open procedures

Under the EU rules the route taken for a *restricted* procedure is for the Employer to publish a Contract Notice in the Official Journal of the European Union (OJEU) and, when all suitable applicants have been selected in advance in accordance with the rules of that competition, to hold a tender competition at a later stage inviting only those applicants.

An *open* procedure differs from this in that the suitability submission is included by the tenderer with the tender submission, and the suitability selection takes place just prior to the tender evaluation. In both cases once an award is made the procurement procedure ends. An Award Notice should be published in the OJEU not later than 48 days after the award of the contract is made.

Substitution

In the case of a restricted procedure, if a contractor who has passed the suitability test with a named specialist sub-contractor subsequently proposes to replace that specialist with another at any time after the suitability assessment is complete, this is permissible provided the rules for substitution under section 5.11 of *ITTW1* are observed. These require that such a substitution must first be approved by the Employer, based on the initial suitability criteria.

After the submission of a tender and before the Letter of Acceptance is sent, if a tenderer can demonstrate to the Employer's satisfaction that any of the insolvency events referred to in clause 12.1.1 (11) of the conditions of contract has occurred to a specialist whose letter of agreement was submitted with the tender, or that such a specialist has repudiated the letter of agreement, then the tenderer may propose a substitute provided the rules for substitution under section 5.11 of *ITTW1* and section 5.10 of *ITTW2* are observed.

2.1.2 Procurement of Specialists

Introduction

This section relates to *specialists* as designated under the Contract. Specialists are key subcontractors and suppliers who carry out specialist work, services or supply special materials and goods under the contract. In the case of specialist work, subcontractors are required to have a high level of skill and expertise in the specialist area of work that they are engaged for. Specialists are more commonly used on building projects than on civil engineering works and their use is reserved to the main forms of contract (PW-CF1 – PW-CF5).

These specialists have a similar role to that of Nominated Subcontractors and Suppliers utilised in other forms of contract which have the cost of their work and material ring-fenced through the use of Prime Cost Sums. Employers should note that Prime Costs Sums are no longer permitted in any of the public works forms of contract within the Capital Works Management Framework – for more information see Contract Conditions on page 18.

In the Form of Tender, Schedule Part 2 E, the Employer lists the specialist areas required, the tenderer must name one specialist that they propose to engage to meet each of the specialist areas listed by the Employer. In their tender submission, the tenderer must also include letters from all those specialists named in Schedule Part 2 E confirming their agreement to enter into a contract with the tenderer to perform that identified specialist element should the tenderer be awarded the contract.

Procurement options

There are particular areas of work where input from approved and competent specialists is required so that an Employer can be confident that appropriate standards of quality, workmanship and, in some instances, design 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 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 public works contracts are based on this principle and a number of options have been identified that fulfil this objective and are open to the Employer to use. Some of these involve Employer input only while others involve Employer and Contractor input, or just Contractor input. The options are outlined below and in more detail from page 65.

Contractor input only

1. Specialists that have been pre-qualified with the Contractor are named by the Contractor in the tender Works Proposals and in the Schedule Part 2 E of the Form of Tender.

Note: The specialist areas of works should be identified in the Works Requirements. This can include specialist design services for design-and-build contracts.

Note: If this option is used, it is important, in the treatment of Specialists, to observe the general public procurement principle of equality of treatment (i.e. that all economic operators are treated the same at all stages in the award procedure).

Continued on next page

2.1.2 Procurement of Specialists, Continued

Procurement options (continued)

Employer input – Contractor output

2. Panels of specialists are named by the Employer in the Works Requirements for projects under the exemption rule of the EU Directive 2004/18/EC⁶ and SI N° 329 of 2006 (a separate tender competition is not required in this case).
3. Panels of specialists are named by the Employer in the Works Requirements for projects with a value below the EU threshold (a separate tender competition is not required in this case).
4. Panels of specialists (other than those in options 2 and 3) are named by the Employer in the Works Requirements for projects with a value above the EC threshold (a separate tender competition is not required in this case either).

Note: The specialist areas of works in the case of 2, 3 and 4 above should also be identified in the Works Requirements.

Note: It is important the principles of transparency, non-discrimination and proportionality should be observed.

Employer input only

5. Specialists that are to be novated to the Contractor are named by the Employer along with the specialist's works or services (design-and-build) and are identified in the Works Requirements.

These Specialists are employed by the Employer under a separate contract and are so identified by the Employer in the Works Requirements.

Contractor and Employer input

6. The Contractor must always be given the option to name an alternative Specialist (in Works Proposals) in relation to options 2, 3, and 4 above during the tender competition. See, for example, Section 5.11 of ITT-W1.

All the options involve specialists being employed by the Contractor, except for option 5 above.

It is, however, possible for a combination of options to be used on a project.

Continued on next page

⁶ The exemption rules being referred to here relate to Article 9(5) (b) Directive 2004/18/EC (last paragraph) which deals with exemption under the aggregation rules – i.e., in respect of lots, “the estimated value of which, net of VAT, is less than EUR 80 000, provided that the aggregate cost of those lots does not exceed 20% of the aggregate value of the lots as a whole”.

2.1.2 Procurement of Specialists, Continued

Procurement options (continued)

Catering for specialists' needs

Employers should consider the problems and difficulties associated with Employer-named specialists and the precautions that need to be taken, without compromising on the principle of single-point responsibility residing with main Contractor.

For example, firms in a specialist area may have particular contractual terms and other needs; and this is of particular importance in relation to novation where the specialist contract documents should accommodate these needs adequately. However, such accommodation should not go so far as to require direct payments from the Employer to continue after novation. This must not happen under any circumstance as this would compromise the principle of single-point responsibility.

What needs to be included in the main works tender

The main contract tender documents (i.e. Works Requirements) should inform tenderers that the pricing of specialist works and where applicable services by main works tenderers is to be all-inclusive (that is to include design equipment, site offices, telephones, lighting and any other general or special attendance that may be required such as special scaffolding, special transport, storage, security, protection, insurance or any other requirements that may arise).

Tendering time for main works

It is important that the Employer allows sufficient time to those who tender for the main works so that they can price specialist works correctly see Section 3.2 *GN 2.3. Procurement Process for Works*

Contractor input only: 1. Specialists named by the Contractor

Open procedure

In an open procedure the Employer will require tenderers to name in Works Proposals the specialists they propose for specific areas of specialist works, only one nomination for each area of specialist work is permitted in an open procedure because only one specialist can be named for each specialist element in Schedule Part 2E. Tenderers should include suitability assessment questionnaires with minimum standards specified by the Employer in the tender documents – as this will allow assessment of the specialists' suitability and 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 tenderer passes this evaluation will the rest of a tender be evaluated. After submission of the tender and before the Letter of Acceptance issues a tenderer may substitute a specialist but only if the criteria set out in section 5.10 of *ITW2* are met.

Note: A tenderer may submit the name and details of only one specialist for each area of specialist work.

Continued on next page

2.1.2 Procurement of Specialists, Continued

**Contractor
input only:
1. Specialists
named by the
Contractor
(continued)**

Restricted procedure

In this type of procedure the Employer will have assessed the specialists proposed by a candidate as part of their pre-qualification submission. In the case of a restricted procedure the candidate may submit more than one specialist for each specialist element. However, in the Invitation to Tender letter, the Employer must advise each of the shortlisted candidates of the names of their nominated specialists who pre-qualified since they are only permitted to name one specialist for each specialist element in Schedule Part 2E of the Form of Tender. If this route is taken, the following points should be noted:

- The tenderer for the main works must specify in the tender Works Proposals under each of the specialist categories one of the pre-qualified specialists (if more than one has pre-qualified for each specialist element); and
 - Where specialists are likely to be substituted or added subsequently, the Employer's approval should be sought in advance. The rules in relation to substitution at tender stage are set out in Section 5.11 of *Invitation to Tender for Works, Restricted Procedure* (ITT W1)
-

**Employer input:
2. Specialists
named by the
Employer –
exempt rule**

Where the EU Directive 2004/18/EC and SI No 329 of 2006 apply, specialist work can be exempt from the requirement to hold separate tender competitions (requiring the full application of the EU rules) in certain situations. To qualify for such exemption, the following conditions must apply:

- The value of the specialist work must not exceed €1m (excluding VAT); and
- The aggregate value of all such specialist areas of work 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 panels of firms capable of carrying out specialist works specified in the Works Requirements. Main contract tenderers when submitting their tenders will be required to identify in the Works Proposals which of the firms listed in the Works Requirements they propose to use as sub-contractors if they are awarded the contract.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Employer input:
*3. Specialists
named by the
Employer –
under the EU
threshold*

Under EU Directive 2004/18/EC and SI No 329 of 2006 where a project has a value less than €5,000,000 (excluding VAT)⁷, the Employer may name a panel of specialists from which a Contractor can choose. Even in this situation the specialists named by the Employer in the Works Requirements should be chosen by a competitive process using objective, non-discriminatory and transparent suitability criteria – for example, via advertisement on the eTenders 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 one of those firms listed in the tender documents they propose to use as sub-contractors if they are awarded the contract.

Employer input:
*4. Specialists
named by the
Employer –
special case*

This option relates to a situation where there is no need for a separate tender competition for specialist work even though the project has a value in excess of €5,000,000 and the exemption rules do not apply. The circumstances that give rise to this situation is when:

- The OJEU Contract Notice clearly indicates that the main contract tenderers are tendering for the whole of the works including the specialist works, in a single event in a tender competition; and
 - A second Contract Notice is placed in the OJEU (i.e. a non-mandatory notice) seeking expressions of interest so that the Employer can set up a panel of named specialists to include in tender documents for the main contract works.
-

Continued on next page

⁷ This figure is applicable from 1 January 2012 to 31 December 2013 at which time it will be reviewed in line with the EU review of the threshold value every two years.

2.1.2 Procurement of Specialists, Continued

Steps in option 4 procedure

The steps that need to be taken when option 4 is chosen are summarised below:

Step	Action
<i>The Contracting Authority / Employer must....</i>	
1	Publish a mandatory Contract Notice in the OJEU for the main contract works inviting expressions of interest from applicants wishing to tender for the complete works including all specialist works.
2	State in the Contract Notice that those applicants that are invited to tender that panel specialists will be named in tender documents.
3	Publish a second non-mandatory Contract Notice in the OJEU for the same specialist works referred to at step 1 above, inviting expressions of interest from applicants wishing to be considered for inclusion on a panel and to be named in the main contract tender documents. It should be indicated in the Notice that Specialists who meet the minimum standard and are short-listed and included in the main works tender documents will not necessarily be selected by the successful main contractor who may select someone else for the specialist works, subject to the Employer's approval.
4	State in the non-mandatory Contract Notice in the OJEU at step 3 above that the purpose of the notice is to create a panel of suitable specialist firms that will be included in the main contract tender documents. The applicants should be told that this procedure will end once the panel has been established. Note: This non-mandatory notice could be for a Framework Agreement for panels of specialists for use on more than one project.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Steps in option
4 procedure
(continued)

Step	Action
<i>The Contracting Authority / Employer must.... (continued)</i>	
5	Short-list applicants responding to Contract Notices at steps 1 and 3 above by marking suitability assessment material of applicants. Alternatively allow all those that meet the minimum standard onto the panel in the case of specialists, or tender list in the case of main contract applicants.
6	Include as part of the main contract tender documents the suitability assessment questionnaire and weightings (where appropriate) used by the Employer to short-list specialists at step 5 above.
7	State in Appendix 1 of <i>ITTWI</i> that tenderers must submit the names of their specialists in their tender submissions (Works Proposals). They should also be informed that they must choose from the panel in the main contract tender documents or name alternatives of their choice for which permission has been sought in advance.
8	Make it clear in main contract tender documents that the completed questionnaire and supporting material for alternative proposed specialists must be included in a separate sealed envelope marked 'Suitability Assessment Material'.
9	State in the main contract tender documents that any tender submission that does not include the name of a specialist for specialist work will be treated as a non-compliant tender and will be rejected.
10	Invite main contractors to tender for the complete works including specialist works.
<i>The main contract tenderers must....</i>	
11	Tender for the complete project including the specialists' work.
12	Choose from the named specialists in Appendix 1 of <i>ITTWI</i> the main contract tender documents or propose another of their choice.
13	Name in their tender proposals (Works Proposals) those specialists that will be used to do the specialist work should their tender be successful.
14	Include with their tender proposals for alternative specialists (a separate sealed envelope marked 'Suitability Assessment Material') the completed questionnaire referred to at step 6 above together with appropriate supporting material should be included. The commercial elements of the tender should be in a separate sealed envelope marked 'Commercial Aspects of Tender'.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Steps in option
4 procedure
(continued)

Step	Action
<i>The Specialist Applicants must....</i>	
15	In response to the Contract Notice at step 4 above submit the completed questionnaire together with appropriate supporting material.
16	Be willing if chosen to be a domestic subcontractor to the main contractor.
17	Accept the possibility that even if included on a panel in the main contract tender documents, the successful main contractor may select, if approved, someone else not on that panel.
<i>The Contracting Authority must....</i>	
18	On receipt of main contract tenders only open the sealed envelopes marked 'Suitability Assessment Material'. The envelopes marked 'Commercial Aspects of Tender' should remain sealed.
19	Evaluate all alternative specialists proposed by the tenderers using the suitability material submitted.
20	Disqualify those tenders that do not meet the minimum standards, or if qualitative selection is used that the alternative specialists does not attain at least the marks of the specialist with the lowest marks on the panel, or be it by way of not providing the appropriate material (where requested to do so).
21	Allow remaining tenderers (i.e. tenderers short-listed with at least one specialist who also qualified where required) to proceed to full tender evaluation.
22	Open at this stage the second sealed envelope marked 'Commercial Aspects of Tender' and proceed with the rest of tender evaluation in relation to those tenderers that have compliant specialists.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Employer input only:

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 the 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 which time the Employer's rights and liabilities cease. The novation agreement together with the original contract with the other party is all that is necessary – there is no need for a separate new contract between the main Contractor and the other party.

The procedure here involves the Employer carrying out a separate tender competition for the specialist works, following which the Employer then enters into a contract with the successful specialist.

The Capital Works Management Framework includes two model novation agreements:

- *Novation and Guarantee Agreement* (MF 1.8), to be used where the contract is to be novated to a joint venture company) and
- *Novation Agreement* (MF 1.9) to be used in all other circumstances.

Example of novation

An example of novation would be where the Employer appoints a specialist contractor for a specified area of work before the main contract is awarded (for instance specialist works in a heritage project). 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 to complete the specialist works. The details of the Specialist's contract must be included in the tender documents (i.e. 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.

Novation agreements are also appropriate in cases such as the following:

- For specialist contracts for heritage projects (in exceptional circumstances);
- For contracts with long lead in times for the delivery of goods and materials in a traditional contract; and
- For specialist works that are part complete at award of a design and build contract.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Employer input only:

5. Specialists novated to the Contractor

Timing of novation

Following a tender competition for the main contract where tender documents expressly state that certain specialists are to be novated to the main Contractor when the main works contract is being awarded. The specialist contract should be novated at the same time as the appointment of the main Contractor, who will be contractually obliged to accept the novated specialist.

Continued retention of design consultants after transfer of design function to Contractor

However, it should be noted that in the context of design-and-build contracts, the novation of design consultants (as specialists) by the Employer to the Contractor is not regarded as good practice. Best practice would suggest that the Employer retain the services of its design consultants as the Employer's Representative (after their involvement in the design function reaches an end). This is because they have a clear understanding of what the Employer's requirements are (having prepared the tender documentation) and can competently assess tenderers' design proposals in a comprehensive and efficient way to ensure that they adequately meet the Employer's requirements. The design consultants as Employer's Representative (ER) can administer the contract on behalf of the Employer and ensure that the Employer's interest is properly protected, this can include monitoring of the Contractor's design, monitoring the construction work, assessing interim payments and advising the client at handover of the project. See 3.2.2 The ER's Responsibilities on page 162 for more information

Replacement of novated specialist

If a Contractor needs to replace a novated specialist for any reason (for example, where the specialist has terminated its contract with the Contractor, or the Contractor has terminated the specialist's contract, or the specialist repudiates its contract with the Contractor, or because the specialist becomes insolvent), the Contractor must submit details of the replacement specialist to the Employer for approval. Such action does not constitute a compensation event or a delay event; nor does it require the Contract Sum or the date for Substantial Completion to be adjusted.

Employer input only:

6. Specialists with a separate contract with the Employer

There may be cases where the Employer considers it preferable for specialists' works to be separated from the main works contract and carried out at the same time as the main works but as part of a separate contract. In these cases 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.

The Employer should be aware that interference by any one of these specialist contractors with the main Contractor's work could result in a compensation and/or delay event arising under the main contract.

Continued on next page

2.1.2 Procurement of Specialists, Continued

**Contractor and
Employer input:**
*7. Contractor
names
alternative
specialist*

The Employer-named approach includes an added feature which is that the Contractor is permitted to propose, in a tender submission, alternative specialists to those listed by the Employer in the tender documents, provided the Contractor has complied with the requirements regarding such submissions as stated in the Instructions to Tenderers. This applies to Employer-named specialists in 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 state in ITTW1 or ITTW2 the latest date for submission of a written proposal naming an alternative specialist;
- The Suitability Questionnaire used by the Employer for their named specialists must be included with the written proposal; and
- The backup suitability assessment information must be submitted with the written proposal

Then, if the Employer has not already assessed the alternative specialist for suitability before the latest date for receipt of tenders, the assessment should take place as soon as possible after the closing date and prior to opening of any of the tenders.

Options 2, 3 and 4

In the case of options 2, 3 and 4, 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. In this case, the tenderer is offering a price based on the alternative named specialist only – and if that specialist does not meet the suitability criteria, the entire tender is deemed to be non-compliant.

Where the tenderer proposes more than one specialist prior to submission of tenders, at least one of these must meet the minimum suitability criteria in order for the financial aspect of the tenderer's bid to be evaluated along with the other compliant tenders. That is provided the tenderer has complied with all other rules in the competition e.g. that there is to be a single tender price submitted to cover the employment of any of the compliant specialists.

Continued on next page

2.1.2 Procurement of Specialists, Continued

Collateral warranties and specialist contractors

Collateral warranties and Contractor-designed contracts

In the case of a design-and-build (Contractor-designed) contract, the Employer should state in the Works Requirement tender document 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 typical list of amounts or percentages to be withheld in the context of Warranty Agreements that will be required under Part 1F of the Schedule.

Collateral warranties and Employer-designed contracts

In the case of a traditional (Employer-designed) contract, the Works Requirement tender documents and Part 1F of the Schedule should identify the specialists' areas of works where Collateral Warranties will be required and, where applicable, the panels of Specialists identified for those specialist areas of work.

