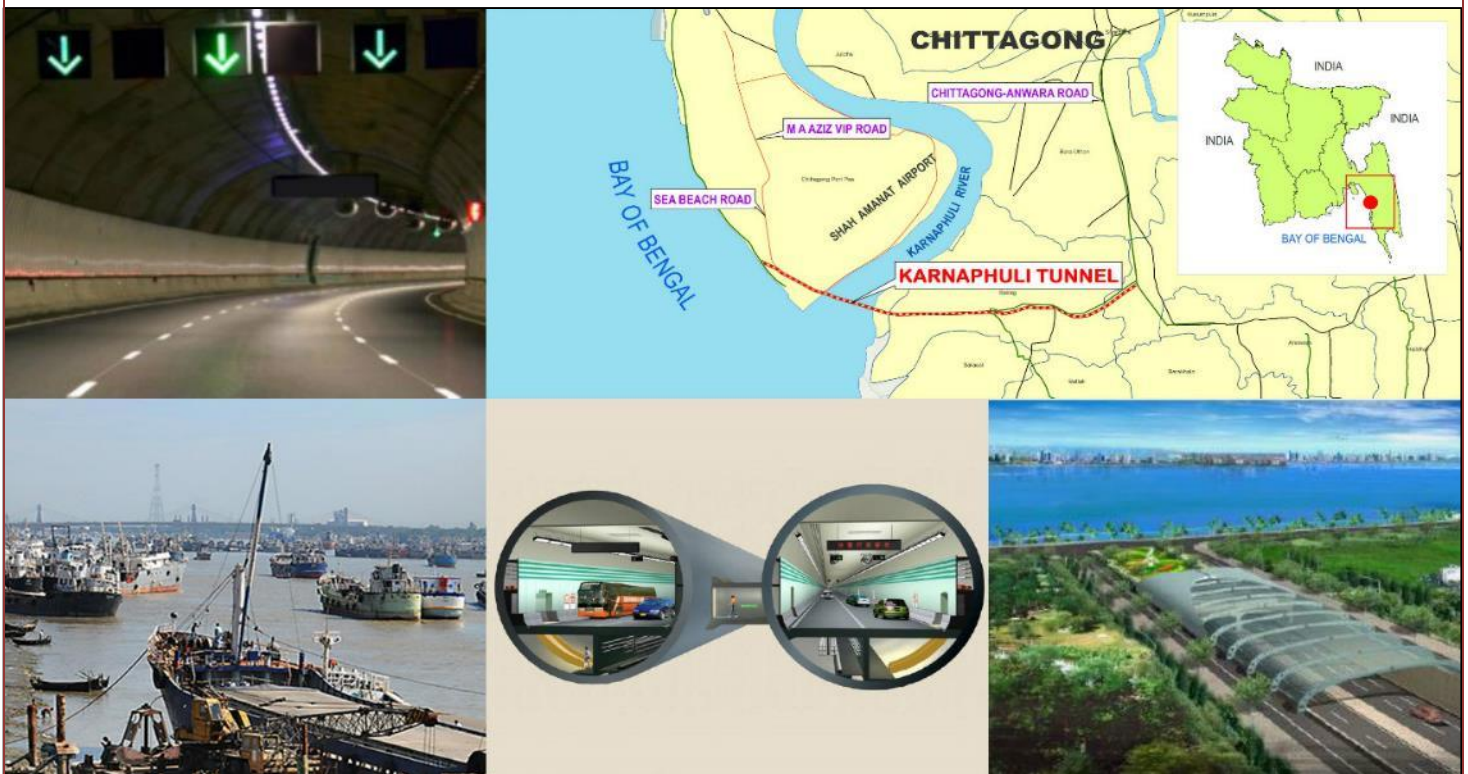


# Design Review and Construction Supervision of Multi-Lane Road Tunnel under the River Karnaphuli, Chittagong

## CONTRACT ADMINISTRATION MANUAL



Bangladesh Bridge Authority  
Ministry of Roads Transport and Bridges  
Government of the People's Republic of Bangladesh

31 January 2017



in Joint Venture with



and in association with



Project Name:	Design Review and Construction Supervision of Multi-Lane Road Tunnel under the River Karnaphuli, Chittagong
Project Number:	5060121
Report for:	Bangladesh Bridge Authority

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The information within this document is and shall remain the property of Bangladesh Bridge Authority.

**Note to Users (delete before issue of the document):**

This Contract Administration Manual has been developed for use on projects where FIDIC Conditions of Contract for EPC / Turnkey Projects, First Edition 1999 (Silver Book) is used. These General Conditions will hereinafter be called the “Silver Book”

Throughout the document, each section has a text box that is to include relevant Particular Conditions (PC). For FIDIC Silver Book, these can be quite extensive and can greatly modify the intent of the Silver Book conditions. Users must examine each Sub-Clause in the PC and ensure they understand its intent and then summarise it for inclusion into this Manual

DRAFT

<b>PRELIMINARIES .....</b>	<b>9</b>
1. INTRODUCTION .....	9
1.1 SMEC's Project Management Plan.....	9
2. THE CONTRACT .....	10
2.1 Contract Agreement.....	10
2.2 Employer's Requirements.....	10
2.3 General Conditions of Contract.....	11
2.4 Particular Conditions of Contract (PC).....	13
2.5 Contractor's Documents and Drawings .....	13
2.6 Technical Standards and Regulations .....	14
3. PROJECT PERSONNEL .....	14
3.1 Project Manager (PM) .....	15
3.2 Employer's Representative .....	16
3.3 Other Employer's Personnel (Assistants) .....	17
3.4 Resident Engineer.....	17
3.5 Client and Employer.....	18
3.6 Contractor .....	19
3.7 Contractor's Representative .....	20
3.8 Sub-Contractors .....	21
3.9 Delegations .....	21
<b>GENERAL PROCEDURES.....</b>	<b>23</b>
4. GENERAL TASKS .....	23
4.1 Engineer's Establishment.....	23
4.2 Record Keeping .....	23
4.3 Daily Site Report and Daily Diaries.....	24
4.4 Data Management.....	25
4.5 Management of Contractual Correspondence .....	26
4.6 Contractor's Document Management .....	28
4.7 Design Information.....	29
4.8 Inception Report and Project Management Plan .....	31
4.9 Site Relations .....	31
4.10 Public Relations and Visitors to Site .....	31
4.11 Workplace Health and Safety .....	31
4.12 Administration of SMEC Staff .....	33
4.13 Inductions and Training.....	34
4.14 Monitoring of Progress .....	35
4.15 Progress Reporting .....	36
<b>CONTRACTUAL PROCEDURES.....</b>	<b>38</b>
5. CONTRACTUAL PRELIMINARIES .....	38
5.1 Commencement of the Work and Time for Completion.....	38
5.2 Contractor Relations .....	38
5.3 Contractor's Programme.....	39
5.4 Possession of Site.....	41
5.5 Removal of Services and Utilities .....	42
5.6 Working Hours .....	42
5.7 Performance Advances and Security.....	43
5.8 Advance Payment Guarantee .....	44
5.9 Setting out the Works.....	44
5.10 Consenting to Subcontractors.....	45

<b>6. SITE MANAGEMENT MATTERS</b>	<b>46</b>
6.1 Site Meetings .....	46
6.2 Contractor's Employees .....	48
6.3 Contractor's Cooperation in Allowing Others on Site.....	49
6.4 Contractor's Labour and Equipment .....	50
6.5 Request for Information.....	50
6.6 Public Relations .....	51
6.7 Photographs and Videos.....	51
<b>7. QUALITY MANAGEMENT</b>	<b>52</b>
7.1 Surveillance of Quality of Materials, Plant and Workmanship .....	53
7.2 Examination of Work Before Covering Up .....	55
7.3 Testing.....	56
<b>8. RISK AND INSURANCES</b>	<b>58</b>
8.1 Risk Assessment Distribution of Risk .....	58
8.2 Care of the Works .....	59
8.3 Injury to Person and Property .....	59
8.4 Interaction with Traffic and Adjoining Properties .....	61
8.5 Avoidance of Damage of al Road and Structures.....	62
8.6 Insurances.....	62
<b>9. TESTS AFTER COMPLETION</b>	<b>64</b>
9.1 Tests at Completion .....	64
9.2 Certification and Payment.....	65
9.3 The Contract Price .....	68
9.4 Delay Damages.....	68
9.5 Price Adjustment .....	69
<b>10. ISSUES, CLAIMS, DISPUTES AND DETERMINATIONS</b>	<b>70</b>
10.1 Issues .....	70
10.2 Contractor's Claims.....	70
10.3 Employer's Claims .....	72
10.4 Delay Damages.....	72
10.5 Disputes and Dispute Board .....	73
10.6 Determinations .....	75
10.7 Suspension of Works .....	75
<b>11. INSTRUCTIONS</b>	<b>76</b>
11.1 Instructions.....	76
<b>12. VARIATIONS AND VALUATIONS AND EXTENSION OF TIME</b>	<b>78</b>
12.1 Variations, Alterations, Additions and Omissions .....	78
12.2 Adjustment to Contract Price .....	80
12.3 Value Engineering.....	81
12.4 Extension of Time Claims .....	81
12.5 Dayworks .....	82
12.6 Provisional Sum .....	83
<b>13. COMPLETION OF THE WORKS</b>	<b>84</b>
13.1 Taking-Over Certificate .....	84
13.2 The Defects Notification Period .....	85
13.3 Performance Certificate .....	87
13.4 Clearing the Site.....	87
13.5 Hand Over of Project Assets.....	88
13.6 As-Built Records.....	88
None.....	89
13.7 Final Report.....	89