Amounts to be withheld in the event that Collateral Warranties are not provided

The successful Contractor must provide the Collateral Warranty for each specialist as soon as the subcontract for that specialist is awarded. Under Clause 9.1.1(6) of PW-CF1 to PW-CF5 there is a requirement that '*...any collateral warranties required by the Contract...*' must be provided by the Contractor before the Starting Date. However, this requirement may be changed at the Employer Representative's discretion to '*... a later date that the Employer's Representative has agreed to ...*'. The amounts to be withheld if the Contractor does not meet its obligations under the contract to provide the Collateral Warranties on time are identified in Part 1F of the Schedule to PW-CF1 to PW-CF5.

Employer's right to view the Contractor's contract with the Specialist

Under clause 5.5 of the Collateral Warranty, the Employer can **at any time** (and not just when exercising its step-in rights – for example, after termination of the main contract) look for '*... a copy of the whole Contract ...*' (between the Contractor and the Specialist). This includes the Pricing Document, the contract total, the particular subcontract form executed, particulars of amounts to be paid, and so on. Such action would be exceptional and taken only in extreme circumstances such as in the case of bankruptcy of main contractor, termination of main contract etc.

The Capital Works Management Framework includes a model Collateral Warranty (MF 1.12). A copy of this should be included in main contract tender documents and issued to tenderers where specialists are involved.

2.1.3 The Employer and Specialist Subcontracts

Introduction

The only circumstance under the Public Works Contract where an Employer has an interest in a Specialist's contract is when that Specialist is novated to the main Contractor. In this circumstance, particular terms in the Specialist's contract with the Employer will continue to apply after the Specialist's is novated to the Contractor.

In any situation where specialists are selected (other than by novation) there should be no reference in the main contract tender documents to the sub-contract form⁸ that specialists are to use when entering into a contract with a main Contractor – this is a matter for the main Contractor and the specialist concerned. The Employer should have no involvement in the choice of contract to be used.

The continuing obligation of the Contractor to ensure that the terms of the Public Works Contract (in so far as they are relevant to the subcontract) are properly reflected in any form of subcontract used should be clearly stated in the tender documents. The contractor's contractual arrangements are no different to any contractual arrangement between a main contractor and any other domestic subcontractor, except that the terms of the Public Works Contract where relevant are reflected in the specialists' sub-contract form.

Published forms of subcontract

Employers should be very careful not to be influenced by standard forms of sub-contracts for use with the Public Works Contracts that have been developed by particular professional bodies or other trade organisations. Some of these forms may have similarities to the Public Works Contracts; others may have none. Areas of incompatibility that have come to light in the recent past from published forms include:

- Provision for general and special attendance that would normally be associated with the old nomination system and which is now no longer a measurable or priceable item;
 - Involvement of the Employer's Representative in deciding on amounts of reductions that should be made for defective work under the subcontract;
 - Termination provisions in the subcontract that conflict with the Public Works Contract and the Collateral Agreement;
 - Confusion around the bonding arrangements with the subcontractor;
 - Confusion in relation to novation; and
 - Rules around interim payments associated with Pay and Conditions.
-

⁸ This includes the specialist sub-contract form developed by the Construction Industry Federation (February 2008) for use under the Public Works Contract.

2.2 Pre-Tender Reports

Overview

Introduction

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

Purpose

The Employer will be required to include some of the reports (as background information) with the tender documentation.

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.	77
2.2.2	Archaeology and Special Interest Areas Provides advice on dealing with sensitive areas.	78
2.2.3	Site Investigation Details requirements under current contracts.	79
2.2.4	Ground Conditions Highlights some considerations for the presentation of information on ground conditions.	80
2.2.5	Utilities Describes the costs and risks associated with utilities.	81

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 (where appropriate) at its own expense.

Traditional contract

In a traditional contract, the Employer should make available in the Works Requirements detailed design information and all known factual investigation 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. As the successful tenderer 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, or through avoidance, the impact of any site-related risks.

2.2.2 Archaeology and Special Interest Areas

Expert advice

Where the works are to be located in archaeologically sensitive locations, Employers are strongly advised to seek expert advice at feasibility stage and to make contact with the National Monuments Service (NMS) of the Department of Arts, Heritage and the Gaeltacht, 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's *Framework and 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 Service
Department of Arts, Heritage and the Gaeltacht
Custom House
Dublin 1

Telephone: (01) 888 2000

Licensing/ planning requirements

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

Archaeological 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. These include but are not limited to the following:

Natura 2000 network of protected sites such as Special Areas of Conservation and Special Protection Areas. *Natural Parks and Wildlife Service*
Architectural Conservation Areas/Protected Structures. *Local Authorities*
Landscape Preservation Areas. *Local Authorities*

2.2.3 Site Investigation

Traditional contract

In traditional contracts where excavations are required, the area of the site where a structure is to be located 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 carrying out a site investigation will vary according to the geological nature of the subterranean formation on which the structure is to be built on.

Standards, staffing and supervision

All tests, technical 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 the investigation information.

Site investigations are normally carried out by specialist site investigation contractors on the basis of technical specification 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. The form of contract to be used should be the Public Works Investigation Contract (PW-CF7 or PW-CF8).**

The site investigation works should be properly supervised by the site investigation contractor in the first instance, this in addition to the Employer Representative's independent supervisory role.

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 at Appendix 3).

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.

2.2.5 Utilities

Survey results The site surveys/investigations will normally identify electricity transformers, cables and connections, gas mains and pipes, telecommunications cabling, water and waste water pipes, and rights of way to be retained. 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 (PW-CF1, PW-CF3 and PW-CF5), 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) where it is indicated whether the presence of unforeseeable utilities is to be a compensation and a delay 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.

The risk of unforeseeable utilities under PW-CF6 is retained by the Employer. Under PW-CF1 to PW-CF5 the risk of unforeseeable utilities remains with the Contractor providing an appropriate risk analysis has been undertaken and is made available to tenderers as background information.

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 risk of cost and delay for failure by the owners of utilities to relocate or disconnect the utilities is to be passed on to the Contractor. The risk of delay only is always retained by the Employer.

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.	83
2.3.2	Parent Company Guarantee Explains how and when to employ the backing of a Parent Company.	84
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.	85
2.3.4	Retention Explains how payment part of a construction Contract Sum is retained and how to use a Retention Bond.	88
2.3.5	Regulations and Model Forms Describes the regulations governing approval of bonds and where to find Model Forms.	89

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 when accepted.

A bid bond will help prevent a preferred bidder from pulling out late in the process when the remaining tenderers have moved on, leaving the Employer with the problem of having to run a new competition and the cost and delay associated with that.

However, requiring tenderers to provide 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, where required, 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 the opportunity to 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, technical capability or resources, such a guarantee should be required.

If the financial capacity, technical capability or resources of a tenderer's parent company have been taken into account in a suitability assessment 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 - see section 5.2 and Particulars of ITTW1.

How is a parent company guarantee used?

If tenderers seek to rely on their parent companies' financial standing, technical capability or 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 their own financial standing, technical capability and resources.

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

Clause 1.6 of PW-CF1 to PW-CF4 states that if a parent company guarantee is required it should be provided before the Starting Date.

Requirements

If a parent company guarantee is required, the Employer should be in possession of such a guarantee before the Starting Date. The standard letter at Annex II Appendix 2 of ITTW1 issued to tenderers should be submitted with the tender correctly executed by the parent company committing the parent company to executing the guarantee at award stage. 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 or insolvency, for losses sustained by the Employer due to non-performance by the Contractor. In essence, the guarantor undertakes to be answerable for losses (up to the limit of the Bond) 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 should generally be provided (not mandatory, depending on particular circumstances) 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 the 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 a risk assessment to determine whether the State's financial interests are adequately protected.

The bond will also cover the situation where the Contractor becomes insolvent during the Contract. Therefore it is important for the Employer to consider very carefully before deciding against requiring a bond for a project.

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 appropriate Regulatory Authority to write guarantee business in Ireland or passported into Ireland.

The performance bond provided in Model Form MF 1.6 is an agreed form which must be used when a Performance Bond is required on a project.

Continued on next page

2.3.3 Performance Bond, Continued

Claims by the Employer

Claims by the Employer arising out of termination are dealt with under sub-clause 12.2.11 of the Public Works Contract. If the Contractor fails to pay the Employer's demand for payment of such claims within 10 working days the Employer can invoke the first paragraph of Clause 1 of the Performance Bond which states:

'If the Contractor's obligation to complete the Works is terminated under clause 12.1 of the Conditions the Surety will, subject to this Bond, pay the Employer any amount for which the Contractor is liable under clause 12.2.11 of the Conditions.'

Other than termination, claims by the Employer for breach of contract shall be dealt with under Clause 10.9 of the Public Works Contracts. Once notice has been served and the Contractor's response (if any) received, such claims shall be determined in accordance with the Contract by the Employer's Representative. The Employer can offset such amounts against any amount due or likely to become due from the Employer to the Contractor from under the Contract or any other Contract. Only if there are no, or insufficient amounts due or likely to become due should the Employer invoke Clause 2 of the Performance Bond which states:

'If the Contractor breaches the Contract the Surety will pay the Employer any amount for which the Contractor is liable to the Employer as damages for breach of the Contract, as established under the Contract, taking into account all sums due to the Contractor under the Contract.'

Recommended cover

The following are the recommended levels of cover for the performance bond:

Project value (including VAT)	Performance Bond Cover Level
Less than €10m	12.5%
€10m and above	10%

Continued on next page

2.3.3 Performance Bond, Continued

Reducing cover level

It may be necessary as an exception to depart from the normal rules of complying with the recommended levels of cover referred to above. However if it is proposed to increase the level of bond from that recommended, contracting authorities must consult with the bond providers to confirm that the level sought is generally available prior to publishing the contract notice.

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 10% up to Substantial Completion and 5% for 450 days [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 remedying defects which become evident before the end of the Defects Period should the Contractor fail to rectify them. The Employer deducts from any interim payment to the Contractor the retention percentage stated in the Part 1L of the Schedule to PW-CF1 to PW-CF5. The percentage retention in the case of PW-CF6 is stated in the Schedule under Clause 4.1 and the payments arrangements in PW-CF7 and PW-CF8 are based on the completion of milestones.

Upon issue of the certificate of Substantial Completion (PW-CF1 to PW-CF6) of the works, the Contractor will invoice the Employer for half of the amount so retained. Upon the issue of the Defects Certificate (PW-CF1 to PW-CF6) 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% ⁹
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 ten working days of the issue of the Certificate of Substantial Completion, the Contractor provides to the Employer a retention bond in the form of Model Form MF 1.15 un-amended 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.

⁹ The default percentage in the Short Public Works Contract is 10%. This contract can be used on projects with a value of up to €500,000

2.3.5 Regulations and Model Forms

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 relevant Regulatory Authority to provide such bonds in Ireland.

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 *Model Forms for Public Works Contracts* (MF 1). The forms used on a particular project should be included as part of the tender documents (Works Requirements).

2.4 Insurance Provisions

Overview

Introduction Clauses 3.3 – 3.9 of PW-CF1 to PW-CF5, clause 10 of PW-CF6 and clause 12 of PW-CF7 and PW-CF8 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.	91
2.4.2	Insurance: Filling in the Schedule Details the insurance-related information included in the Schedule.	96
2.4.3	Insurance Details Details the insurance information required by the Contract.	98

2.4.1 Insurance Requirements

Summary of type

The following table summarises the insurance types:

Insurance Type	Description
Insurance of the Works and other Risk Items	The Contractor is required to take out insurance to cover the works, documents and other risk items against loss and damage. The value insured should relate to the full reinstatement cost of the property, including demolition, removal of debris, professional fees, inflation, profit, and all VAT to be paid (i.e. VAT at the reduced rate and VAT at the standard rate irrespective who is the 'principal contractor.')
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.

Continued on next page

2.4.1 Insurance Requirements, Continued

Co-insured

The Contractor's insurance (Public Liability and Employer Liability) shall name the Contractor and the Employer as co-insured. In the case of Works Insurance, in addition to the Employer being co-insured it should also allow for any person that the Employer requires to be co-insured. This means that the Employer and any other person the Employer requires (in the case of Works Insurance) as co-insured has direct access to the insurer in relation to a claim and does not have to go through the Contractor.

If the Employer requires third parties to be co-insured under the Contractor's Public Liability policy or has any other additional insurance requirement, then this must be stated in the Works Requirements in accordance with Clause 3.9.3 of the Public Works Contract.

Note The circumstances where a third party may require to be co-insured under the Contractor's Public Liability Insurance policy would be exceptional as such cover is very expensive. An example as to where this might happen could be where Iarnrod Eireann requires its parent company Coras Iompair Eireann as a third party to be co-insured on the Contractor's Public Liability Insurance on a particular rail project.

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.

Employer approval

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

Continued on next page

2.4.1 Insurance Requirements, Continued

Period of cover The following table summarises the periods of cover for which the Contractor and the Employer must maintain the different insurances.

Party	Insurance type	Required period of cover
Contractor	Works insurance	<i>From:</i> The Start Date <i>To:</i> The Date of Substantial Completion
	Employer Liability and Public Liability	<i>From:</i> The Start Date <i>To:</i> The Defects Certificate Date
	Professional Indemnity	<i>From:</i> The Start Date <i>To:</i> The 6 th anniversary of the Date of Substantial Completion (12 th anniversary if the contract is executed under seal)
Employer	Works insurance	<i>Up to:</i> The Start Date <i>and</i> <i>After:</i> The Date of Substantial Completion
	Employer Liability and Public Liability	<i>Up to:</i> The Start Date <i>and</i> <i>After:</i> The Date of Substantial Completion

Note: 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.

Continued on next page

2.4.1 Insurance Requirements, ContinuedContinued

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 provided under Professional Indemnity insurance policies. Defence costs are legal and other expenses incurred by the Employer in pursuing recovery of the costs involved in remedying the defect. 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, the requirement for such cover should be stated in the tender documents (Works Requirements) and tenderers can price this in their tenders.

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). Note that the cover available for this risk is under rectification/remediation including a reduction in the value of the property cover. Cover is available on an aggregate basis only and for relatively low limits – e.g., 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 and a minimum amount for the Works and other Risk Items to be insured should be stated. 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.

Note: It should be noted that Performance Bond MF 1.6 excludes the Surety's liability for termination solely and directly by terrorism.

Continued on next page

2.4.1 Insurance Requirements, ContinuedContinued

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 identified, 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 Employer's Representative 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.

2.4.2 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.

Exclusions from public liability policies

The Schedule allows for different levels of exclusion from the public liability policies:

The exclusion of...	Means...
1. Loss or damage due to design ¹⁰	<ul style="list-style-type: none">▪ Any loss or damage to the works, surrounding properties and consequential financial losses due to defects in design are not covered;▪ Any injury to persons due to defects in design is covered, excluding injury to employees which would be covered by employer's liability insurance.
2. Loss or damage due to design for a fee ¹¹	<ul style="list-style-type: none">▪ Any loss or damage to the works, surrounding properties and consequential financial losses due to defects in design for which the insured party has charged a fee are not covered. Conversely, loss or damage to the works, surrounding properties and consequential financial losses due to defects in design for which the insured party has <i>not</i> charged a fee are covered. <p>This exclusion is mainly applicable to Public Liability policies issued to Contractors/ Subcontractors who would not normally charge a design fee so that the design exclusion is not applicable in such cases.</p>
3. Loss or damage due to defective workmanship, materials or design but including the consequences thereof ¹²	<ul style="list-style-type: none">▪ The actual defective design element whether it be workmanship, materials or design is excluded but any consequential loss or damage including financial losses and injury to persons (other than employees) is insured.

¹⁰ This is the normal situation, most contractors' Public Liability insurance policies have this exclusion.

¹¹ If a narrower exclusion is required the insertion of 'Design for a Fee' should be considered

¹² If the design involves the Contractor engaging Consultants to whom fees are payable

Note: In considering exclusions 1 to 3 of the permitted exclusions to the Contractor's Public Liability insurance listed in the Schedule part 1D, item 2 "*Property of the Insured or in the Insured's custody or control other than existing premises and their content temporarily occupied by the Insured for the purposes of the Works*" is in **all** Public Liability Insurance. Therefore all loss or damage including design to the works during the construction period would be excluded under this exclusion. During the construction period, the Public Liability insurance covers damage to property (including financial losses) other than the works and injury to persons other than employees.

If the works involve design then the most acceptable of exclusions 1 to 3 above would be 3 followed by 2. Exclusion 1 should only be acceptable if all damage to property is covered under Professional Indemnity insurance i.e. damage to the works, damage to the surrounding properties including consequential financial losses and injury to persons other than employees.

Where an exclusion is to be omitted, the Employer must amend the relevant exclusion in Part 1D of the Schedule. The Works Requirements should bring to the 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 easily obtained, and by demanding it, they may limit the number of prospective tenderers or, depending on project size, no tender responses at all. To help avoid this happening, and if the cover is essential its availability should be researched to ensure there is an adequate number of firms who can get it at reasonable cost and also that it does not restrict real competition

Note: Contractor's and sub-contractor's Professional Indemnity Insurance should include indemnity in respect of the cost of making good the defective design element in the works, any consequential damage to the works or any other surrounding property including consequential financial losses and death or injury to persons other than employees.

The contractor and sub-contractors Professional Indemnity policy wording can vary and some wordings may only include making good the defective design element itself. Or the wording may include making good the defective design element including damage to other parts of the works. Where limited cover under Professional Indemnity insurance arises it is important to ensure that the gaps are insured under Public Liability insurance, at least for loss and damage to third party property and also for death or injury to persons other than employees.

Provided the Professional Indemnity insurance is not limited as indicated above 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.

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.

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 affected 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 (in the case of a design-and-build contract) as Project Supervisor for the Design Process¹³. The professional indemnity insurance does not cover consultants' (design liability) that have been contracted directly by the Employer.

When professional indemnity insurance is taken out by the Contractor it should include a retroactive provision with a date from when design of the works or works items started or earlier. This is particularly important in relation to design work carried out during tendering period in the case of a design-and-build project. 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 start of the design period of the project in question – to ensure continuity of cover over the prescribed six years.

Collateral warranties required from specialists should 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 specialist's insurances.

Continued on next page

¹³ For Employer-Designed contracts it should be noted that in many cases a Contractor's liabilities when acting as PSCS may be covered by the Contractor's Public Liability Insurance however this should be confirmed in each case with the Contractor's insurers.

2.4.3 Insurance Details, Continued

Professional indemnity limitations

If a Contractor is required to take out 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 conditions contractors or subcontractors are unlikely to obtain professional indemnity insurance on an 'each and every claim' basis. They will more likely be only able to get insurance on an annual aggregate limit basis during each insurance year. If this is the case 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 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.