13.8	Statement at Completion and Certification .....	89
13.9	The Final Statement, the Discharge and the Final Payment Certificate .....	89
<b>14.</b>	<b>SMEC INTERNAL AUDITS .....</b>	<b>90</b>
14.1	Reason for Audit .....	90
14.2	Conduct OOFof the Audit .....	91
14.3	Audit Report .....	92
14.4	Follow Up Audits .....	93
<b>APPENDICES .....</b>		<b>94</b>
APPENDIX 1 – SURVEILLANCE SYSTEM USING A RESIDENT ENGINEER TO ADMINISTER SITE WORK .....		95
APPENDIX 2 – CONTRACTUAL CLAIMS ASSUMING POWERS DELEGATED TO EMPLOYER’S REPRESENTATIVE AND RESIDENT ENGINEER .....		97
APPENDIX 3 – LIST OF PUBLICATIONS THAT SHOULD BE CONSIDERED FOR PURCHASE FOR CONTRACT MANAGEMENT .....		106

## DEFINITIONS AND ABBREVIATIONS

BMS	SMEC's Business Management System
BOQ or BoQ	Bill of Quantities
CAM	Contract Administration Manual
Consulting Services Agreement	This is the agreement between SMEC and the Client for provision of construction management services for the Project
Contract	This is the agreement between the Client and the Contractor
DAB	Dispute Adjudication Board
Employer	This is the entity entering into the contract with the contractor.
Employer's Requirements	Is the document entitled Employer's requirements, as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, for the Works
EMS	Environmental Management System
EPC	Engineer, Procure, Construct
FM	Functional Manager
General Conditions (Sub-Clause)	General Conditions of Contract
him/himself/he	These words indicating one gender include all genders
Ibid	Same as previous footnote
MDB	Multilateral Development Bank
NCR	Non Conformity Report
OHS&R	Occupational Health and Safety and Rehabilitation
PC	Particular Conditions of Contract
Particular Conditions of Contract (PC)	These conditions compliment the Sub-Clause by specifying data and contractual requirements linked to the special circumstances of the country, the Employer, the Engineer, the sector, the overall project, and the Works. Whenever there is a conflict, the provisions herein shall prevail over those in the Sub-Clause.
Pink Book	This is an International financial institutions harmonised version of the Red Book
PM	Project Manager appointed by SMEC
PMP	SMEC's Project Management Plan
PR	Public Relations
Project	This is the work being undertaken by the contractor
Red Book	FIDIC Conditions of Contract for Construction
RFI	Request for Information
RM	Regional Manager as appointed by SMEC
Silver Book	FIDIC Conditions of Contract for EPC/Turnkey Projects
Surveillance	The continuing evaluation of the status of procedures, methods, conditions, products, processes and services, and analysis of records to assure that quality requirements will be met.
WBS	Work Breakdown Structure
Yellow Book	Conditions of Contract for Plant and Design-Build

**LIST OF KEY CONTRACT ADMINISTRATION STAFF****A. Employer**

[insert address]

[Insert phone, fax and email number]

NAME	DESIGNATION/OFFICE ADDRESS	TELEPHONE DETAILS	E MAIL
	Employer		

**B. Contractor**

[insert address]

[Insert phone, fax and email number]

NAME	DESIGNATION/OFFICE ADDRESS	TELEPHONE DETAILS	E MAIL

**C. SMEC and its Subconsultant<sup>i</sup>**

[insert office/s address/es]

[Insert phone, fax and email number]

NAME	DESIGNATION/OFFICE ADDRESS	TELEPHONE DETAILS	E MAIL
	Employer's Representative		
	Project Manager		
	Project Director		
	Resident Engineer		
	Employer's Assistant		
	Regional Manager		