Insuring existing facilities

Where the project involves having work carried out in the Employer's existing facilities and where clause 3.8 of PW-CF1 to PW-CF5 is applicable as shown in Schedule Part 1D i.e. the word "shall not" struck out, the Employer will be responsible for the risk of loss or damage to its existing facilities and the parts of the Works used or occupied by the Employer, and their contents from fire, storm, tempest, flood, bursting or overflowing water tanks, apparatus or pipes, explosion, impact, aircraft, riot, civil commotion or malicious damage. The Employer should ensure that these risks are covered under its own insurance policies.

Valuing Employer's facilities

The minimum value of Employer's property that the Contractor is to insure should be stated in Part1D of the Schedule issued with the Form of Tender.

Continued on next page

2.4.3 Insurance Details, Continued

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 submit their fixed price lump sum tender on the basis of excluding the cost of providing certain insurances, but should show separately as a mandatory option (see section 6.2 of ITTW1) the extra cost of providing those insurances should the Employer decide to include them in the contract. In comparing the economic benefits of owner controlled insurance at tender evaluation stage the all-inclusive costs must be considered for example some of the following may be requested by insurers offering owner-controlled insurance which could prove to be more costly than if the contractor were to provide the insurance in his tender, particularly where there is a danger of duplication.

- providing secure compounds and temporary housing to store valuable materials and plant,
 - providing security fencing around the site
 - providing security cameras
 - providing security lighting at strategic location around the site
 - providing lighting during hours of darkness
 - providing guards and guard dogs
 - maintaining fencing, lighting, cameras, temporary buildings, hard standing etc.
-

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 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 do result in an adjustment to the Contract Sum and may give rise to a delay event as opposed to delay events on their own 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	Delay and Compensation Events How to define events, and plan for management of the risk and compensation associated with risk realisation.	102
2.5.2	Weather Events in Public Works Contracts Describes how weather events are defined and dealt with in the public works contracts.	105
2.5.2	Price Variation How to define price variation and plan for management of the risk and compensation associated with risk realisation.	111

2.5.1 Delay and Compensation Events

Identifying compensation events

If a compensation event, as listed in the Contract, occurs in the course of the project, there will 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).
-

Delay events in 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.
-

Delay events in 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 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 hourly rates and percentages are to be submitted by tenderers for the purpose of valuing compensation events, as follows:

- Hourly rates for craftspeople, general operatives and apprentices (and possibly other categories);
- Percentage additions to cost of materials; and
- Percentage addition or deduction to cost of plant.

Tendered daily rates for delay may also be sought by an Employer in tender documents

Evaluating rates for compensation events

The hourly rates to value the labour element in a compensation event (when so decided by the Employers Representative to value the compensation event in this way) should be the appropriate tendered hourly rates which should not be less than 75% of the wage rates provided by the Registered Employment Agreements (REAs), or the National Minimum Wage, whichever is applicable at the Designated Date.

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 underestimated, there is a risk of exploitation by the tenderers. If they are overestimated, 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 Delay and Compensation Events, Continued

Zero tendered rates

Where the successful Contractor has not included an hourly rate for labour or percentage additions for plant and materials in his tender submission (and where the tender documents expressly indicate that these were required), the Contract allows the Employer Representative to conclusively decide how a change order which gives rise to a compensation event is to be valued under the Contract. Furthermore, in relation to an un-priced hourly rate for labour the default of 75% of the REAs rate at the Designated Date is to apply.

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 also to be tendered for general operatives.

Note: See the Tender Evaluation Example on page 148.

2.5.2 Weather Events in Public Works Contracts

Introduction

The reference in the Public Works Contracts (PW-CF1 to PW-CF5 - Schedule Part 1K) to weather measurements ‘... *as determined by Met Éireann and published most recently...*’ is the data published in this document. This data supplied by Met Éireann for publication is being published under the CWMF and it relates to the 90th percentile of past weather measurements for each month of the year measured at a particular location. This data will be reviewed periodically; however the frequency of such reviews will be at intervals of not less than five years and any Met Éireann updates will be published by way of revision to the document titled *Weather Event WE 1.0* which is part of the CWMF.

Weather Event

A weather event under the Public Works Contracts is an event that, provided certain conditions are met, can allow a contractor extra time (arising out of delay due to bad weather) to complete the construction of a project without liquidated damages being deducted from the contractor’s payments because of the delay.

Established 90th percentile weather thresholds for each month at particular weather stations based on historical data by Met Éireann for the three weather events identified in Schedule Part 1K of PW-CF1 to PW-CF5¹⁴ should be gauged against the contract **weather measurements for a month** to determine if relief for extra time is to be allowed.

For extra time to be considered the 90th percentile for a particular event for a month will need to exceed the **weather measurement for a month** in the contract.

The three events and the weather measurements for a month in the contract are:

- The number of days with rainfall exceeding 10mm;
- The number of days with a minimum air temperature less than 0^o Celsius; and
- The number of days with maximum mean 10-minute wind speed exceeding 15 metres per second.

The weather station that applies to a particular contract is indicated in Part 1 K of the Schedule to the Contract.

The tables that follow here show the thresholds for air temperature, precipitation and wind speed. It is envisaged that the three weather events referred to above will be the norm on most projects and that the thresholds in the tables that follow relate to those events; however, additional weather measurements may be added to this list for particular projects, if required.

Continued on next page

¹⁴ The same weather events are referred in Clause 2.8 of PW-CF6, and Clause 4.6 of PW-CF7.

2.5.2 Weather Events in Public Works Contracts, Continued

Met Éireann's calculations

The thresholds indicated in the tables below (from page 108) are derived by Met Éireann from historical data and are 90th percentile figures for each of the measurements in question.

The definition of the 90th Percentile is: ***The 90th Percentile is the lowest value which has 90% of the sample less than or equal to it.***

In other words, this may be understood as expressing the notion that a given value was unusual in a 1-in-10 sense, based on actual historical weather conditions.

The 90th percentile for a data series can be calculated as follows.

1	Given N sample of years
2	Order the data from lowest to highest for the sample.
3	Multiply N (the number of samples – years in this case) by 0.9. If this produces a whole number, the value corresponding to that number in the order is the 90 th percentile. If $0.9 \times N$ has a fractional part (as only whole numbers are possible), then the calculation will be by linear interpolation between the two nearest whole numbers selecting the lowest whole number that has 90% of the sample less than or equal to it.

Continued on next page

2.5.2 Weather Events in Public Works Contracts, Continued, Continued

Met Éireann's calculations (continued)

As an example, look at *Days with rainfall > 10mm for March* at Valentia, for which there is data going back 67 years. In this case the data is sorted from lowest to highest – i.e. from **0** (the lowest) to **11** (the highest number of days with rainfall in excess of 10mm). So $N = 67$, and $0.9 \times N = 60.3$.

The figure 60.3 falls between 7 and 8 days (i.e. between the 58th and 65th percentiles); so 8 is the lowest whole number which has 90% of the sample lower than it.

Rainfall exceeded 10mm on this number of days...	In this number of years...	Subtotals*	Percentile
0	8	8	12
1	10	18	27
2	13	31	46
3	7	38	57
4	7	45	67
5	5	50	75
6	5	55	82
7	3	58	87
8	7	65	97
9	0	65	97
10	0	65	97
11	2	67	100

*These are cumulative subtotals for the number of years with less than or equal to the number of days with rainfall in excess of 10mm.

In this table, **7** days is in the 87th percentile, which is not sufficient for our purpose. But **8** days brings us over the 90% threshold – if March has 8 or more days of high rainfall, it would be considered unusual, as this has historically occurred in fewer than 1 in 10 years.

Continued on next page

2.5.2 Weather Events in Public Works Contracts, Continued, Continued

Air temperature thresholds

The following table shows the number of days on which the air temperature must fall below 0° Celsius (at named weather stations) in order for a weather event to be deemed to have occurred. For each contract (PW-CF1 to PW-CF5)¹⁵, part 1K of the Schedule indicates the weather station whose measurements apply.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ardee (Boharnamoe)	17	17	13	10	6	0	0	0	2	6	11	15
Ardfert (Liscahane)	11	12	6	6	1	0	0	0	0	2	6	10
Ardtarmon	7	7	5	1	0	0	0	0	0	0	1	6
Ballincurrig (Peafield)	10	10	6	6	0	0	0	0	0	1	4	8
Ballyshannon	13	12	7	4	1	0	0	0	0	1	5	9
Belmullet	9	9	5	2	0	0	0	0	0	0	3	6
Birr	15	16	13	8	3	0	0	0	1	4	11	13
Carron	11	10	6	3	0	0	0	0	0	2	4	8
Casement Aerodrome	14	14	11	8	3	0	0	0	0	4	11	11
Connemara Nat. Park	6	7	5	2	0	0	0	0	0	0	2	7
Cork Airport	11	9	7	4	0	0	0	0	0	0	6	8
Derrygreenagh	20	17	13	8	4	0	0	0	1	5	12	16
Dublin (Merrion Square)	5	8	3	1	0	0	0	0	0	0	3	5
Dublin (Phoenix Park)	17	16	12	8	2	0	0	0	0	3	10	13
Dublin Airport	15	14	10	4	1	0	0	0	0	1	7	10
Dungarvan (Carriglea)	12	13	8	6	1	0	0	0	0	3	8	10
Fermoy (Moore Park)	16	13	10	8	3	0	0	0	1	4	10	14
Fethard (Parsonshill)	15	14	11	6	1	0	0	0	0	2	6	11
Galway (Univ.Coll.)	10	11	7	2	0	0	0	0	0	2	5	10
John F. Kennedy Park	11	12	7	5	1	0	0	0	0	1	6	10
Johnstown Castle	8	9	6	3	0	0	0	0	0	0	3	7
Knock Airport	12	9	8	5	0	0	0	0	0	0	2	11
Maam Valley	8	9	5	3	0	0	0	0	0	1	4	6
Malin Head	7	7	4	1	0	0	0	0	0	0	1	3
Mount Russell	8	11	7	4	1	0	0	0	0	1	4	11
Mullingar	17	19	13	8	1	0	0	0	0	5	10	16
Shannon Airport	13	15	8	3	1	0	0	0	0	2	8	10
Sherkin Island	7	5	3	1	0	0	0	0	0	0	1	4
Straide	13	16	9	5	3	0	0	0	1	5	11	11
Valentia Observatory	7	8	5	1	0	0	0	0	0	0	3	7
Warrenstown	17	16	9	5	1	0	0	0	0	3	9	13
Waterford (Tycor)	10	12	7	4	0	0	0	0	0	0	5	9

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¹⁵ See Clause 2.8 of PW-CF6 and Clause 4.6 of CW-PF7

2.5.2 Weather Events in Public Works Contracts, Continued, Continued

Precipitation thresholds

The following table shows the number of days on which precipitation must exceed 10mm (at named weather stations) in order for a weather event to be deemed to have occurred. For each contract, (PW-CF1 to PW-CF5)¹⁶, part 1K of the Schedule indicates the weather station whose measurements apply.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ardfert (Liscahane)	9	6	4	3	5	3	4	5	6	8	7	9
Ardtarmon	5	4	3	3	5	4	3	5	4	8	5	6
Ballincurragh (Peafield)	9	6	5	5	5	6	4	7	8	8	6	7
Ballygar	6	5	3	3	4	3	3	4	5	7	6	8
Ballyshannon	6	5	4	2	3	3	5	5	6	6	5	7
Belmullet	7	4	4	3	3	3	4	5	6	6	6	7
Birr	4	3	2	3	3	4	3	4	4	6	4	4
Carron	10	9	8	5	6	5	4	8	7	10	8	12
Casement Aerodrome	3	3	2	2	3	3	2	4	3	4	3	4
Connemara Nat. Park	9	9	7	6	7	5	5	9	7	10	9	11
Cork Airport	9	8	6	4	5	5	4	6	6	7	7	8
Derrygreenagh	4	3	3	3	3	3	4	4	4	5	4	5
Dublin (Merrion Square)	3	3	2	3	3	4	3	3	4	4	4	4
Dublin (Phoenix Park)	3	3	3	2	3	3	3	4	3	4	4	4
Dublin Airport	4	3	3	3	3	3	3	4	5	4	4	4
Dungarvan (Carriglea)	9	6	5	5	5	5	5	7	6	8	8	8
Fermoy (Moore Park)	7	4	5	3	4	3	4	4	6	6	5	6
Fethard (Parsonshill)	4	3	3	3	4	5	3	6	5	6	5	6
Galway (Univ.Coll.)	7	5	5	4	5	4	4	5	6	8	7	8
John F. Kennedy Park	6	5	4	4	5	5	4	5	6	7	7	7
Johnstown Castle	8	5	4	4	4	4	4	5	6	7	7	6
Knock Airport	7	8	6	5	5	4	6	6	8	7	6	9
Maam Valley	18	16	13	9	10	9	8	13	11	14	16	17
Malin Head	5	4	3	3	3	4	4	4	5	6	6	6
Mount Russell	6	5	4	4	5	4	4	6	7	8	6	8
Mullingar li	5	4	4	3	4	4	4	4	4	5	4	6
Shannon Airport	5	4	3	3	3	4	3	4	5	5	5	6
Sherkin Island	7	6	6	5	6	3	4	5	6	7	7	8
Straide	9	7	5	3	5	3	2	5	5	7	7	8
Valentia Observatory	9	8	8	5	6	5	5	6	8	9	9	9
Warrenstown	4	4	3	3	3	5	3	4	4	5	4	5
Waterford (Tycor)	7	5	5	5	4	4	3	5	5	6	6	6

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¹⁶ See Clause 2.8 of PW-CF6 and Clause 4.6 of CW-PF7

2.5.2 Weather Events in Public Works Contracts, Continued, Continued

Wind speed thresholds

The following table shows the number of days on which 10-minute wind speed must exceed 15 m/sec (29.16kt) (at named weather stations) in order for a weather event to be deemed to have occurred. For each contract (PW-CF1 to PW-CF5)¹⁷, part 1K of the Schedule indicates the weather station whose measurements apply.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Belmullet	16	15	13	7	6	4	2	4	7	10	12	13
Birr	3	2	1	0	0	0	0	0	0	0	1	2
Casement Aerodrome	13	12	11	3	3	1	1	2	4	8	9	11
Cork Airport	11	9	7	4	2	1	0	2	3	6	7	8
Dublin Airport	9	7	6	3	2	1	1	1	2	4	5	7
Knock Airport	6	9	3	2	1	0	0	0	1	3	3	5
Malin Head	23	22	20	12	9	6	5	7	13	17	20	21
Mullingar II	4	3	2	2	1	0	0	1	1	2	1	3
Shannon Airport	10	8	6	5	3	2	1	2	4	4	5	8
Valentia Observatory	10	7	6	4	2	1	0	1	2	5	7	9

¹⁷ See Clause 2.8 of PW-CF6 and Clause 4.6 of CW-PF7

2.5.3 Price Variation

Adjustment to the Contract Sum for changes in cost in Contracts PW-CF1 to PW-CF4

The Contracts PW-CF1, PW-CF2, PW-CF3 and PW-CF4 must indicate the method to be used to calculate adjustments to the Contract Sum for changes to the cost of labour and materials that may arise and which are allowable under the Contract. The options to choose from are detailed in the Price Variation clauses attached to the contract:

- **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. The difference if any in excess of 10% of normal inflation for materials is added to the Contract Sum and paid to the contractor. An increase in the cost of labor involves an increase in the Registered Employment Agreement hourly labor rate after the Base Date which is applied to hours worked after the Base Date to determine the amount to be added to the Contract Sum and paid to the Contractor.
- **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*. A similar formula is used to determine permitted labour increases using the difference between the Registered Employment Agreement (REA) hourly rate at the Base Date and the current REA rate.

For both PV1 and PV2, permitted increases¹⁸ applied to the 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 (PW-CF1 to PW-CF4), 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 relevant percentages and weightings in Appendices 7 and 8 attached to the Form of Tender and Schedule (*FTS 1 to FTS 4*).

Note: See 3.5 Calculating Price Variation on page 214 for details of how to apply price variations.

Continued on next page

¹⁸ 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.

2.5.3 Price Variation, Continued

Adjustment to the Contract Sum for changes in cost in Contract PW-CF5

In the case of Contract PW-CF5 (Minor Works), there is no choice in relation to the method used to calculate increases in the cost of labour and materials that are allowable under the Contract.

The method that applies is PV1.

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 price under an open or restricted procedure is ruled out. This includes negotiating the buyout of price variation after the Base Date (i.e. to define the cost of the recovery of labour and material increases that occur after the Base Date).

Furthermore, such negotiations would conflict with both the Government's objectives of fixed-price lump-sum contracts tendered for on a competitive basis (i.e. to bring about a situation where the tendered price and the final outturn cost are almost exactly the same), and also with 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 exceptional material increases (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 being used – the following table illustrates the variation in the two approaches:

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

Continued on next page

2.5.3 Price Variation, Continued

Inflation risk borne by the Contractor (continued)

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).
-

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 ($36 - 6 = 30$). However, if the planned lead-in time is extended by three months (to nine months) due to a delay by the Employer in awarding the Contract, the actual fixed-price period applying during project execution is reduced by three months to 27 months ($36 - 9 = 27$).

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 (within reason) 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 the cost increases they expect 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 fixed-price period can be achieved.

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; all projects, however, 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.

Continued on next page

2.5.3 Price Variation, Continued, Continued

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. For more detail, see 3.5 Calculating Price Variation see page 214.

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 and 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:

- 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 as the Contractor should have included for them in his tender.

Note: If impending legislation is going to increase the cost of the project and legislation is referred to in the tender documents it would be good practice to ensure, prior to award of the contract, that the preferred Contractor is fully aware of the implications and that this is recorded in minutes and included in as part of the contract documents..

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2.5.3 Price Variation, Continued, 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 Form of Tender and Schedule issued as part of the tender documents should include the two appendices from the Contract, appropriately filled in:

- **Appendix 7, *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 8, *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 Particulars under section 2.2 of Instructions to Tenderers (*ITTW1 and ITTW2*). The completed appendices 7 and 8 should be attached to the Form of Tender and Schedule (*FTS1 to FTS 4*).

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 3A¹⁹ 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

¹⁹ Detailed Wholesale Price Indices (excluding VAT) for Building and Construction Materials.

2.5.3 Price Variation, Continued, 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 8 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.

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2.5.3 Price Variation, Continued, Continued

Offer period in Standard Form of Tender

The following text, which is included in the Form of Tender (FTS-1 – FTS-4) is relevant irrespective of which price variation method is used:

‘In consideration of your providing us with the contract documents, we agree not to withdraw this offer until the later of:

- (a) 180 days after the end of the last day for submissions of this Tender*
- (b) expiry of at least 21 days written notice to terminate this tender given by us, which may not issue prior to the expiry of the period at (a).*

Your acceptance of this Tender within that time will result in the Contract being formed between us’

The first time limit ((i) above) usually defines 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.

The second time limit ((ii) above) 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.

2.6 Preparing to Invite Tenders

Overview

Introduction The following section summarises what the Employer has to do before publishing the Invitation to Tender with the Instructions to Tenderers (*ITTW1*, *ITTW2*, *ITTW3*, *ITTW4* and *ITTW5*).