<sup>i</sup> Insert names of all SMEC staff whom may be associated with this this Contract



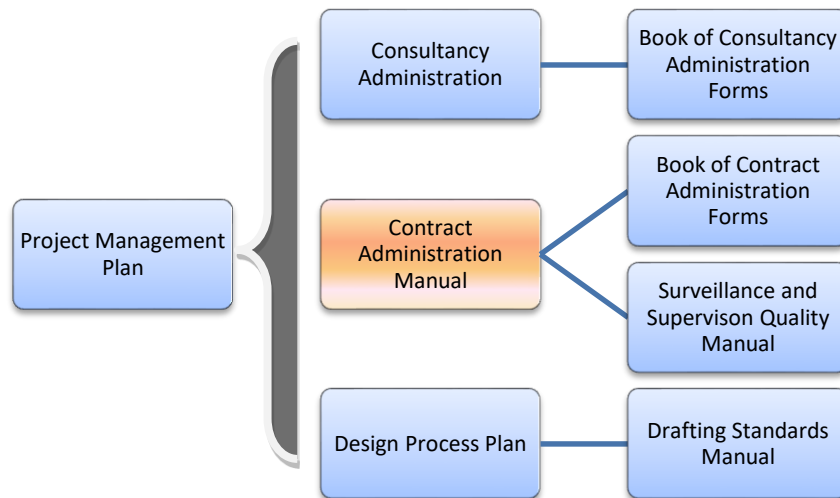
## PRELIMINARIES

### 1. INTRODUCTION

#### 1.1 SMEC's Project Management Plan

SMEC adopts standard operating procedures in order to promote uniformity and efficiency in the management of all projects it is involved in. SMEC requires a Project Management Plan (PMM) to be developed for each SMEC project. The PMP provides guides all SMEC staff with respect to SMEC's management procedures.

For construction projects, this involves the administration of the project team, contract administration of the construction works and where required, administration of any design. A number of manuals have been developed by SMEC to assist in this management, as shown below.



The Design Process Plan is used to manage any designs undertaken by SMEC in its role as the construction administration consultant

This Contract Administration Manual (CAM) shall be used for the guidance of project staff in the execution of contract administration of construction projects. The use of consistent construction administration procedures as provided in this manual will be beneficial to not only the client but also to all SMEC staff associated with the project.

The manual also serves several other purposes including:

- a reminder to the Project Manager as to activities that shall be undertaken in management of the office;
- a training manual for local staff
- a set of procedures for local staff to follow
- a set of procedures from which audits can be produced
- a base from which improved procedures can be developed.

The procedures describe the purpose and scope of processes which are required to be undertaken to ensure the quality of the products and services by outlining what, when, where and by whom the process shall be carried out.

All SMEC staff are required to follow the requirements specified in this CAM where applicable and feasible. SMEC staff are also required to follow all other requirements specified in the Project Management Plan as well as SMEC's Business Management System (BMS).

This document uses certain action words to describe what SMEC staff are required to do. The meaning of these words is shown below:

- "shall" and "will" to indicate the requirement is mandatory
- "should" to indicate the requirement is preferable
- "may" to indicate the requirement is optional

## 2. THE CONTRACT

SMEC is bound by the Consultancy Services Agreement with the client. In this agreement, SMEC has agreed to undertake the role of the Engineer<sup>i</sup>.

The contract agreement between the Employer and Contractor (hereinafter called “Contract”) defines the roles and responsibilities of the Engineer, Contractor and Employer. The documents forming this Contract should be unambiguous (mutually explanatory). The Contract agreement assumes that this is not always possible and an order of priority of the documents has been defined in the Contract. The documents order of priority for this contract are as follows<sup>ii</sup>:

1. the Contract Agreement
2. the Particular Conditions
3. these General Conditions
4. the Employer’s Requirements
5. the Tender and any other documents forming part of the Contract

Those documents with higher priority (higher up the list shown above) will take precedence if there is a conflict between different parts of the contract agreement.<sup>iii</sup>

SMEC always appoints a Project Manager (PM) to manage SMEC’s commercial interests on the project. This is not a contractual position and throughout this manual, the term will be The PM shall ensure a full copy of the Contract (together with variations) is kept in the SMEC project office at all times. This shall include specifications and drawings. As well as these documents, a copy of all supporting documents needs to be kept as well. These documents cannot be edited, modified, marked or removed from the office for any reason. The PM shall ensure that staff are issued with the sections of these documents that pertain to their tasks.

### 2.1 Contract Agreement

The Contract shall come into full force and effect on the date stated in the Contract Agreement. Sub-clause 1.1.1.1 defines “Contract” as the Contract Agreement, these Conditions, the Employer’s Requirements, the Tender, and the further documents (if any) which are listed in the Contract Agreement.

The Contract Agreement is to be based upon the form annexed to the PC as issued to tenderers. When the contract agreement is prepared, the form annexed to the PC shall be updated to reflect what the Parties actually agree. Any ambiguity or discrepancy within or between the contract documents shall be resolved typically in a memorandum annexed to the contract agreement. It is important to note that the contract agreement makes reference to the contract documents. It is normal practice to combine all these documents into a bound document called “The Contract”

Sub-Clause 1.6 states that the Contract comes into effect on the date stated in the Contract Agreement and makes no reference to a Letter of Acceptance.

### 2.2 Employer’s Requirements

#### Relevant General Conditions Sub-Clauses

#### Sub-Clause 1.1.1.3 [Employer’s Requirements]

This sub-clause defines the meaning of the term “Employer’s Requirements” as the document entitled Employer’s requirements, as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design

<sup>i</sup> This role does not necessarily have to be the Employer’s Representative and could be in a role of Employer’s Assistant e.g. the Resident Engineer.

<sup>ii</sup> This list shall be modified in accordance with the requirements stated in the Contract.

and/or other technical criteria, for the Works.

#### Relevant Particular Conditions of Contract

[insert PC requirements here]

In this form of contract, the Contractor is typically required to prove the reliability and performance of the Plant during the Tests on Completion, and the Works are only taken over after successful completion of these tests. Exceptionally, it may be considered necessary for Tests after Completion to be carried out, after the Employer has taken over and operated the Works, so that the guaranteed performance can be demonstrated under normal operating conditions: for example, after operational fouling of the plant.

The Employer's Requirements should specify the particular requirements for the completed Works on a functional basis, including detailed requirements on quality and scope, and may require the Contractor to supply items such as consumables. The Employer's Requirements should describe the tests he requires, after taking-over, to verify that the Works fulfil the Performance Guarantees promised in the Tender. For some types of Works, these Tests may be the most difficult to specify well, although they are critical to a successful outcome. It may be appropriate for the Tender to include detailed arrangements, and/or to define any instrumentation required, in addition to that included in the Plant

Quality should be specified in terms which are not so detailed as to reduce the Contractor's design responsibilities, not so imprecise as to be difficult to enforce, and not reliant on the future opinions of the Employer or Employer's Representative, which tenderers may consider impossible to forecast.

Drawings may be included on which the proposed Works may be outlined. In such cases, the Employer's Requirements should define the extent to which (for example) the Works to be executed by the Contractor must comply with the outline. The incorporation of design aspects into this document should be carried out with care, with full consideration being given to the consequences, including any ultimate responsibility for this design by the Employer.

## 2.3 General Conditions of Contract

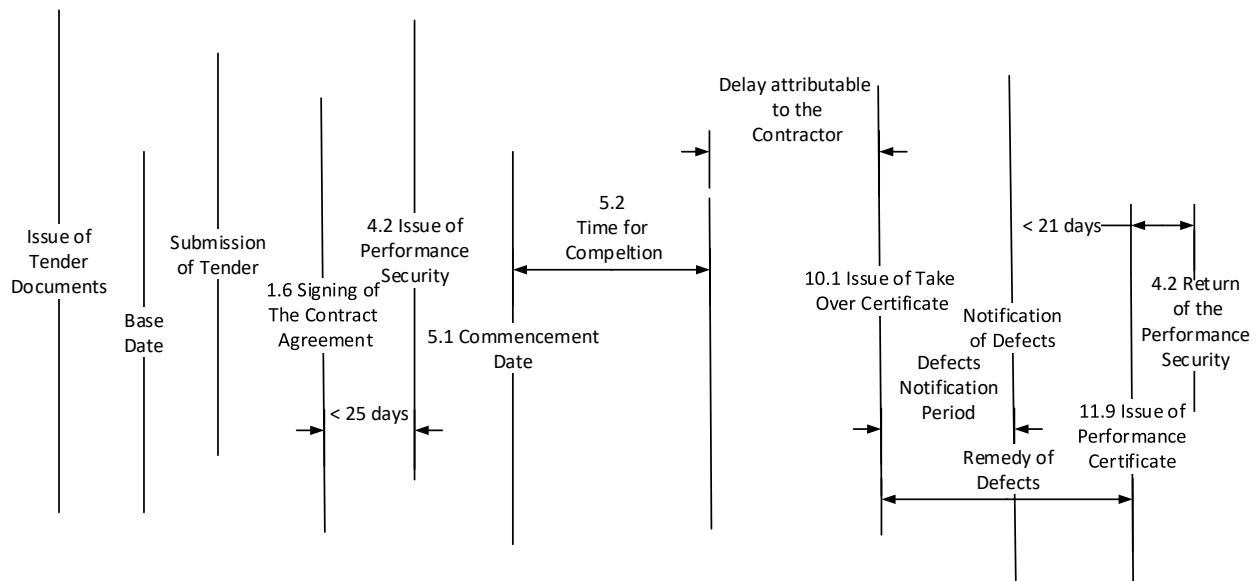
The Conditions of Contract, comprising the General Conditions (Sub-Clause) and Particular Conditions (PC), are a set of terms and conditions, agreed to by the parties to the Contract (i.e. the Employer and the Contractor). They govern the conduct of all parties. They define:

- What all parties are required to do (roles and responsibilities of the Contractor, Employer and Employer's Representative)
- administrative procedures
- risk allocation between the parties
- liabilities of Contractor and Employer
- standards of quality and how it will be monitored
- systems and requirements for payment of the Contractor.

For this project, the Sub-Clause to be used is FIDIC Conditions of Contract for EPC / Turnkey Projects, First Edition 1999 (also known as the Silver Book).

This type of contract conditions was developed for development projects where the requirement is for a high degree of certainty of final price and time and the Contractor takes total responsibility for the design and execution of the project.

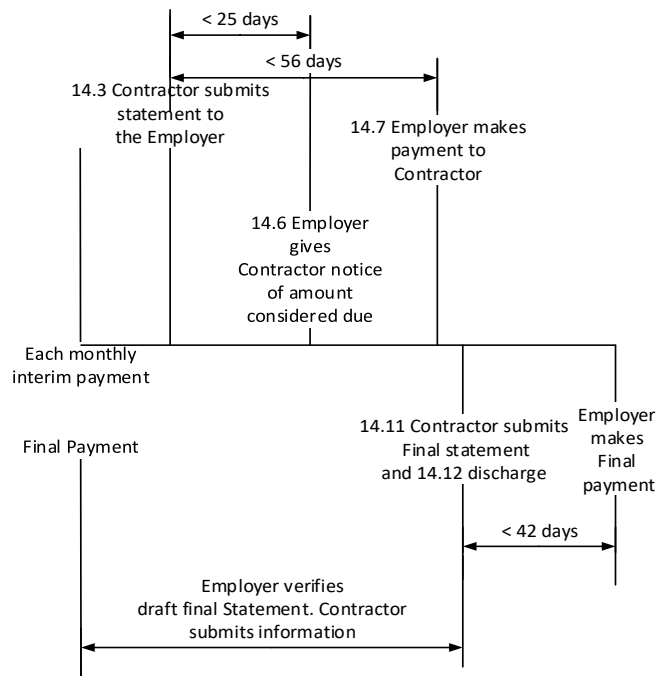
Time is of the essence in a construction contract. Any delay, reasonable or not, slight or not, could be grounds for extra time, although unlikely for this form of contract which could also have cost implications (again unlikely for this form of contract). The Employer and his Personnel (including Employer's Representative and Resident Engineer if appointed) must at all times be aware of all time constraints in the Sub-Clauses and ensure, to the best of their ability, that the time constraints are met. A flowchart showing the most important time based events within the Sub-Clause is shown in the figure below.