Purpose Decisions taken in relation to the Invitation to Tender and in the Instructions to Tenderers will dictate the form of tender (*FTS 1* to *FTS 8*) 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.	119
2.6.2	Completing the Schedule Details how to fill in the Schedule.	123
2.6.3	Prescribing the Content of the Pricing Document Covers issues that you need to consider when setting out the Pricing Document.	126
2.6.4	Assembling the Invitation to Tender Summarises what is required and how to check before release.	127

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 approach allows maximum flexibility for integration of design with construction to create innovative solutions that tenderers can propose in their tender submissions.

Under this approach, statutory approval will not have been obtained by the time tenders are submitted. In such a situation, 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 a number of other 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 greater scope for positive integration of design with construction methods, techniques and resources;
 - Reduces the time scale to go to the market;
 - Provides a greater degree of cost certainty at award stage;
 - Provides greater certainty of time and outturn cost at award stage;
 - Obliges the Contractor to ensure fitness for purpose; and
 - Removes the Employer from any disputes between designers and the Contractor.
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2.6.1 Compiling the Works Requirements, Continued

Specimen design and outline specification

As an alternative to the ideal design-and-build approach, the Employer's designers could develop an outline design, which could be included in the tender documents either as background information or as contract design documents. These outline designs would only become novated design documents if the Employer's designers were also novated to the appointed Contractor.

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 becomes a contract design document.

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. The specimen design will also give tenderers an insight into what the Employer has in mind as a solution.

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 (if directional), but it has the negative effect of restricting a contractor's input to design;
 - It takes longer to get to the market. However, it is still considerably shorter than the traditional approach;
 - There is a greater possibility of the tenderers interpreting the brief correctly;
 - 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.
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2.6.1 Compiling the Works Requirements, Continued

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 and Instructions to Tenderers are issued. **Appendix B** (page 238) 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.

Clause 2.3 in the Public Works Contracts (PW-CF1 to PW-CF5) deals with Consents that the Employer has obtained, leaving the rest for the Contractor to obtain. If the successful tenderer in the case of a design-and-build building project is required to obtain Planning Permission, the Works Requirements should detail this requirement clearly and should specify that attendance at oral hearings, and all costs, fees and documentation associated with obtaining planning permission, including any appeals to an Bord Pleanála, are at the contractor's risk and that the contractor should tender accordingly.

Bill of Quantities in relation to Works Requirements

If a Bill of Quantities is to be used as a Pricing Document and is also included as part of the Works Requirements (for the purpose of specification information), then it is important to state this clearly in the tender documents. For example, this could be done by supplying two copies of the Bill of Quantities, one marked 'Pricing Document', the other marked 'Document "1" of Works Requirements'.

When a Bill of Quantities is included in the Works Requirements, as a general rule the quantities should be deleted.

Continued on next page

2.6.1 Compiling the Works Requirements, Continued

Value engineering proposals

In the case of traditional contracts, it may be appropriate in some cases 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 that 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 variants shown separately.

The tender documents must make it clear that the Contractor would be responsible for the design element of any pre-award value-engineering proposal accepted by the Employer. Furthermore, any proposal would have to be fully developed when tenders are being 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 in that the price offered for the variant may be higher than the approved budget on the basis that the proposal achieves greater long term savings. The prime objective for the value engineering proposal under the contract is to reduce cost (without a reduction in quality, standard or functional requirements) or to accelerate the execution of the works (see Clause 4.8.1 PW-CF1 and PW-CF3).

Note: For more information on value engineering proposals, see 3.1.4 Value Management on page 159.

2.6.2 Completing the Schedule

Schedule Part 1 The Employer must complete **Part 1** of the Schedule and include it with the
of PW-CF1 to Invitation to Tender.
PW-CF5

Schedule Item		Completed by Employer
A	Employer's Representative (ER) 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 get notices.
	Employer's Representative	Name and contact details for the Employer's Representative
	Limitations on ER's authority	List of limitations to the ER's authority.
B	Documents:	
	Works Requirements	Identifying details (for example, title, date, unique n°).
	Pricing Documents <i>Methods of measurement: (Dept of Finance approved amendments must be included with the tender documents – see Appendix D)</i>	Identifying details (for example, title, date, unique n°). Where Bill of Quantities is used, select from: <ul style="list-style-type: none"> Agreed Rules of Measurement 4 (ARM4 with Supplement 1 to ARM4 and Supplement 2 to ARM4 (if applicable)); 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	Works Proposals	The reason the space for Works Proposal is located in Part 1 and not Part 2 of the Schedule is because it allows the Employer insert headings and restrictions in relation to what the tenderer can and cannot include in the Works Proposals.. At tender stage the Schedule attached to the Form of Tender before issue is filled in by the Employer and should include the headings, restrictions and type of material which will be accepted as Works Proposals. Tenderers will also have to fill in this space with details of their actual proposals.
	Project Supervisor	Specifies if the Contractor is going to fulfil the role of Project Supervisor for the Construction Stage.

Continued on next page

2.6.2 Completing the Schedule, Continued

Schedule Item		Completed by Employer
D	Insurance	<p>For details see Section 2.4 above.</p> <p>Employers should obtain advice (from experienced construction insurance consultants, or from the Employer's normal insurers or experts nominated by them or by the construction consultants) in completing this item.</p> <p>Relates particularly to permitted exclusions, minimum indemnity limits and maximum excess limits.</p>
E	Performance Bond	Specifies whether or not a performance bond is required.
F	Collateral Warranties	State details of any collateral warranties required including the amounts to be retained if these are not provided by Contractor in time.
G	Dates for Substantial Completion etc.:	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 Date. Employers can also give dates for Sectional completion. The reduction in the level of retention at substantial completion may also be stated.
	Rate of 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.

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2.6.2 Completing the Schedule, Continued Continued

Schedule Item		Completed by Employer
K	Delay Events etc	Specify whether or not optional events are to be regarded as compensation events.
	Bill of Quantities [where they are used] (17)	Indicates whether or not quantity errors in the Bill of Quantities may be compensation events. The default is ‘no’ which puts the balance of risk for errors with the Contractor.
	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.
	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 a delay caused by compensation events: <ul style="list-style-type: none"> ▪ Is equal to or less than the first threshold, the Contractor is not entitled to any time extension. ▪ Exceeds the first threshold but is less than or equal to the first threshold plus twice the second threshold; then the delay minus the second threshold by half is the time allowed for the extension ▪ Is above the sum of the first threshold and twice the second threshold; then the Contractor is entitled to a time extension that is equal to the delay minus the first threshold minus the second threshold.
	Delay costs etc.	For clause 10.7, select the single daily rate or separate rates for different parts of the implementation stage of the Works. Default is a single rate.
	Definition of craftspersons	Add any additional categories relevant to part 2D.
	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%.

Continued on next page

2.6.2 Completing the Schedule, Continued Continued

Schedule Item	Completed by Employer
M Price Variation	<ul style="list-style-type: none"> ▪ PW-CF 1 to PW-CF4: state which price variation method is to be used, PV1 or PV2. The default is PV1. ▪ PW-CF5: there is no choice and PV1 applies. <p>Note: In the case of PW-CF6: there is no price variation clause included in the contract and therefore price variation cannot be recovered. This is because PW-CF6 is to be used for short term projects with duration of less than 36. Also in the case of PW-CF7 and PW-CF8: there is no price variation clause included in these contracts and therefore recovery of price variation is not permitted.</p>
N Conciliation and Arbitration	<p>Enter the name of the organisation to appoint the conciliator and arbitrator in the absence of agreement. The person listed must be one of the following:</p> <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).
O Rights in Contractor's Documents	<p>Option to select whether ownership (copyright) does or does not transfer to Employer in accordance with sub-clause 6.4; defaults to 'does not'.</p>

2.6.3 Compiling the Content of the Pricing Document

Overview

The Employer needs to be able to compare competing tenderers' prices on a like for like basis, and central to this is the use of a Pricing Document. For that reason, the Employer needs to give very careful consideration to what is to be included in the Pricing Document.

Pricing Document

The Pricing Document enables the Employer to prescribe to prospective tenderers how they should break down their tendered lump-sum price. The different forms of contract have different requirements in relation to the Pricing Document, these as set out in the following table:

PW-CF1 to PW-CF5	<p>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.</p> <p>The Pricing Document issued to tenderers should be clearly labelled 'Pricing Document' so that it or any part of it cannot be not confused with other contract or non-contract documents, particularly the Works Requirements</p>
PW-CF6, PW-CF7 and PW-CF8	<p>There is no reference to a Pricing Document in the Contract Conditions for PW-CF6, PW-CF7 or PW-CF8. However, a document with the same or a similar function could be included as one of the contract documents specified under clause 1.3 (for PW-CF6) or clause 1.1 (PW-CF7 or PW-CF8) in the Schedule.</p>

Compiling the Pricing Document

The Pricing Document required (for PW-CF1 to PW-CF5) 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 may include one or more constituent documents that are bound together. It must be clearly labelled 'Pricing Document' so that it or any part of it cannot be not confused with other contract documents, particularly with the Works Requirements. The *primary pricing document*²⁰ (which must be part of the labelled 'Pricing Document') may be one of the following:

- A comprehensive and fully measured list of quantities and specifications drawn up in a formal Bill of Quantities; tenderers can then insert their rates against the categories specified by the Employer (this is appropriate for Employer-designed contracts only); or.
 - A multiple-page tender cost analysis detailing how the tender price is to be broken down – the Employer should follow best practice in specifying the headings under which price details are to be presented; or
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²⁰ This title is given to the document to distinguish it as the principal document in the Pricing Document, particular where there is more than one document in the Pricing Document such as a Bill of Quantities (the *primary pricing document*) and a Schedule of Rates as a separate document.

2.6.3 Compiling the Content of the Pricing Document Continued

Compiling the Pricing Document (continued)

- A single page *primary price document* on which the tenderer can enter the fixed-price lump-sum with some additional details of the amount broken down under a number of main headline headings; or
- Any other detail or format that the Employer requires tenderers to provide in relation to the proposed works.

The Employer should also include full instructions to tenderers on how to break down the price in the *primary pricing document*.

Works Requirements, the Pricing Document and the Schedule of Rates

The *primary pricing document* must not include items that are not in the Works Requirements.

For items that are not included in the Works Requirements and for which tender rates are required, the Employer may include a separate Schedule of Rates document which should be included with the Pricing Document, but clearly separate from the primary pricing document. Furthermore, the tendered price that is brought forward to the Form of Tender must be the total drawn from the *primary pricing document* and must not include any prices drawn from the Schedule of Rates. See **Schedule of Rates** on page 134 for more information.

Single page primary price document on design-and-build projects

The single page *primary price document* should only arise on design-and-build contracts in very 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 (PW-CF2 and PW-CF4 in both cases).

Also, in the case of bankruptcy, termination or where a performance bond is involved, it becomes very difficult to value the work done with any degree of accuracy in the absence of sufficient cost detail, and this can lead to disputes.

Continued on next page

2.6.3 Compiling the Content of the Pricing Document Continued

Role / Functions of the Pricing Document

A Pricing Document fulfils the following functions:

1	It provides details of the tenderers' pricing strategy, which helps determine the adequacy of a tender at tender evaluation stage.
2	It provides detailed unit costs (as appropriate) that can be used to determine the value of changes to the Works Requirements ordered after contract award through the issue of instructions by the ER. These instructions give rise to <i>compensation events</i> or other cost adjustments to the Contract Sum that are permitted under the contract, and are covered by clause 4.4 of PW-CF1 to PW-CF5, clause 3.5 of PW-CF6, or clause 2.1 of PW-CF7 and PW-CF8.
3	<p>It provides detailed unit costs that can be used to determine the value of construction work complete at any particular point during the construction stage which can be used to establish:</p> <ol style="list-style-type: none">1. The value of interim payments;2. The amount due to a receiver or liquidator arising out of bankruptcy of the contractor;3. The amount due to a contractor arising out of termination;4. The value of the work complete under the contract where a Performance Bond has been called in; and5. The amount due to a contractor in the final account.
4	It enables cost information to be captured in a format that facilitates the Project Review stage.

Pricing information and PW-CF6 to PW- CF8

There is no reference to a Pricing Document in the Contract Conditions for PW-CF6, PW-CF7 or PW-CF8. However, a document with the same or a similar function could be included as one of the contract documents specified under clause 1.3 of the Schedule (for PW-CF6) or clause 1.1 of the Schedule (for PW-CF7 and PW-CF8).

Certainly the words '*using rates and prices in this Contract*' in clause 4.5 (PW-CF6) and clause 7.5 (PW-CF7 and PW-CF8) creates the expectation that such a document will be included among the contract documents.

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2.6.3 Compiling the Content of the Pricing Document Continued

Using a Bill of Quantities (PW-CF1 to PW-CF5)

A Bill of Quantities is a document that describes and quantifies the work to be undertaken in the carrying out of a particular project in accordance with a standard method of measurement (amended where necessary to suit public works contracts). The Bill of Quantities provides work descriptions and quantities against which tenderers can enter prices, and so arrive at a lump-sum fixed-price tender.²¹ The use of a Bill of Quantities helps to ensure a good response to the tender competition.

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 PW-CF1, PW-CF3 and PW-CF5 forms of contract.

Quantity errors and compensation (Employer-designed contracts)

The Pricing Document is always a Contract document and in the case of Employer-designed contracts (PW-CF1, PW-CF3 and PW-CF5), a Bill of Quantities is normally provided as the *primary pricing document*. In such situations the Employer specifies whether or not errors in quantity are to be compensation events by entering either **yes** or **no** in the Schedule Part 1K, item 17 (Compensation column). **No** is the default if there is no entry.

No in Schedule 1K, 17	Yes in Schedule 1K, 17
<p>Where no is inserted in the Schedule Part 1K (item 17) under Compensation Event, quantity errors in the Bill of Quantities are not compensation events.</p> <ul style="list-style-type: none">▪ This has the effect of preventing the Employer from activating clause 10.9 of the Contract (Employer's claims) in relation to quantity errors.▪ Neither is the Contractor empowered to activate clause 10.3 (Contractor's Claims) in relation to quantity errors.	<p>Where yes is inserted in the Schedule Part 1K (item 17), under Compensation Event, quantity errors in the Bill of Quantities (where one is provided as a Pricing Document) may be compensation events (if the error is greater than the €500 threshold referred to in the Schedule for each item).</p>
See the 'No' and 'Yes' scenarios on the following pages.	

Note: A measurement error in the Bill of Quantities that makes its provision (i.e. quantities) different from that in the Works Requirements must not be confused with the concept of 'provisional quantities', which the Contract does not allow for.

Continued on next page

²¹ Formerly, a Bill of Quantities could include a provision 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 practices now obsolete.

2.6.3 Compiling the Content of the Pricing Document Continued

Quantity errors and compensation: 'No' Scenario

The following table presents some scenarios where there is a **No** entry in Part 1K of the Schedule.

Scenario	Outcome
<ul style="list-style-type: none">Works Requirements require 500m of timber skirting;Bill of Quantities includes 50m at a rate of €18/m for skirting and painting. <i>Value of omission is €8,100</i>	<ul style="list-style-type: none">Contractor is obliged to provide the skirting as per the Works Requirements.No adjustment of the Contract Sum in respect of omission. The Contractor is not compensated
<ul style="list-style-type: none">Works Requirements require 500m of timber skirtingBill of Quantities includes 550m at a rate of €18/m for skirting and painting. <i>Bill of Quantities is overpriced by €900</i>	<ul style="list-style-type: none">No adjustment of the Contract Sum in respect of over measurement; The Employer is not compensated;
<ul style="list-style-type: none">Works Requirements makes no reference to timber skirtingBill of Quantities includes 550m at a rate of €18/m for skirting and painting. <i>Bill of Quantities is overpriced by €9,900</i>	<ul style="list-style-type: none">During construction, the ER decides that that skirting is required, and raises a change order for timber skirting which is valued in accordance with clause 10.6.The contract sum is adjusted upwards. The Contractor is compensated.

Continued on next page

2.6.3 Compiling the Content of the Pricing Document Continued

Quantity errors and compensation: 'Yes' Scenario

The following table illustrates presents some scenarios where there is a **Yes** entry in Part 1K of the Schedule.

Scenario	Outcome
<ul style="list-style-type: none"> Works Requirements require 500m of timber skirting; Bill of Quantities includes 50m at a rate of €18/m for skirting and painting. <i>Value of omission is €8,100</i>	<ul style="list-style-type: none"> Amount involved is more than €500 so compensation mechanism triggered (clause 10.6) The Contractor gives notice (10.3) ER notifies Contractor in accordance with 10.5.1 Work valued in accordance with 10.6.1. The Contractor is compensated
<ul style="list-style-type: none"> Works Requirements require 500m of timber skirting Bill of Quantities includes 550m at a rate of €18/m for skirting and painting. <i>Bill of Quantities is overpriced by €900</i>	<ul style="list-style-type: none"> Amount involved is more than €500 so compensation mechanism triggered (clause 10.9). The Employer gives notice (10.9). ER notifies Contractor in accordance with 10.5.1. Work valued in accordance with 10.6.1. The Employer is compensated
<ul style="list-style-type: none"> Works Requirements require 500m of timber skirting; Bill of Quantities includes 520m at a rate of €18/m for skirting and painting. <i>Bill of Quantities is overpriced by €360</i>	<ul style="list-style-type: none"> No entitlement to recover the cost from the Contractor The Employer is not compensated: Amount involved is less than €500 so compensation mechanism not triggered.

Change orders and adjustments to the Bill of Quantities (PW-CF1 to PW-CF5)

Where the ER issues a change order (under clause 4.4 of PW-CF1 to PW-CF5) that involves a change to the Works Requirements, and where such a change is a compensation event, there may be a concomitant adjustment in the relevant provisions in the Bill of Quantities. Such adjustments must be valued using the appropriate valuation methods permitted under the contract (clause 10.6).

Note, however, that it is not permitted to change any quantity in the Bill of Quantities independently of a change in the Works Requirements. In other words, there is no provision for the issue of a change order that has as its sole purpose a change in quantities.

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2.6.3 Compiling the Content of the Pricing Document *Continued*

Bill of Quantities for PW-CF6

In the case of PW-CF6 a Bill of Quantities may be provided as a tender document or tenderers may be required to prepare one as part of their tender submission but in either case it should not be included as a contract document as this form of contract does not have the risk transfer option or the threshold mechanism that exists in the main forms of contract.

During the tender evaluation stage the submitted Bill of Quantities, whether prepared by the Employer or tenderer, are checked to ensure that the prices and rates are not abnormally low or high so as to benefit the tenderer disproportionately from any Compensation Event and to avoid a situation where a disproportionate amount of the contract sum is paid over in the early stage of the Contract. Rates that are believed to leave the Employer exposed to these risks should be queried with the tenderer and an adjustment sought. If the tenderer refuses to agree then the Contracting Authority should take this into account in their decision to award a contract.