**Figure 1: Major General Time Based Events Occurring throughout the Contract**

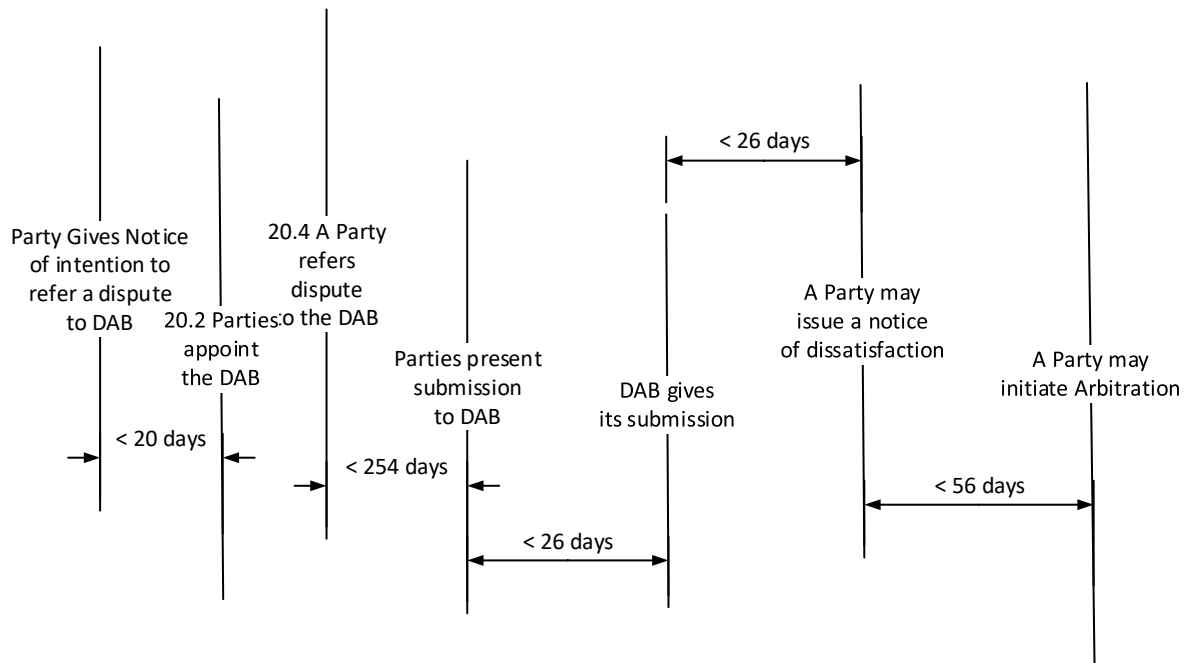
Notes:

1. The Time for Completion is stated in the PC to which is added and extensions of time granted under Sub-Clause 8.4
2. This sequence is based on the Contractor failing to complete the works within the Time for Completion
3. the Defects Notification Period is stated in the PC
4. Tests after Completion may be required and these will be stated in the PC or elsewhere in the contract such as the Employer's Requirements.



**Figure 2: Time Based Events Relating to Payments**

Note: All date can be modified in the PC.



**Figure 3: Time Based Events Relating to Disputes**

The Project Manager will arrange for training of staff with respect to them gaining a full understanding of these time deadlines. One of this Contract Administration Manual's primary purposes is to provide a training tool that the Project Manager can use to instruct his staff.

## 2.4 Particular Conditions of Contract (PC)

The PC are a part of the Sub-Clause and compliment the Sub-Clause by specifying data and contractual requirements linked to the special circumstances of the country, the Employer, the Engineer's Representative, the sector, the overall project, and the Works.

The PC is drafted by the Employer when preparing the bidding document. The PC is reference in the Sub-Clause and requires data to be included in the PC to clarify a requirement in the Sub-Clause. As well as this the PC can include:

1. clarification of the Sub-Clause in a manner similar to the way in which the Bid Data Sheet clarifies the Instructions to Bidders.
2. New conditions developed by the Employer.

Clause numbers in the PC correspond to those in the Sub-Clause.

If the PC is not drafted by those who fully understand the Sub-Clause, conflict may arise. Whenever there is a conflict between the Sub-Clause and PC, the provisions of the PC shall prevail over those in the Sub-Clause. The Project Manager shall ensure all SMEC's contract management staff fully understand these conditions.

## 2.5 Contractor's Documents and Drawings

These are the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature **supplied by the Contractor** (not the Employer) under the contract. Sub-Clause 5.2 (Contract Documents) describes in detail what these documents are including

- documents specified in the Employer's Requirements, which must therefore specify the documents which the Employer requires the Contractor to submit;
- documents which are required to satisfy regulatory approvals, irrespective of whether they are specified in the Employer's Requirements, and
- as-built documents and operation and maintenance manuals under Sub- Clauses 5.6 and 5.7, which may be elaborated in the Employer's Requirements.

## 2.6 Technical Standards and Regulations

### A. Background

#### Relevant General Conditions Clauses

##### Sub-Clause 5.3 [Contractor's Undertaking]

This clause states that the Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with:

- (a) the Laws in the Country
- (b) the documents forming the Contract, as altered or modified by Variations.