Once the evaluation stage is complete and the rates provided are deemed to be satisfactory then the rates and prices in the pricing document (subject to any necessary adjustments to the rates and prices carried out in accordance with Section 6 of the Instruction to Tenderers (ITTW4 or ITTW5)) may be included in the Contract Documents. The entry against clause 1.3 of the Schedule to the Contract will then identify the Rates and Prices in the identified pricing document as forming part of the Contract. However the quantities and descriptions in the pricing document identified are at the Contractor's risk, do not form part of the description of the Works in the Contract and will not fall within the definition in clause 4.4 of the Conditions of what may give rise to a Compensation Event.

Bill of Quantities for PW-CF7 and PW-CF8

In the case of the investigation contracts (PW-CF7 and PW-CF8), quantities are the Employer's risk and the Employer must bear the full risk of any error or change in measurement.

Changes in the Bill of Quantities arising from instructions

Because the quantities in the Bill of Quantities are included in the Scope of the Contract (under clause 1.1 in the Schedule), the ER may issue an instruction that has as its sole purpose to change the quantities in the Bill of Quantities. This entitles the Employer or Contractor to the adjustment under the terms of the contract valued in accordance with the Conditions.

Such an instruction is permissible under PW-CF7 and PW-CF8, but **not** under PW-CF1 to PW-CF6. This is a notable difference between the investigation contracts and the other public works contracts.

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2.6.3 Compiling the Content of the Pricing Document Continued

Schedule of Rates

The Schedule of Rates is a list of work items that are not covered in the Bill of Quantities but which may be required at Implementation stage. In certain circumstances the Employer may find it useful to require tenderers to fill in such a schedule. This is particularly the case where the Employer has the expectation that certain works (which are not part of the Works Requirements) will be ordered under *change orders* issued by the ER during construction and which will be valued as *compensation events* using some or all of the rates

Where Employers wish to use a Schedule of Rates as a constituent part of the Pricing Document, they must include the following with the tender documentation:

- A template Schedule of Rates (as part of the Pricing Document) that lists all the necessary work items; tenderers will use this template to insert their unit rates (see the sample template below); and
- A separate document (background information) indicating the notional quantities by which the Employer will multiply unit costs to enable comparison between competing tenders. The notional quantities indicated have no contractual value, and are used by the Employer for the purpose of comparing tenders only. This document should be referenced at Appendix 3 of the Invitation to Tender (*ITTW 1* or *ITTW 2*).

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2.6.3 Compiling the Content of the Pricing Document Continued

Sample Schedule of Rates

The following is a sample template Schedule of Rates that is included in the Pricing Document issued with the tender documentation for a civil engineering project.

Tenderers are instructed (in the background information document referenced in Appendix 3 of the ITT) to insert their rates for each work item. The items can be more detailed, as required. Where tenderers insert minus, nil, blank, zero or dash values, the Employer should read these as zero; and this should be made clear to tenderers in the background information document.

SCHEDULE OF RATES for CIVIL ENGINEERING WORKS		
Work Item	Unit	Rate
Excavation other than rock	m ³	
Mass rock excavation	m ³	
Disposal of surplus spoil	m ³	
Filling (embankments)	m ³	
Imported topsoil	m ³	
Provide Structural concrete	m ³	
Place Structural Concrete	m ³	
Formwork –Rough	m ²	
Formwork – Fair	m ²	
Reinforcement	tonnes	
Blockwork		
• Inner Leaf	m ²	
• Textured block	m ²	
• Masonry facing	m ²	
Roofing/Tiling	m ²	
Structural steelwork	tonnes	
Manholes	no	
Special Chambers	no	
Fencing		
• Palisade/security	m	
• Post and wire	m	
Access site roads		
• Sub-base	m ²	
• Base	m ²	
• Surfacing	m ²	

2.6.4 Assembling the Invitation to Tender

Documents

The documents to be issued as part of the Invitation to Tender for the main forms of contracts (PW-CF1 – PW-CF5) would normally be:

- Instruction to Tenderers with letter of Invitation to Tender (which does not form part of the Contract);
- Form of Tender and Schedule (Schedule Part 1 [completed by the Employer] and may include attached to the Schedule appendices 7 and 8 of the Contract Conditions where PV2 is being used [this is also to be completed by the Employer]);
- Works Requirements (completed by the Employer including model forms and may include various reports relevant to the project;
- Pricing Document (blank template [e.g. Bill of Quantities and Schedule of Rates] to be completed by the Contractor); and
- Any other background information or documents not forming part of the Contract, for example, reports or a Bid Bond.

The Employer may also include a copy of the Contract Conditions or may simply refer prospective tenderers to its own website or to the Construction Procurement website, www.constructionprocurement.gov.ie where the Contract Conditions are published.

Documents such as the Instruction to Tenderers, Invitation to Tender and Form of Tender and Schedule also apply to PW-CF6, PW-CF7 and PW-CF8, terms such as Works Requirements and Pricing Document are not used in these forms of contract but documentation detailing the works or tasks and scoping the works for the purposes of accurate pricing are to be included to permit tenderers to submit fixed-price lump-sum tenders.

Key decisions

The Instructions to Tenderer should clearly specify:

- Which of the standard forms of public works contract will apply to the project;
- How price variation is to be treated if applicable;
- 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; and
 - Invitation to Tender Checklist – Traditional; *or*
Invitation to Tender Checklist – Design-and-build.
-

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 Instruction to Tenderer 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 in Appendix B4: Tender Evaluation Checklist on page 243.
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.	138
2.7.2	Adjusting Details within Tender Pricing Explains why pricing may need to be rebalanced and how to do this.	141
2.7.3	Adjusting for VAT Errors How to adjust tender pricing to deal with VAT errors.	143
2.7.4	Evaluating Insurance Options Explains the pros and cons of Contractor versus Employer-controlled insurances	147
2.7.5	Tender Evaluation Example Gives an example of tender evaluation adjustments and calculations.	148
2.7.6	Letters of Intent and Acceptance Summarises what is required and how to check before release.	151

2.7.1 Comparing Tender Costs

Award criteria

In comparing tenders, the Employer will need to consider some or all of the following:

- The values in the Pricing Document (including the value of the project forwarded to Form of Tender);
- The tenderer's Works Proposals;
- The tenderer's management and supervision structure (if requested);
- The tenderer's proposed working methods (if requested);
- The tenderer's initial programme (if requested);
- The tenderer's plant, labour resources and named specialist subcontractors (if requested);
- Rates for labour, delay costs and percentage adjustment for material and plant costs filled in by tenderer in Part 2 of the Schedule attached to the Form of Tender. Where tendered daily rate(s) for delay, hourly rates for labour, or percentages additions for plant and materials have been submitted in complete Part 2 of the Schedule, the tender assessment must include the evaluation of these tendered values using the values and periods in Appendix 5 of ITTW1 and ITTW2 – see **Adjusting the tender sum**, immediately below;
- Value Engineering proposals submitted with tenders if variants section 6.3 of ITTW1 and ITTW2 are permitted;
- Credits offered for owner-controlled insurance if mandatory options section 6.2 of ITTW1 and ITTW2 are requested; and
- If time is tendered, its impact on tender prices.
- Any other items to be tendered in the Works Proposals.

The award criteria can also include other things as listed in Article 53 (1) (a) of Directive 2004/18/EC on public procurement and should take account of SI N° 329 of EC (Award of Public Authority Contracts) Regulations 2006 and Directive 2004/17/EC and SI N° 50 (Award of Utilities Contracts) Regulations 2007.

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

Continued on next page

2.7.1 Comparing Tender Costs, Continued

Adjusting the tender sum

For comparison purposes, the Employer adds to the tender sum of the different tenders by reference to **a) provisional values** the Employer has included in Appendix 5 of Instruction to Tenderers and **b) details of rates and percentages** that the tenderer has supplied in Part 2D of the Schedule.

a)	In Appendix 5 of the Invitation to Tender, the Employer specifies a number of provisional values that are to be used to assist the Employer to calculate the comparative costs of tenders. These are: <ul style="list-style-type: none">▪ Provisional numbers of hours;▪ Provisional costs for materials;▪ Provisional costs for plant; and▪ Provisional number of Site Working Days
b)	In Part 2D of the Schedule, the tenderer indicates details of rates and percentages that are to be used in the event that the Contract Sum requires adjustment; these details are: <ul style="list-style-type: none">▪ The tenderer's all-in tendered hourly rates²²;▪ The tenderer's tendered percentage addition for costs of a) materials and b) plant; and▪ The tenderer's rate of delay costs per Site Working Day.

Adjusting for hourly rates

Where the tenderer has indicated hourly rates, the Employer multiplies the provisional number of hours for each category of craftsperson, apprentice and general operative by the tenderer's hourly rate for each such category.

a)	x	b)
Provisional number of hours	x	Tenderer's hourly rate for: <i>Craftspersons</i> <i>General operatives</i> <i>Apprentices</i>

For each tenderer, the value derived from this calculation is added to the tender sum.

Adjusting for a daily rate

Where the tenderer has indicated a rate of delay costs per Site Working Day, the Employer multiplies that rate by the provisional number of days' delay.

a)	x	b)
Provisional number of days' delay	x	Tenderer's rate of delay costs per Site Working Day

For each tenderer, the value derived from this calculation is added to the tender sum.

Continued on next page

²² If a tenderer tenders a low, or zero, or minus rate for any of the hourly rate specified the default in the contract of 75% of the relevant REA rate shall apply

2.7.1 Comparing Tender Costs, Continued

Adjusting the tender sum (continued)

Adjusting for percentage addition for costs and materials

Where the tenderer has indicated percentage additions for costs of materials and plant, the Employer multiplies these by the provisional costs associated with them.

a)	x	b)
provisional cost of materials	x	tenderer's percentage adjustment
provisional cost of plant	x	tenderer's percentage adjustment

For each tenderer, the values derived from these calculations are added to the tender sum.

Adjusting for the Tendered Date for Substantial Completion

Where tenderers have been asked to tender the Date for Substantial Completion (in Part 2C of the Schedule), the Employer needs to adjust each tenderer's tender sum by reference to the date they have specified. The Employer does this by multiplying the following values for a) and b):

a)	The difference in calendar days between the tenderer's tendered Date for Substantial Completion and the earliest Date for Substantial Completion indicated by the Employer in the Particulars (section 5.10) to the Instructions to Tenderers.
b)	The value per calendar day of days in excess of the earliest Date for Substantial Completion as referenced in Appendix 5 of the Invitation to Tender.

Comparing tenders with and without insurance

In cases where the Employer is considering using owner-controlled project insurance, this should be clearly indicated as an option in the Works Requirements. The Particulars in the Instructions to Tenderers should also indicate the type of insurance for which an optional tender is being sought. Tenderers are asked to submit their fixed price lump sum tenders on the basis of excluding the cost of providing certain insurances, but should show separately as a mandatory option the extra cost of providing those insurances should the Employer decide to include them in the contract.

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

- **Exclusive of insurances** – in cases where there is a financial advantage to do so having considered the all-inclusive cost of the Employer separately taking out owner-controlled insurance; *or*
- **Inclusive of insurances based on tendered costs submitted by the winning tender** – in cases where the tendered price without insurance *plus* the cost of owner-controlled insurance is higher than the tendered price *plus* the mandatory tendered option of providing the insurance. In such a situation there is a financial advantage to award the contract inclusive of insurances.

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 to Apparently Unsuccessful Tenderers (MF 1.2), it may be necessary to correct errors (i.e. errors in the computation of the detailed tender figure), to deal with inconsistencies between rates (for example, 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. For example, a single sum for the complete heating installation should be broken down into sufficient detail (e.g. work packages) to enable it to be used during the construction stage for interim payments and for valuing *change orders* that are *compensation events*. This applies as much to traditional contracts as it does to design-and-build projects.

In traditional Employer-designed projects, the Bill of Quantities is the principal Pricing Document. On design-and-build projects or in other cases where a Bill of Quantities is not provided as the Pricing Document, it will be replaced by some other principal document – such as an activity schedule, a list of milestone payments, or an analysis of the Contract Sum broken down into convenient lump sums.

Continued on next page

2.7.2 Adjusting Details within Tender Pricing, Continued

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 the same work that are different in separate locations in the Bill of Quantities;
- 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; and
- Rates derived from a combination of some or all of the foregoing four points.

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

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. The rules around rebalancing rates are included under section 8.2 of ITT-W1 and ITT-W2. Furthermore, 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.

2.7.3 Adjusting for VAT Errors

Introduction

If a lump-sum tender price is VAT-inclusive it should be evaluated on the following basis. The two scenarios below show how to adjust for VAT errors in different circumstances:

1	An example of how to adjust for a VAT error where the Employer is not a principal contractor for VAT purposes (and therefore will not be responsible for remitting VAT to the Revenue authorities).
2	An example of how to adjust for a VAT error where the Employer is a principal contractor for VAT purposes (and therefore will be responsible for remitting building rate VAT to the Revenue authorities).

VAT adjustment example: where Employer is not a principal contractor

When a preferred tender is identified, the Pricing Document of that tenderer 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 is reflected in the submitted tender lump-sum price. This will probably require making adjustments elsewhere in the Pricing Document for consistency.

Continued on next page

2.7.3 Adjusting for VAT Errors, Continued

VAT adjustment example: where Employer is not a principal contractor (continued)

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

Pricing	Amount
Tender Price excluding VAT	€22,491,224
VAT on €5,442,818 at 21%	€1,142,992
VAT on €16,034,976 at 12.5%	€2,004,372
VAT on €850,430 at 0%	€0
VAT exempt, €129,000	€0
VAT Subtotal	€3,147,364
Total Tender Price including VAT	€25,604,588

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

- The building rate for VAT should have been 13.5%, not 12.5%; and
- The standard rate for VAT should have been 21.5%, not 21%;

When a preferred tender is identified and the VAT error is in that tenderer's submission, the Employer should consult with the tenderer after adjusting the make-up of the Total Tender Price including VAT to get agreement to the adjustment. The table below shows how the adjustment should look:

Pricing	Amount
Tender Price excluding VAT	€22,300,549
VAT on €5,321,096 at 21.5%	€1,144,036
VAT on €16,000,023 at 13.5%	€2,160,003
VAT on €850,430 at 0%	€0
VAT exempt, €129,000	€0
VAT Subtotal	€3,147,364
Total Tender Price including VAT	€25,604,588

Continued on next page

2.7.3 Adjusting for VAT Errors, Continued

**VAT
adjustment
example:
where
Employer is
a principal
contractor**

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

Note: VAT at the building rate will not be included in the preferred tenderer's tender or any other tender because the Employer is the principal contractor for VAT purposes and will therefore be responsible for remitting the building rate VAT directly to Revenue.

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

Pricing	Amount
Tender Price excluding VAT	€22,393,666
VAT on €4,000,000 at 21%	€860,000
VAT on €17,414,236 at building rate paid directly by Employer/Contracting Authority to the Revenue Commissioners 13.5% (€2,350,922)*	€0
VAT on €850,430 at 0%	€0
VAT exempt, €129,000	€0
VAT Subtotal	€860,000
Total Tender Price including VAT	€23,253,666

* This figure is added to the Total Tender Price to give a total project cost of €25,604,588.

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

- The standard rate for VAT should have been 21.5%, not 21% and;
- The value of work at the standard rate is incorrectly stated.

Continued on next page

2.7.3 Adjusting for VAT Errors, Continued

VAT adjustment example: where Employer is a principal contractor, Continued

When a preferred tender is identified and the VAT error is in that tenderer's submission, the Employer should consult with the tenderer after adjusting the make-up of the Total Tender Price including VAT (at the standard rate) to get agreement to the adjustment. The table below shows how the adjustment should look:

Pricing	Amount
Tender Price excluding VAT	€22,109,630
VAT on €5,321,096 at 21.5%	€1,144,036
VAT on €15,809,104 at reduced rate paid directly by Contracting Authority to the Revenue Commissioners 13.5% (2,134,229)*	€0
VAT on €850,430 at 0%	€0
VAT exempt, €129,000	€0
VAT Subtotal	€1,144,036
Total Tender Price including VAT	€23,253,666

* This figure is added to the Total Tender Price to give a total project cost of €25,387,895.

Adjustments to the Contract Sum

In adjusting the tender sum, VAT calculations must be corrected without changing the tendered fixed-price lump-sum in the same way as described for adjustments in 2.7.2 Adjusting Details within Tender Pricing (page 141).

Clause 11.7.1 of the Contract Conditions states that *'The Contractor's completed Form of Tender states whether, and to what extent, the Contract Sum includes VAT.'* All other amounts stated in the Contract 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 the appropriate sum for VAT should be added to or deducted from the adjusted Contract Sum.

2.7.4 Evaluating Insurance Options

Options

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

- Contractor-controlled insurances where the Contractor provides all the project insurances during construction (this is usually the preferred approach); and
- Owner-controlled insurances 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 for doing so. If owner-controlled insurances are required, the contract amendments must be set out in the Works Requirements; the Contract itself must not to 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 general insurance policy premium when one project is excluded from insurance cover. Usually, contractors, carry a block of insurance for all of their projects and the premiums charged will not significantly change because one project is excluded.
 - There is no claims history and therefore the insurer is likely to load the premium charged to the Employer as the policy taken out is a once-off owner-controlled insurance policy. Alternatively, the insurer may only make the premium for owner-controlled insurance economical by making the Employer carry very large excesses.
 - Similarly, the benefit of a discount for bulk continuous business, as a Contractor would likely get, will not arise.
 - 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 leverage because of the once-off nature of the insurance requirement.
 - 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 may be very difficult to define at tender stage as the Contractor will not be known and additional costs will probably arise later when the insurers know who the Contractor and sub-contractors are, or else a very significant premium will be charged for such an unknown at the outset.
-

2.7.5 Tender Evaluation Example

Introduction

The following example illustrates how certain issues, in relation to price only, might be considered by the Employer at tender evaluation stage. If criteria relating to technical merit is part of an award (e.g. price 60%: technical merit 40%) it should be evaluated at the same time and the results merged with the results of the price assessment to determine which is the most economically advantageous tender.

Sample project

The working assumption is a public works project with:

- The contract is the Public Works for Civil Engineering Works Designed by the Employer (PW-CF3);
- The project estimated value is €25 million; and
- The construction period is 30 months.

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
- €100,000²³ 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

²³ 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	12,000
Craftsman's cost € ²⁴	35 per hour	23 per hour	28 per hour
Apprentice's cost € ²⁵	26 per hour	13 per hour	17 per hour
General Operatives € ²⁴	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 €	25,100,000	25,200,000	24,900,000
Daily rate € * delay days = € Delay cost	8200 * 40 = 328,000	4800 * 40 = 192,000	12,000 * 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 ²⁶ = € Plant contingency	100,000 * 20% = 20,000	100,000 * 8% = 8,000	100,000 * 10% = 10,000
Total €	25,707,300	25,553,000	25,583,900

Continued on next page

²⁴ For the purpose of this exercise the tendered hourly rates quoted by all tenderers are above 75% of the REA rate current at the Designated Date.

²⁵ The apprentice's rate is an hourly average paid for different levels of apprenticeship served and for the purpose of this exercise the rates quoted by all tenderers are above 75% of the REA rate current at the Designated Date.

²⁶ Note: If a deduction of more than 100% is tendered the entry in this evaluation table will read as a deduction of 100%. If the entry tendered is blank it will read as 0%.

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 technical merit is part of the basis for the award, technical merit should be assessed and merged with the total tender prices to determine the most economically advantageous tender. Some examples of other criteria that would qualify as technical merit and 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;

Additional price criteria might be:

- Value Engineering proposals included with tender (i.e. where variants are permitted or options are requested).
 - Mandatory tender options (e.g. owner controlled insurance).
-

Award Rates and percentages to be listed

The following tendered rates and percentages of the winning tenderer were included in Part 2D of the Schedule attached to the Form of Tender (e.g. FTS 1) which included the fixed price lump sum tender price:

- €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% adjustment was applied to plant rates in the Civil Engineering Contractors Association (CECA) publication *Schedules of Dayworks Carried Out Incidental to Contract Work*²⁷ on the basis of euro parity with sterling (discounted appropriately in the tender submission) at the time the work is done and also 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 technical merit criteria can include design as well as the other technical merit criteria mentioned for traditional contracts. Whole Life Cost as a criterion will also be a factor. Separate weightings should be allocated to price and technical merit, with technical merit having an appropriate weighting relative to the project.

²⁷ www.ceca.co.uk/Publications.aspx

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 (MF 1.4) or Tender Accepted (in the case of the Short Public Works Contract PW-CF6), that bonds, insurances, any required parent company guarantees, tax clearance certificates²⁸, 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 as that procurement procedure is regarded as being over.

This situation can be avoided by the Employer exercising its option under section 10.3 of the Instruction to Tenderers (ITT-W1 or ITT-W2) and issue the appropriate Letter to Successful Tenderer. A portal under MF 1.2 in the Model Forms section of the Construction Procurement Reform website will direct you to the appropriate letter depending on whether the competition is subject to the European Directives. This letter can specify a list of items that must be provided such as a performance bond, any required parent company guarantee, evidence of required insurance, appropriate tax clearance statement from the Revenue Commissioners, any required appointment as project supervisor for the construction stage or the design process and construction stage, or other appropriate documentary conditions, within the stated period in the letter, failing which the Employer can exercise any of the three options stated under section 10.3 of ITT-W1 or ITT-W2.

Binding nature of Letter of Acceptance

The issue of a Letter of Acceptance/Tender Accepted 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.

²⁸ As a result of the introduction of the new electronic Relevant Contracts tax (e-RCT) system by the Revenue Commissioners in January 2012 the C2 certificate is no longer in use by subcontractors. This change will require to be reflected in the Department of Finance procedures for tax clearance in relation to public sector contracts and grants. Accordingly Circular 43/2006 is being revised and a replacement will issue shortly. In the interim, more details are available at <http://www.revenue.ie/en/tax/rct/subcontractor.html> Note that the changes relate to use of the C2 only.

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.	153
3.2	Responsibilities in Relation to the Contract Outlines the responsibilities of the various parties in relation to the Contract.	160
3.3	Managing the Works in Progress Describes the management processes for the administration of the Contract.	175
3.4	Managing Risk in Progress Describes risk-related processes while the works are in progress.	198
3.5	Calculating Price Variations Deals with how the risk of price variations is handled and how adjustments to the Contract Sum are calculated.	214

3.1 Preliminary and Routine Considerations

Overview

In this section

On commencement of a new construction contract, there are a number of issues that the Employer's Representative (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.	154
3.1.2	Communications and Meetings Details about communications between the Employer, the ER and the Contractor; and about scheduled and special meetings.	156
3.1.3	Maintaining Confidentiality and Secrecy The requirement for maintaining confidentiality.	158
3.1.4	Value Management An outline of how value management opportunities may arise in the course of a project (traditional contracts).	159

3.1.1 Starting a Project

Documents to be provided before the 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 (other than those that have already been provided earlier e.g. in response to a Letter of Intent) before the Starting Date:

- The executed agreement;
- The developed safety and health plan (in compliance with the construction regulations);
- The Appointment of the Project Supervisor – this can relate to the PSDP (where applicable) and the PSCS (if Contractor is fulfilling these roles);
- 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 (unless a longer period has been set in the Works Requirements).

Programme of Works

Where a Programme of Works has been submitted as part of the Works Proposal, this will give some indication of when work on site is expected to commence. The actual Starting Date, however, can only be determined after the Contract Date (in accordance with clause 9.1 of the Works Contract). Then, 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 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.

Continued on next page

3.1.1 Starting a Project, Continued

Programme of Works *Revised Programme of Works*

Works
(continued)

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 might 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 if the amended programme is not delivered within the stated period, 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 (i.e. PW-CF1 to PW-CF5)²⁹ determines which takes precedence.

Priority	Contract Document
1	The Agreement, even if it has not been executed
2	The Contractor's completed tender (i.e. Form of Tender) and Schedule, and if appropriate completed Appendix 7 and Appendix 8 attached to Form of Tender, the Letter of Acceptance and any post-tender clarifications listed in it
3	The attached Conditions and completed Schedule.
4	The Works Requirements, Pricing Document and Works Proposal (if any) identified in the Schedule and any other documents included in the Contract.

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

If the Bill of Quantities is being used as the specification in the Works Requirements (but not quantities) 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 is for the ER to decide.

Traditional contract

If the resolution changes the Works Requirements, it will require 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).

²⁹ See clause 1.4 of PW-CF6 and PW-CF7 which deals with discrepancies.

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 works 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 Maintaining Confidentiality and Secrecy

Requirement for confidentiality

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 confidentiality

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 achieved 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 solutions that do not increase the Contract Sum *in respect of traditional and design-and-build 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.

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.	161
3.2.2	The ER’s Responsibilities In particular, those relating to day-to-day liaison with the Contractor.	162
3.2.3	The Contractor’s Responsibilities Compliance with employment legislation; and responsibility for subcontractors’ compliance.	165
3.2.4	The Project Supervisor’s Responsibilities Responsibilities in relation to health and safety on the works.	173

3.2.1 The Employer's Responsibilities

Introduction

Under the Contract, the Employer is the party for whom the facility is being constructed and who has agreed 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 PW-CF1 to PW-CF5, Clause 7 of PW-CF6 and Clause 10 of PW-CF7 and PW-CF8, 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

What is the Employer's Representative responsible for?

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. In most cases this is the same person who acts as Design Team Leader/Lead Consultant during the Design Stage. The ER can be appointed from within the Employer's organisation; or the role may be filled by a consultant architect, engineer, surveyor or other person capable of carrying out the required responsibilities.

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 amend the Works Requirements. These can be issued 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 there is a health and safety risk and to wait for a written instruction would otherwise delay a necessary action. In such a case (e.g. under sub-clause 4.5.4 of PW-CF1) 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.
Design	Where further design is developed after contract award (for example, with design-and-build contracts) the ER checks the design to see that it meets the defined output requirements, performance specifications and any planning stipulations that may be necessary. All design risk, however, remains with the contractor.
Acting impartially	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 three-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;
- Taking direction from the Employer as to whether to accept or reject a value engineering proposal; and
- Consulting with the Employer's 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 (e.g. Clause 4.3.2. PW-CF1).

Delegation

The ER may delegate in writing to a named representative any functions or powers under the Contract and revoke any such delegation at any time (e.g. Clause 4.3.3 PW-CF1).

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

The ER should promptly (within five working days) notify the Contractor and the Employer of any such delegation, of the names of the representatives, and of any subsequent changes.

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. The procedure for Contractor submissions (detailed in clause 4.7 of PW-CF1 to PW1-CF5) can be superseded by an alternative procedure in the Works Requirements.

3.2.3 The 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 his obligations under the Contract; and
- 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 (see below for more detail)	Ensures that the rates of pay and conditions of employment (including provisions in relation to pension contributions [<i>see later limitations on enforcing Pension contributions</i>]) 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 (see later limitations on enforcing Pension contributions) 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 The 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 (<i>see later limitations on enforcing Pension contributions</i>) 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	Produces, 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 The Contractor's Responsibilities, Continued

Limitation on enforcing pension contributions

Article 49 of the EC Treaty prohibits restrictions on the freedom to provide services within the Community. Limitations on this fundamental freedom will only be lawful if they fall within the acceptable principles set out by the established case law of the European Court of Justice (ECJ). In recognition of the potential conflict between the exercise of the freedom to provide services throughout the Community and appropriate protection of the rights of workers temporarily posted abroad Directive 96/71/EC (transposed into Irish Law by section 20 of the Protection of Employees [Part-Time Work] Act 2001) was introduced. Article 3 (1) (a) to (g) set down what is permitted in relation to the employment relationship laid down by collective agreements that are universally applicable in the construction industry. What is specifically excluded under Article 3(1)(c) is the inclusion of retirement pension schemes for workers. Case law has determined that a national measure which obliges contractors in another Member State to apply to their employees terms and conditions which go beyond the mandatory rules in Directive 96/71/EC for minimum protection is incompatible with European law. Therefore, it would seem that the pension rights under the REAs cannot be universally imposed on all posted workers from within the EU. The situation regarding posted workers within the EU is that the pension rights need to be considered in the context of compliance with the provisions in Directive 98/49/EC which deals with the movement of employees within the Community and their pension rights. Ireland is therefore required to recognise and comply with posted workers pension rights established in another member state during the period of posting in Ireland and should not impose any further obligation that would be incompatible with European law.

The Pension REA will apply to posted workers from outside the EU whose country of residence is not a member of the GPA of the WTO.

Article 6 of Directive 98/48/EC imposes an obligation to make pension contributions (i.e. REA Pension contributions) in respect of posted workers who are not covered by a pension scheme in their home State.

Continued on next page

3.2.3 The Contractor's Responsibilities, Continued

Compliance with legislation

The interim payment 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.

See form of 'Rates of Pay and Conditions of Employment Certificate' *MF 1.13* in Capital Works Management Framework for a standard certificate that incorporates all the foregoing legislation.

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 specialist's form of contract (in the case of novation).

And in the case of other specialist sub-contractors the Employer should request the contractor in main contract tender documents that an appropriate clause (i.e. clause 5.3 of PW-CF1 to PW-CF5, or clause 7 in PW-CF6, or clause 10 in PW-CF7 and PW-CF8) in relation to Pay and Conditions of Employment be included in those specialist sub-contracts.

Note: One of the forms of public works contracts (PW-CF1 to PW-CF8) 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.

Continued on next page

3.2.3 The 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 such 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 his own acts and omissions.

The Contractor should remove from the works any employee whom the ER so requires, on foot 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
- For projects undertaken under PW-CF1, PW-CF2, PW-CF3 and PW-CF4, the supervisor must work full-time on the works, and have full authority to receive the Employer's instructions on behalf of the Contractor. For projects undertaken under the Minor Works Contract (PW-CF5) or the Short Form of Contract (PW-CF6), or the two Investigation contracts (PW-CF7 and PW-CF8) this requirement is relaxed.

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 The 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 (e.g. PW-CF3).

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 (unless the contractor employs such competencies in-house on a full time basis who can meet the minimum qualification criteria set out by the Employer), 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 Part 1F of the Schedule (PW-CF1 to PW-CF5) 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, in 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 work on site alongside the main contractor, 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.

Continued on next page

3.2.3 The Contractor's Responsibilities, Continued

Contractor's Duties as Contractor under Health and Safety Regulations

The Contractor has a range of duties *as contractor* under the Health and Safety Regulations; these are:

- 1 To cooperate with the PSCS to enable the PCSC to comply with the relevant statutory provisions;
- 2 To take account of the relevant health and safety plan;
- 3 To take account of the existing safety file;

If Contractor's design is undertaken after contract award (e.g. a value engineering proposal under a traditional contract) then the Contractor should:

- 4 provide the PSDP with appropriate information necessary for him to carry out his duties;
- 5 cooperate with the PSDP and other designers to enable them to comply with the Regulation;
- 6 comply with all directions issued by the PSDP;
- 7 promptly provide to the PSDP all known information about the project/work:
 - regarding particular risks to the safety, health and welfare of persons at work;
 - regarding the nature and scope of the project/work to enable the PSDP comply with the Regulations;
 - that is necessary for the PSDP prepare the safety file; and
 - that is known for the safe construction of the design for the project.

Continued on next page

3.2.3 The Contractor's Responsibilities, Continued

Contractor's Duties as Designer under Health and Safety Regulations

The Contractor on a design-and-build project has a range of duties *as designer* under the Health and Safety Regulations; these are:

- 1 To take account of the general principles of prevention;
- 2 To take account of the relevant health and safety plan; and
- 3 To take account of the existing safety file.

If Contractor's design is undertaken after contract award then the Contractor should:

- 4 provide the PSDP with appropriate information necessary for him to carry out his duties;
- 5 cooperate with PSDP and other designers to enable them to comply with the Regulations;
- 6 comply with all directions issued by the PSDP; and
- 7 promptly provide to the PSDP all known information about the project:
 - regarding particular risks to the safety, health and welfare of persons at work.
 - regarding the nature and scope of the project to enable the PSDP comply with the Regulations.
 - that is necessary for the PSDP prepare the safety file; and
 - that is known for the safe construction of the design for the project.

Value Engineering and Contractor Design

Under Clause 4.8 of the Contract (PW-CF1 to PW-CF5) the Contractor may put value engineering proposals to the Employer. Where such proposals involve a change in design, the Contractor is liable for the design (clause 4.8.4), and the independent PSDP must assess the Contractor's design from a Health & Safety perspective.

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

A contractor who meets the requirements may be appointed as Project Supervisor for the Construction Stage. If the Contractor is to be appointed, it must be stated³⁰ in Part 1C of the Schedule (PW-CF1 to PW-CF5)³¹ attached to the Form of Tender 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 health and safety project supervisors – to reflect the separation of design responsibilities from build responsibilities in such contracts – with the Contractor taking the role of Project Supervisor for the Construction Stage only. In design-and-build contracts, the Contractor will normally fulfill 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 for the Construction Stage, and if so this should be indicated in the Works Requirements issued to tenderers and at Part 1C of the Schedule. This is most likely where there are a number of contractors working on the project and the Contractor awarded the first Contract is given the role of project supervisor for the Construction Stage. 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 for the Construction Stage, the Contractor must accept this role in the form set out in the Works Requirements. The appropriate appointment form must be used – see the template in MF 1.9 *Appointment of Project Supervisor*.

Continued on next page

³⁰ In the case of a restricted procedure the Employer will have assessed the competence of the Contractor as PSCS at Suitability Assessment stage. In the case of an open procedure the Contractor will have to provide the required information to be assessed.

³¹ As identified in the Schedule to PW-CF6.

3.2.4 The Project Supervisor's Responsibilities

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 his 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 his 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

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.	176
3.3.2 Site Management Issues relating to site availability, access and safety.	178
3.3.3 Quality Assurance in Progress Issues relating to quality assurance while the works are in progress.	181
3.3.4 Interim Payments Procedures for making interim payments to contractors.	183
3.3.5 Actions on Substantial Completion of the Works The actions required once the works are <i>substantially complete</i> .	187
3.3.6 Resolving Disputes Processes for resolving disputes, including conciliation and arbitration.	189
3.3.7 Suspension of Works Dealing with circumstances in which works may be suspended.	191
3.3.8 Termination of Contract Dealing with circumstances in which the Contract is terminated before the due completion of the works.	193

3.3.1 Project Documentation

Progress reports

From the Starting 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 of any instructions that 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.
-

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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 PW-CF1 to PW-CF5, clauses 2 and 3 of PW-CF6 and clauses 3 and 6 of PW-CF7 and PW-CF8 define 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 Requirements.

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 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 trespassers, protestors or other unauthorised persons on 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.

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.

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
-

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3.3.3 Quality Assurance in Progress, Continued

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 that 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 Schedule³² –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 of the end of the Defects Period.

³² PW-CF1 to PW-CF5. In the case of PW-CF6 see clause 3.15 and Schedule.

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 PW-CF1 to PW-CF5 or clause 4.1 of PW-CF6 or clause 7.1 of PW-CF7 and PW-CF8. 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 based on the schedule of work done in the interim period, including 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 by way of an Interim Payment Certificate. 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 issue an Interim Payment Certificate not later than the tenth working day after receipt of the Contractor's statement (PW-CF1 to PW-CF6. In the case of PW-CF7 and PW-CF8 this period is 14 calendar days). The certificate should be based on the information the Contractor has to hand, so if additional information requested from the Contractor is not supplied on time, the Contractor will lose out.</p>
3	After receiving the interim certificate the Contractor sends an invoice to the Employer. Within 15 working days of presentation of an invoice (PW-CF1 to PW-CF5; default in PW-CF6 and in the case of PW-CF7 and PW-CF8 this period is 30 calendar days), 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' employees³³. 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. One of these procedures might be for the subcontractors to provide certificates of compliance to the Contractor similar to the Rates of Pay and Conditions of Employment Certificate, the ER does not need to review such 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 is available under the Capital Works Management Framework Model Form *MF 1.13*

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 1L³⁴ 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.

The ER may not issue an Interim Payments Certificate unless the Contractor has supplied a single Rates of Pay and Conditions of Employment Certificate (compliance certificate) along with the interim statement. So, if one firm on the Contractor's team has not complied with the agreed national rates of pay and conditions of employment, the Contractor will not be in a position to issue a single Rates of Pay and Conditions of Employment Certificate that includes that firm. In this case, the Contractor should exclude the work of the non-compliant firm from the certificate and interim statement.

Continued on next page

³³ See earlier note regarding exception for Pension compliance.

³⁴ PW-CF1 to PW-CF5 and clause 4.1 in Schedule of PW-CF6.

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, 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 costs relating to the compliant subcontractors and the Contractor's own work will be passed.

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:

- Amounts determined by the ER to be due, or likely to become due, from the Contractor to the Employer under the Contract;
- Amounts due from the Contractor to the Employer under another 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 PW-CF1 to PW-CF5, Clause 7.3 of PW-CF6 and Clause 10.6 of PW-CF7 and PW-CF8; and
- Up to 15% of any payment due to the Contractor until the Contractor provides a revised programme (clause 4.8.3 of PW-CF1 to PW-CF4 or clause 4.9.2 of PW-CF5 [Minor Works]).

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 this to the ER with documentary evidence.

The Employer has both the option and the 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 161.)

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 days³⁵ of receipt of a demand for payment (invoice).

For each payment, the Contractor is required to provide to the Employer 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.

³⁵The default period is 10 working days in Schedule to PW-CF6 and 30 calendar days as a fixed period in the case of PW-CF7 and PW-CF8.

3.3.5 Actions on Substantial Completion of the 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 Schedule³⁶.

The following steps are actioned on Substantial Completion.

Step	Action
1	Contractor requests certificate When the Contractor is satisfied that the works (or a 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 ³⁷ 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. The Contractor may provide an appropriate retention bond (PW-CF1 to PW-CF5 only) 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

³⁶ PW-CF1 to PW-CF5. In the case of PW-CF6 the period referred to in clause 2.3 is Time for Completion which is also stated in the Schedule.

³⁷ 5 working days in the case of PW-CF6 [Cl.2.4]. In the case of PW-CF7 and PW-CF8 the period is 7 calendar days [Cl. 4.4]

3.3.5 Actions on Substantial Completion of the 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 deducted 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 PW-CF1 to PW-CF5 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. There is no provision for sectional completion in PW-CF6, PW-CF7 and PW-CF8.

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. The following table summarises the escalation procedures for dispute resolution, from informal to formal methods.

Informal	1. Resolve amicably at operational level
	2. Refer to senior management
Formal	3. Appoint an independent conciliator
	4. Go to arbitration

Informal intervention

Before any formal intervention is initiated the parties should try and resolve the dispute themselves in a non-adversarial way. If the dispute cannot be resolved at operational level in the first instance, it should be referred to representatives of senior management of the parties who should try to resolve the issue in good faith perhaps with informal assistance from a third party.

Formal intervention

There are two levels of formal 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.

Conciliation

Conciliation proceeds through the stages outlined in the table below:

Stage	Description
1	<p><i>Referral to conciliation</i></p> <p>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.</p> <p>For example, the Employer may refer to conciliation the issue as to whether the Employer has become entitled to terminate the Contract on Contractor default.</p>

Continued on next page

3.3.6 Resolving Disputes, Continued

Conciliation (continued)

Stage	Description
2	<p><i>Appointment of conciliator</i></p> <p>Within ten days, the parties jointly appoint an independent conciliator.</p> <p>If the parties cannot agree, the person or body named in the Schedule (Part 1N) appoints the conciliator. These proceedings are confidential.</p>
3	<p><i>Documentation sent to conciliator</i></p> <p>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.</p>
4	<p><i>Conciliator as facilitator to resolve dispute</i></p> <p>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 if so proposed by the conciliator and agreed by the parties.</p>
5	<p><i>If the dispute is still unresolved ...</i></p> <p>The conciliator issues a <i>written recommendation</i> at the end of the 42 days (or longer period, if agreed).</p> <p>If either party is not satisfied with the recommendation, they must notify the other party within a further period of 45 days.</p> <p>Otherwise, the conciliator's written recommendation becomes binding on the parties, and any payments recommended by the conciliator should be made.</p>
6	<p><i>If one party remains dissatisfied ...</i></p> <p>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.</p> <p>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.</p> <p>The conciliation process is now complete, and the dispute (if unresolved) moves to arbitration.</p>

Table continued on next page

3.3.6 Resolving Disputes, Continued

Arbitration

Disputes not resolved by conciliation are referred to arbitration under the arbitration rules set out in the Schedule (Part 1N). It should be noted that the resolution of disputes under PW-CF6 are dealt with by conciliation or the courts. Furthermore, the bond arrangement under conciliation referred to previously only applies to PW-CF1 to PW-CF5.

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.

New Arbitration Act 2010: capping costs or each party bears its own cost

Capping Costs

The new Arbitration Act 2010 as passed into law allows for Contracting Authorities under Section 21 to put in place pre-dispute agreements in relation to costs of arbitrations, something that was not possible under Section 30 of the Arbitration Act 1954. A pre-dispute agreement is included in the Form of Tender (FTS1-5). The pre-dispute agreement states:

‘We also agree that should a dispute arise under any contract formed by the acceptance of this Tender that is referred to arbitration, to the extent permitted by law, each party will bear their own costs in relation to the arbitration proceedings’.

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. This only applies in the case of PW-CF1 to PW-CF5. PW-CF6, PW-CF7 and PW-CF8 does not allow for suspension the remedy under clause 4.9 and 7.9 respectively is for interest to accrue.

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 works³⁸. 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.

Note: Different procedures regarding timing and consequences apply in relation to PW-CF6, PW-CF7 and PW-CF8.

³⁸ Clause 9.2 PW-CF1 to PW-CF5. or clause 3.12 of PW-CF6, or clause 6.14 of PW-CF7, or clause 6.9 of PW-CF8.

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 (PW-CF1 to PW-CF5).

Type	Description
<i>Termination by the Contractor (PW-CF1 to PW-CF5 only)</i>	The Contractor withdraws from the works
<i>Termination at Employer's election (PW-CF1 to PW-CF5 only)</i>	The Employer, at its discretion, elects to terminate the Contract
<i>Termination at Employer's default (PW-CF1 to PW-CF8)</i>	If the Employer, having suspended the contract does not give permission to proceed (the whole of the works) within a particular period in the contract will by default terminate the contract
<i>Termination on Contractor default (PW-CF1 to PW-CF8)</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 194.

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 194.

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

Continued on next page

3.3.8 Termination of Contract, Continued

Termination at Employer's default

If the Employer, having suspended the contract does not give permission to proceed (with all of the works) within the time stated in the contract the Employer's default automatically triggers the termination mechanism in the contract

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, Health and Welfare at Work Act 2005.

The consequences for 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 196.

Continued on next page

3.3.8 Termination of Contract, Continued Continued

Wrongful termination by Employer under PW-CF1 to PW- CF5

The Employer may (but is under no obligation to) refer to a Conciliator (appointed under Clause 13.1 of PW-CF1 to PW-CF5) 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 termination by the Employer without reason to terminate (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 within 63 days of receipt of the conciliator's recommendation; and
- The Conciliator's recommendation is subsequently overturned in Arbitration.

The provisions of sub-clauses 12.6.1 to 12.6.4 of PW-CF1 to PW-CF5 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 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	Employer Actions
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	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. The certificate should be issued within six months or as soon as practicable, based if necessary on estimates.
5	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 (PW-CF1 to PW-CF6) of receiving the demand. In the case of PW-CF7 and PW-CF8 the period is 14 calendar days. If the termination value is greater than the termination amount, invite the Contractor to invoice for the difference; and The Employer is to pay the Contractor within 15 working days of receiving the invoice. In the case of PW-CF6, PW-CF7 and PW-CF8 the period is 30 calendar days.

Notes

- 1 The Employer may engage other contractors, use any things on the site and do anything necessary for the provision of the works.
- 2 On termination of a main contract the Employer may, where Collateral Warranties exist, pay subcontractors and any suppliers to the Contractor any amounts due to them (except for amounts due for work for which the Employer has already paid the Contractor). The Collateral Warranty that should be used should be Model Form *MF1.11*. In order to ascertain what is due the Employer will have to make enquiries to the subcontractors and suppliers and only make the payment if the Employer is satisfied that the money is due and has not already been paid to the Contractor. The Employer can, if unsure, decide not to pay.

Continued on next page

3.3.8 Termination of Contract, Continued, 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.
-

3.4 Managing Risk in Progress

Overview

Introduction

Risk management runs for the duration of the construction period and involves minimising the Employer's 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 as the Employer deems appropriate – 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 at a realistic cost.

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

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.	200
3.4.2 Delay and Compensation Events during the Project Sets out how realised risks to the duration and costs of projects are managed.	202
3.4.3 Managing Contract Insurance Includes a brief overview of contract insurance requirements.	212

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 PW-CF1 – PW-CF5, in clauses 3 and 8 of PW-CF6 and in clauses 6 and 11 of PW-CF7 and PW-CF8.

For certain categories of risk, the Employer bears the entire risk – these are set out, for example, in clause 3.1 of PW-CF1-PW-CF5. 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 decide on the different programme contingency thresholds that should apply in the case of PW-CF1 to PW-CF4 with a single threshold for PW-CF5 for compensation events that are also delay events.

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):

- 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;
 - Pressure waves caused by aircraft or other airborne objects;
 - Contamination caused by radioactivity or other hazardous properties;
 - Terrorism, but only if terrorism is a permitted exclusion from the Contractor's insurance of the Works; 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; and
 - Employer design (in the case of PW-CF1, PW-CF3 and PW-CF5);
-

Continued on next page

3.4.1 Responsibility for Loss and Damage, Continued

Employer's responsibilities (continued)

Existing facilities

Clause 3.8 and 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 risk other than loss or damage to its existing facilities and the parts of the Works used or occupied by the Employer, and their contents from fire, storm, tempest, flood, bursting or overflowing water tanks, apparatus or pipes, explosion, impact, aircraft, riot, civil commotion or malicious damage then the 'shall not' option should be chosen in the Schedule, Part 1D (Optional Insurance Provisions), so that the text reads as follows:

'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'. [PW-CF1 to PW-CF5]

Where the Employer does not use any part of the Works or occupy any part of the existing facilities and the Contractor is in sole possession the selection of the option 'shall not' will mean that the Contractor will be fully responsible for the Works and existing facilities and should therefore insure against the forgoing perils happening to the whole of the Works and existing facilities.

Otherwise the Employer should ensure that these risks are covered under its own insurance policies.

Contractor's responsibility for care of the works

The Contractor is responsible for the care of the works (under clause 3.2 of PW-CF1 to PW-CF5). 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 during the Project

Introduction

In the course of any construction project, different *events* can happen that have the effect of changing the completion date and/or the Contract Sum. Those responsible under the contract for such risks (i.e. Employer, the ER [on behalf of the Employer], or the Contractor) that party, or those parties need to manage the risks in the context of:

- **Compensation events:** affect the cost of the project and may affect the time-to-completion. They may be either:
 - *To the benefit of the Contractor*, for which the Contractor may seek additional payment; or
 - *To the benefit of the Employer*, for which the Employer may seek a reduction in the Contract sum
- **Delay events:** affect the time-to-completion only of the project. Some delay events also involve compensation to the Contractor – in other words, prolongation of the works may also add to the cost.

Schedule of Delay and Compensation Events.

Contract type	Total Number of Events	Number of Delay Events	Number of Compensation and Delay Events	Number of optional Compensation Events
PW-CF1 and PW-CF3	21	20	16	5
PW-CF5	20	19	15	1
PW-CF2 and PW-CF4	16	16	12	2
PW-CF6	13	13	9	0
PW-CF7	9	9	1*	0
PW-CF8	1*	1*	1*	0

* This is for Scope changes. Scope defines the works (as illustrated in technical drawings, described in specifications, schedules and other documents) and constraints on how the works are to be done and is set out in the documents listed in the Schedule.

Continues on next page

3.4.2 Delay and Compensation Events during the Project,

Continued

Compensation events to the benefit of the Contractor

Compensation events which benefit the Contractor are events that, if they occur and are not the Contractor's risk will entitle the Contractor to be compensated for the effect the events have on the cost and the time of the works.

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

If a contractor-compensation event occurs, the Contractor will seek an adjustment to the Contract Sum. The Contract defines the procedures for dealing with compensation events (clauses 10.3–10.6 of PW-CF1 to PW-CF5, clauses 4.4 –4.8 of PW-CF6, clause 7.5 of PW-CF7 and clause 7.3 of PW-CF8).

The following table lists compensation events that are common to PW-CF1 to PW-CF5 which may lead to the Contractor being compensated in accordance with those contracts. There is also a table showing some additional events that may apply only to PW-CF1, PW-CF3 and PW-CF5.

Compensation events for all contracts (PW-CF1 to PW-CF5)

- Instructions of the ER regarding:
 - 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); and
 - 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:
 - access to the site;
 - Employer's things; and
 - works items.
- Unforeseeable interference by Employer's personnel.

Continued on next page

3.4.2 Delay and Compensation Events during the Project, Continued

Additional compensation events for traditional contracts only (PW-CF1, PW-CF3 and PW-CF5)

- Suspension by the Contractor in accordance with clause 12.3.
- 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 about 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).

Note: Clause 4.4 sets out the list of Compensation Events for PW-CF6, clause 7.5 for PW-CF7 and clause 7.3 for PW-CF8

Continued on next page

3.4.2 Delay and Compensation Events during the Project, Continued, Continued

Compensation events to the benefit of the Employer

Compensation events which benefit the Employer are events that, if they occur, entitle the Employer to a reduction in the Contract Sum.

Where such an event arises, the ER should serve a notice of claim on the Contractor under clause 10.9, claiming a Compensation Event under clause 10.1 (PW-CF1 to PW-CF5).

Such an event might arise where there is an error in the Bill of Quantities (the primary Pricing Document) – for example, where the Contractor has priced a quantity in the Bill of Quantities which is greater than what is indicated in the Works Requirements. The Employer could make a claim in such an instance for the recovery of cost of the over measured item, provided there is a **yes** in the Compensation Event column for item 17 in the Schedule, Part 1K, and the difference is greater than €500.

See **Quantity errors and compensation: ‘Yes’ Scenario** on page 132 for some examples of compensation events to the benefit of the Employer arising from incorrect quantities.

Delay events

Delay events are events that, 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 of PW-CF1 to PW-CF5). If the delay is caused by a compensation event, the Contractor may also claim an adjustment to the Contract Sum. Delay events that are not also compensation events are listed in the Schedule, and include the following in PW-CF1 to PW-CF5:

Delay events for all contracts (PW-CF1 to PW-CF5)
▪ 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

Continued on next page

3.4.2 Delay and Compensation Events during the Project, Continued, Continued

Additional delay events for traditional contracts only (PW-CF1, PW-CF3 and PW-CF5)

- The presence of unforeseeable ground conditions, man-made obstructions, or unforeseeable utilities
- Utility owners failing/delaying the relocation/disconnection of utilities
- 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, *and not confined to employees of the Contractor or any Contractor's personnel*

Note: Clause 2.7 sets out the list of Delay Events for PW-CF6 and Clauses 4.4 and 4.5 for Delay Events for PW-CF7

Delays and extensions of time (PW-CF1 to PW-CF5)

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, and the Contractor is entitled to an extension of time then the Contractor will be granted additional time (expressed in site working days) to complete the Works, in accordance with the Contract and depending on the length of the delay.

Programme Contingency (PW-CF1 to PW-CF5)

The Contractor must factor in the Programme Contingency (as set by the Employer in the tender documents) both in the Contractor's tendered price and in the Programme of Works 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. The Date for Substantial Completion 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 use of the programme contingency by the Employer (not the Contractor) up to the Date of Substantial Completion

Continued on next page

3.4.2 Delay and Compensation Events during the Project, Continued, Continued

Applying Programme Contingency rules (PW-CF1 to PW-CF5)

Delays can have cost implications for the Contract Sum. So, to provide for delays, the Contractor factors into the initial tendered Contract Sum and Programme of Works 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, expressed as a number of site working days, to be applied to delays *caused by compensation events*. In order to calculate the Contractor's entitlement to time extension, the thresholds are applied to the delays according to clause 9.4 of PW-CF1 to PW-CF4.

- **Threshold for no compensation:** For the delay that amounts to a number of days less than or equal to the first threshold, the Contractor does not receive any time to which delay costs can be applied and therefore bears the full cost of the delay.
- **Threshold for some compensation:** For the delay that amounts to a number of days that exceed the first threshold but are less than or equal to the first threshold plus *twice* the second threshold, then the delay minus the first threshold by half is the time allowed to which delay costs can be applied so that part of the cost of the delay is recovered.
- **Threshold for some compensation:** For the delay that is more than the sum of the first threshold and twice the second threshold then the delay minus the first threshold and minus the second threshold is the time allowed to which delay costs can be applied so that part of the cost of the delay is recovered.

Where the number of delay days passes the first threshold, the compensation days can be calculated using the following table:

Step	Description	Calculation
1	Take the total delay days	D
	If the delay (D) is equal to or less than the first threshold (T ₁)	$D \leq T_1$
	Then the extension (E) is zero	0
2	If the delay (D) is greater than the first threshold (T ₁) but less than or equal to the first threshold (T ₁) plus twice the second threshold (T ₂)	$T_1 < D \leq (T_1 + 2T_2)$
	Then the extension (E) is the delay (D) minus the first threshold (T ₁) divided by two	$\frac{(D - T_1)}{2}$
3	If the delay (D) is more than the sum of the first threshold (T ₁) plus twice the second threshold (T ₂)	$D > (T_1 + 2T_2)$
	Then the extension (E) is the delay (D) minus the first threshold (T ₁) minus the second threshold (T ₂)	$D - T_1 - T_2$

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3.4.2 Delay and Compensation Events during the Project, Continued, Continued

See below for some examples of how to calculate compensation days.

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.

Calculating compensation days: examples (PW-CF1 to PW-CF5)

In the following examples, $T_1 = 20$ and $T_2 = 30$

Where $D = 10$, the Contractor is entitled to no compensation, as D is less than T_1	$10 < 20$ no compensation
Where $D = 28$, the Contractor is entitled to 4 days' compensation.	$\frac{28 - 20}{2} = 4 \text{ days}$
Where $D = 38$, the Contractor is entitled to 9 days' compensation	$\frac{38 - 20}{2} = 9 \text{ days}$
Where $D = 90$, the Contractor is entitled to 40 days' compensation. In this case, $(90 - 20) / 2$ is 35 and greater than T_2 . So, T_2 is used in the calculation	$90 - 20 - 30 = 40 \text{ days}$

Concurrent delays (PW-CF1 to PW-CF5)

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.

Delays over holiday periods (PW-CF1 to PW-CF5)

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, a 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.

Continued on next page

3.4.2 Delay and Compensation Events during the Project, Continued

Contractor claims for compensation (PW-CF1 to PW- CF5)

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 in accordance with Clause 10.3.1 of PW-CF1 to PW-CF5. 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 in accordance with Clause 10.5 of PW-CF1 to PW-CF5:

- Instruct the Contractor to provide a detailed calculation of any adjustment to the Contract Sum, and 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);
- Determine any adjustments to the Contract Sum, use of the Programme Contingency or extension to the Date for Substantial Completion and notify the Employer and Contractor;
- In response to a proposal given under clause 10.4, notify the Contractor that the proposed instruction will not be given.

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3.4.2 Delay and Compensation Events during the Project, Continued, Continued

Adjustments to the Contract Sum (PW-CF1 to PW-CF5)

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
- 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 in accordance with clause 10.9.2 of PW-CF1 to PW-CF5 and the ER should determine the matter in accordance with the Contract.

Measurement errors where the Employer carries the risk

Where the Contract Sum is to be adjusted because of measurement errors in the Pricing Document and the difference is not greater than €500, the Contractor must bear the cost of the error. The Contractor must also bear the cost of any re-measurement he requests unless errors above this €500 threshold are discovered.

Note: the €500 is a threshold so if the error is more than €500 the Contractor recovers the full cost e.g. the error is €501 so the Contractor recovers €501

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 that 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 one arising from a measurement error with a value in excess of €500 for each item) is where there is a *change order* altering the Works Requirements that results in an adjustment in quantities.

Measurement errors where the Employer does not carry the risk

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 that result in an adjustment in quantities.

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3.4.2 Delay and Compensation Events during the Project, Continued, Continued

Weather events For information relating to weather events, see **2.5.2 Weather Events** in *Public Works Contracts* (GN 1.5)

Contractors who wish to claim time extensions for weather events must supply the ER with corroborating Met Éireann data for the period in question together with the relevant reference data at 2.5.2.

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 PW-CF1 to PW-CF4. Under PW-CF5 and PW-CF6 archaeological risk is always retained by the Employer. If the risk had been defined as a compensation event in PW-CF1 to PW-CF4, Schedule (Part 1K, item 18), 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 (PW-CF1 to PW-CF4 only), 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.

Ground conditions The ground conditions risk is an optional risk under PW-CF1 to PW-CF4; while under PW-CF5 and PW-CF6 the risk is always retained by the Employer. A compensation event will arise if ground conditions are 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 in the case of PW-CF1 to PW-CF5 and clause 4.4 of PW-CF6.

3.4.3 Managing Contract Insurance

Contract requirements

Clauses 3.3–3.9 of PW-CF1 to PW-CF5, clause 10 of PW-CF6 and clause 12 of PW-CF7 and PW-CF8 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 2.4 Insurance Provisions on page 90). The required insurance types for to PW-CF1 to PW-CF5 are summarised in the following table:

Insurance Type	Description
Works Insurance	The insurance of the works and other risk items shall name the Contractor, the Employer and any other person the Employer requires as co-insured. This insurance is required from the Contract Starting Date. Insurance for each section of the works must be maintained until the certificate of Substantial Completion is issued for that section.
Public liability and employers' liability	The Contractor must have public and employers' liability insurance covering any accidents that happen during the project. In the case of employer's liability insurance the Employer and the Contractor must be co-insured against particular liabilities. In the case of public liability insurance, a provision should be included that indemnifies the Employer against any liability for which the Contractor would be indemnified against.
Professional indemnity	The Schedule may require the Contractor to maintain professional indemnity insurance for a period extending beyond the completion of the works.

Note: Similar provisions (as appropriate) are dealt with under clause 10 of PW-CF6 and clause 12 of PW-CF7 and PW-CF8.

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 (PW-CF1 to PW-CF5). 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 (PW-CF1 to PW-CF6).

In relation to professional indemnity insurance, a certificate in the standard format (as supplied with Model Form 1.11 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.

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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.

3.5 Calculating Price Variation (PW-CF1 to PW-CF5)

Overview

In fixed-price lump-sum contracts, the price is fixed for 36 months after the Designated Date/Recovery Date or for 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 arising 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 page 111 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
3.5.1 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). <p>This approach involves establishing the average price of materials to determine the market adjustments, and rates in Registered Employment Agreements to determine labour increases.</p>	216
3.5.2 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). <p>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</p>	220

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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 (PV2) rather than on proven costs (PV1).

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 as follows:

For...	From...
Hyperinflation and eligible changes in legislation	The Designated Date (ten days before the closing date for receipt of tenders)
Other eligible labour and material adjustments.	The Base Date

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:

1. 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; and selecting the highest of these prices;
2. Calculating the percentage increase in the price at the time of purchase in relation to that selected price; and
3. Checking if this percentage is greater than 50%, and 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.

Example: Hyperinflation 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

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3.5.1 PV1: Proven Cost Method, Continued

**Example:
hyperinflation
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, customs or excise duties, requirements for a licence to import or export any commodity or
- Changes to PRSI rates.
- Legislative changes not identified in the Works Requirements

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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, known as the Formula Fluctuations Method.

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 to Clause PV2 and Appendix 3 to Clause PV2 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.

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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 approved extension to that date. Costs incurred after that date (or approved extended date) are valued at the rate pertaining at the Date for Substantial Completion or at the approved extension to that date.

This means that, under the price variation clause, the Contractor cannot claim for price increases that occur after the Date for Substantial Completion, and so 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 items such 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.

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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, custom and excise duty, 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 222.

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 8 to Clause PV2 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 7 to Clause PV2 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 Clause PV2 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

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3.5.2 PV2: Formula Fluctuations Method, Continued

Compensation for hyperinflation in the cost of materials (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

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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 222.

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 7 to Clause PV2 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 8 to Clause PV2 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 <i>the</i> 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

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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 that 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 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 prices are higher than at the Base Date) – see step 6 below:

$$\frac{\{ W \times Y \times Z \times P \times (A1 - B1) \}}{B1} - (10\% \times W \times Y \times Z \times P) = K$$

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 8 to Clause PV2 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 8 to Clause PV2 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 7 to Clause PV2 of the Contract attached to the Invitation to Tender.	P x Y

Continued on next page

3.5.2 PV2: Formula Fluctuations Method, Continued

Variations in the cost of materials after the Base Date (continued)

Step	Action	Element in formula
4	<i>Multiply by</i> The weighting assigned to the relevant Material Category in Appendix 8 to Clause PV2 of the Contract attached to the Invitation to Tender.	$P \times Y \times W$
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 8 to Clause PV2 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 7 of Clause PV2 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 8 of Clause PV2 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

Variations in the cost of fuel after the Base Date (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 7 to Clause PV2 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 7 to Clause PV2 of the Contract attached to the Invitation to Tender.	P x Y

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 (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 4 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:

$$Y \times GRI \times EV = LV$$

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 7 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 7 to Clause PV2 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
A	Comparison of Minor Works Contracts and Traditional Contracts Outlines the differences between minor works contracts and traditional employer-design contracts.	236
B	Pre-Tender Checklists Includes a number of checks that the Employer needs to complete before issuing tender documentation.	238
C	Price Variation Calculation under PV2 (Formula Fluctuations Method): Worked Examples Contains a number of worked examples to illustrate the application of the various price fluctuation formulae.	244
D	Department of Finance Guidelines on Methods of Measurement Details of Department of Finance approved method of measurement (Building) and amendments to approved methods of measurement (Civil).	254

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
1.6 Parent Company Guarantee	There is no requirement on the Contractor under the contract 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?	
8	Have the award criteria and sub-criteria been decided	

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, Community 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	Schedule of Rates in the Pricing Document (completed by the tenderer)	
3	Tender total calculated	
4	Schedule (completed by tenderer) Parts 1 and 2	
5	Works proposals (completed by the tenderer)	
6	Daily rate of delay cost given (if applicable)	
7	Daily rates for valuing compensation events given	
8	Adjustments to cost of materials and plant for valuing compensation events	
9	Parent company guarantee (if required)	
10	Performance bond	
11	Insurances	

Appendix C: Price Variation Calculation under PV2 (Formula Fluctuations Method): Worked Examples (PW-CF1 to PW-CF 4)

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:

Example	Reason for price variation	See Page
C2	Hyperinflation in the price of materials within the fixed-price period	247
C3	Hyperinflation in the price of fuel within the fixed-price period	248
C4	Increase in the price of materials after the fixed-price period	249
C5	Increase in the price of fuel after the fixed price period	251
C6	Increase in the cost of non-reusable temporary works after the fixed-price period	252
C7	Increase in labour costs after the fixed-price period	253

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 7 and 8 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 increases in the price of structural steel, as shown in the table below. Of the total amount of structural steel specified in the Contract Sum, 25% 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 7 to the Invitation to Tender).	25%
2. <i>Multiply by Y</i> The percentage value assigned to Materials in Appendix 7 to the Invitation to Tender.	$25\% \times 30\% = 7.5\%$
3. <i>Multiply by W;</i> The weighting assigned to structural steel in Appendix 8 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 7 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 8 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)	105.30
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 8 to the Invitation to Tender).	25%	10%
2. <i>Multiply by Y</i> The percentage value assigned to Materials in Appendix 7 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 8 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) less 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)	212.0

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. <i>Given EV</i> 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. <i>Multiply by Y</i> The percentage value assigned to Fuel in Appendix 7 to the Invitation to Tender.	1,500,000 * 10% = 150,000
3. <i>Multiply by W</i> The weighting assigned to fuel oil in Appendix 8 to the Invitation to Tender.	150,000 * 0.50 = 75,000
4. <i>Multiply by (A1-B1)</i> 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. <i>Divide by B1</i> 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> The proportion of the total value of non-reusable temporary works specified in the Contract Sum affected by this price increase (i.e. 25% of the 5% listed in Appendix 7 of the Contract).	25%
2. <i>Multiply by Y</i> The percentage value assigned to non-reusable temporary works in Appendix 7 of the Contract).	25% * 5% = 1.25%
3. <i>Multiply by Z</i> The Contract Sum (excluding VAT) less any Excluded Amounts and price adjustments.	1.25% * 6m = 75,000
4. <i>Multiply by (CPI^A-CPI^B)</i> The change in the Consumer Price Index from February 2008 to March 2008;	75,000 * (133.6 – 119.3) = 75,000 * 14.3 = 1,072,500
5. <i>Divide by CPI^B</i> The Consumer Price Index for February 2008.	1,072,500 / 119.3 = 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. <i>Given EV</i> 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. <i>Multiply by Y</i> The percentage value assigned to labour in Appendix 7 to the Invitation to Tender;	$1,500,000 * 30\%$ $= 450,000$
3. <i>Multiply by GRI</i> The percentage increase in the General Round of the current Social Partnership Agreement that comes into effect on or after 1 st February 2008	$450,000 * 2\%$
Amount of increase recoverable	= €9,000

Appendix D: Department of Finance Guidelines on Methods of Measurement

D1: Introduction

Public Works Contracts are based on the principle of lump-sum fixed price contracts, and where rules of measurement (such as CESSM, ARM4 with Supplement 1 to ARM4 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.

In relation to specific projects, Employers should ensure that the amendments to the rules of measurement as referred to in the project tender document are not in conflict with this principle.

The Department of Finance publishes a list of 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* (ARM4 with Supplement 1 to ARM4); and
- National Roads Authority's *Method of Measurement for Road Works*.

As a general amendment rule references to a professional discipline (for example, architect or engineer) in any of the foregoing publications should be checked to see if the reference should be to the Employer Representative as identified in the Public Works Contract.

Note: This appendix is not to be regarded as an exhaustive list or 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.

D2: 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 and 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

D2: 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

D2: 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

D2: 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 installments 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.’

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D2: Amendments required when using CESMM3, Continued

Class A: General Items

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 measurement 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: ‘Chiseling 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).

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D2: 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).

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D2: 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)

D3: ARM4 and Supplement 1

Introduction

The provisions of ARM 4, Supplement 1 come into effect on **4th April 2011** with respect to Bills of Quantities that are either in the process of being measured or have yet to be measured at that date.

Supplement 1 is agreed between the Construction Industry Federation and the Society of Chartered Surveyors and approved by the Department of Finance. It is published for use in conjunction with ARM 4 when Bills of Quantities are prepared for projects on which the Employer has selected one of the forms of Contracts for Public Works, published by the Department of Finance on its website www.constructionprocurement.gov.ie.

It replaces Appendix D3 of the Department of Finance Guidelines on Methods of Measurement in the Capital Works Management Framework Guidance Note, Public Works Contracts GN 1.5, 28th July 2009.

Its contents vary the Rules of ARM 4. Any conflict between ARM 4 and Supplement 1 shall be resolved in favour of the contents of Supplement 1 where Schedule Part 1 Section K of the Contract states that ARM4 with Supplement 1 is the method of measurement that has been used in the preparation of the Bill of Quantities.

Changes incorporated in the Supplement

Sections A, General Rules, and Section B, Preliminaries, of ARM4 are amended extensively but there are relatively few changes in the other Sections.

Sections A and B have been printed in full, with text that differs from that in ARM4 shown in bold italics. Significant changes made to the requirements of ARM 4 include the stated obligation that the 'Bills of Quantities' shall fully describe and accurately represent the quality and quantity of work called for in the 'Works Requirements'. It should be noted that the requirement in Section A of ARM4 that '*work of which the extent is not known shall be described as Provisional*' is excluded. **This means that only work called for by the Works Requirements is to be included in the Bills of Quantities.**

All references to Provisional Sums, Provisional Quantities and PC Sums are also omitted from Supplement 1 since these mechanisms are not appropriate in documents that are to be used in conjunction with the Public Works Contracts (except where such use is specifically provided for in the published version of the Conditions of Contract being used). In addition to familiarising themselves with Supplement 1, users are advised to make themselves aware of the ARM4 text that is omitted in full from it.

Where different Rules apply to the Public Works Contracts, only those pages in the other Sections that differ from ARM4 - and their respective facing pages - are included in Supplement 1.

In some Sections, Supplement 1 provides a choice of Rules to be applied, depending on how the risk transfer between the Employer and the Contractor is to be allocated within the particular Contract and on which form of the Public Works Contracts is to be used. In such instances, the text in the relevant Section explains the application of the Rules. This mainly occurs in Sections dealing with the measurement of excavation and associated work. Users are referred, in particular, to pages 12-19 and 24-29 of the Supplement.

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D3: ARM4 and Supplement 1, Continued

Changes incorporated in the Supplement, Continued

Due to the greater flexibility in apportioning risk between the Employer and Contractor offered by the 'Public Works Contract for Building and Civil Engineering Works Designed by the Employer', more onerous measurement requirements are called for by Supplement 1 when this form of contract is to be used, by comparison with those requirements that apply when the 'Public Works Contract for *Minor* Building and Civil Engineering Works Designed by the Employer' is to be used.

When the 'Public Works Contract for Building and Civil Engineering Works Designed by the Employer' is used, and an optional Compensation Event item has 'No' entered against it on Schedule Part 1 K of the form of Contract, all costs associated with the Compensation Event shall be at risk of the Contractor and the Measurement Categories, Unit, Rules, Scope and Deemed to be included entries that are in bold print in Supplement 1 shall not apply. In such a case, a priceable item shall be included for each of the following marked as not being a Compensation Event (i.e. the Contractor is allocated the risk) in Schedule Part 1, Section K, items 18-21:-

- An item of archaeological interest or human remains is found on the Site, and it was unforeseeable.
- The Contractor encounters unforeseeable ground conditions or man-made obstructions in the ground, other than Utilities.
- The Contractor encounters unforeseeable Utilities in the ground on the Site.
- Owners of Utilities on 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

Where the Contractor is to be allocated some, or all, of the risks referred to above and information that is relevant to those risks is provided within the Documents for information purposes only (as set out in Appendix 3 in the Invitation to Tender) and is referred to in the Bill of Quantities, e.g. Site Investigation Reports, Details of Existing Services, etc., then the Bill of Quantities shall draw attention to the fact that the information referred to is not part of the documents to be included in the Contract.

Since the use of Provisional Sums is not permitted within the forms of Public Works Contracts, other changes included within Supplement 1 deal with the provision of and connection to Utilities. A detailed description of the work is required to be provided in the Bill of Quantities (pages 20, 22 and 28 of the Supplement) where the Contractor is required to carry out the work or to include for execution. In the Fittings Section, the loss of the facility provided by ARM4 to cover the supply of items by way of a Provisional Sun should be noted.

D4: ARM4 and Supplement 2

Introduction

ARM4, Supplement 2 has been prepared by a working group established by the Construction Industry Federation and the Society of Chartered Surveyors Ireland. It will come into effect on **1st May 2013**.

Supplement 2 provides those preparing Bills of Quantities with the option to use a less onerous set of measurement rules than those included in ARM4 when measuring the mechanical and electrical elements of the Work Requirements. Supplement 2 defines which of the ARM4 Rules it replaces.

Supplement 2 is approved by the Department of Public Expenditure and Reform for use in conjunction with ARM4 in the preparation of Bills of Quantities for building and related works. It may be only used with the prior approval of the relevant Contracting Authority. Where ARM4 is the document specified by the Contracting Authority as the document to be used and Supplement 2 is not agreed to in advance of the preparation of the Bill of Quantities, ARM4 shall be used without Supplement 2.

The requirement on all Public Works building projects where a Bill of Quantities is prepared is that the work is measured in a consistent manner and to a level of detail that will facilitate the pricing of work, the conduct of the tender competition, the assessment of tenders submitted and the post-contract management of the project. The requirements for the mechanical and electrical content do not differ in this regard from any of the other work.

It is recognised that application of the ARM4 Rules for mechanical and electrical work requires a degree of technical knowledge and time commitment by quantity surveyors that may not always be appropriate to the requirements of a particular project. Supplement 2 provides an alternative set of Rules that require less detail to be provided in the relevant items in the Bill of Quantities than is the case where ARM4 is adhered to in full.

It is expected that the publication of Supplement 2 will ensure that all Bills of Quantities for building projects will contain fully measured sections for the mechanical and electrical work content.

For projects awarded where the Public Works Conditions of Contract are to apply, Supplement 2 may only be used where ARM4 is the Method of Measurement in use for the balance of the work. Where the Conditions of Contract referenced PWC-CF1, 2, 3, 4 or 5 apply and Supplement 2 has been used, the fact shall be referred to in Schedule Part 1 to the Conditions of Contract. Where another of the published Public Works Conditions applies and Supplement 2 has been used, its use shall be referred to alongside the statement in the tender documents that the Rules of ARM4 have been followed.

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D4: ARM4 and Supplement 2, Continued

Mechanical and Electrical Installations to be fully designed

The requirement for Public Works Contracts awarded on the basis of being 'Employer Designed' is that all work required, including the mechanical and electrical installations, is fully designed to the stage where a competent Contractor can construct it. A particular requirement with respect to mechanical and electrical installations is that the integration of those elements into the overall project has been properly considered and necessary co-ordination work undertaken in advance of tenders being obtained. These requirements are not affected by the Method of Measurement adopted.

The Rules of ARM4 Supplement 2 relate solely to how information is presented in the Bill of Quantities / Pricing Document.

Where, on a particular project, it is not possible to achieve the level of design development or integration of the mechanical and electrical design with the general building work to satisfy the above requirements, it shall be incumbent on the Design Team to make the Contracting Authority aware of the deficit. Prior to the issue of the tender documents to the market, the Design Team must inform the Contracting Authority of the reason why the required detailing has not been done and what measures are proposed to manage the exposure of the Contracting Authority to potential cost increases.

Using ARM4 without Supplement 2

Where Bills of Quantities are prepared using ARM4 but Supplement 2 is not adopted, the requirement is that the mechanical and electrical work in the Bill of Quantities is fully detailed in accordance with the requirements of ARM4. Care must be taken to avoid the situation where mechanical and electrical work that is included in a Bill of Quantities is not measured in accordance with the Rules of ARM4 and an exposure is created for subsequent compensation claims in respect of the failure by the Quantity Surveyor to adhere to Rules of ARM4.

Departures from the Rules of ARM4 are not to be adopted without the prior approval of the Contracting Authority.