#### Relevant Particular Conditions of Contract

[insert PC requirements here]

The design, the Contractor's Documents, the execution and the completed Works shall comply with the Country's technical standards, building, construction and environmental Laws, Laws applicable to the product being produced from the Works, and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable laws. All these laws shall, in respect of the Works and each Section, be those prevailing when the Works or Section are taken over by the Employer under Sub-Clause 10 [Employer's Taking Over]. References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise.

If changed or new applicable standards come into force in the country after the base date, the Contractor shall give notice to the Employer and (if appropriate) submit proposals for compliance. In the event that:

- (a) the Employer determines that compliance is required
- (b) the proposals for compliance constitute a variation

then the Employer shall initiate a Variation in accordance with Sub-Clause 13 [Variations and Adjustments]

## 3. PROJECT PERSONNEL

The Project Owner (herein after called Client) appoints an Employer from its own organisation to administer the Contract.

SMEC is appointed by the Client under a consultancy contract to assist the Employer administer the Contract. SMEC appoints a Project Manager to manage SMEC's interests.

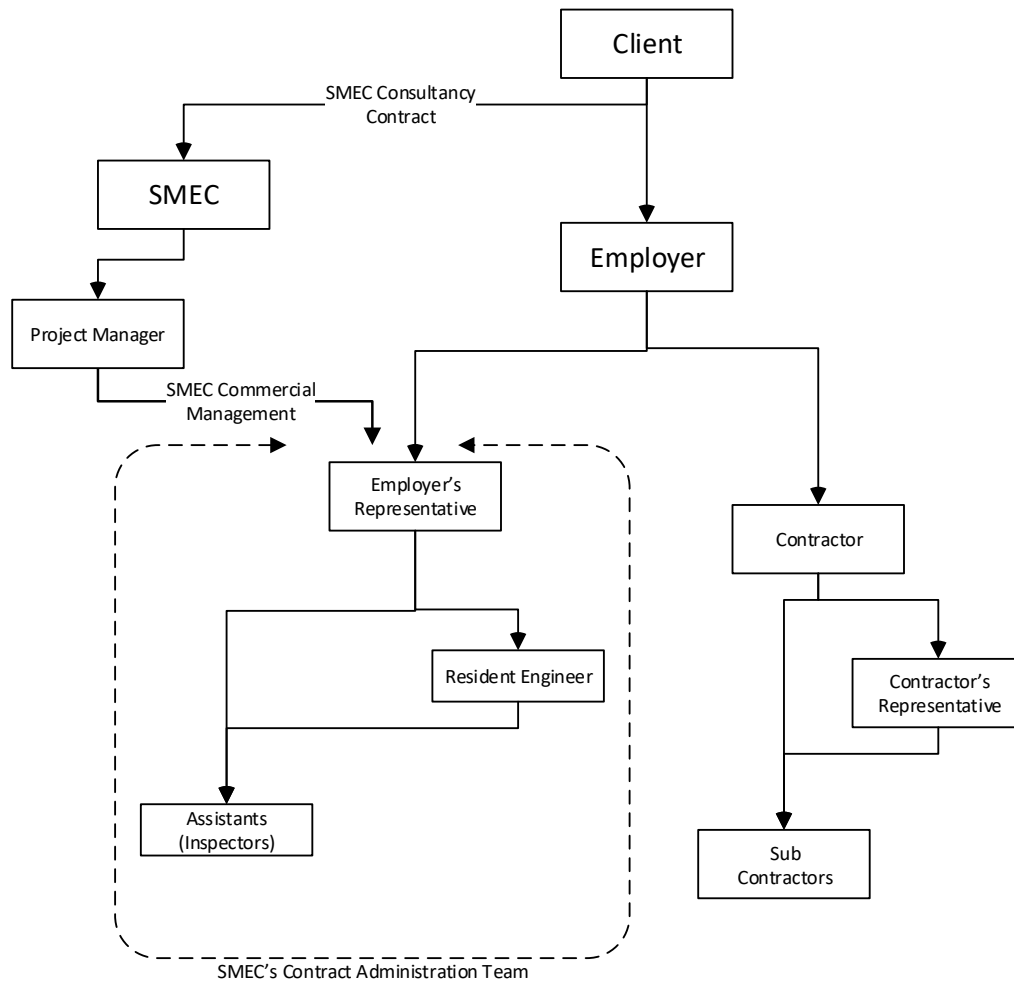
Under the provisions of the Sub-Clause, the Employer may appoint an Employer's Representative and Assistants in addition to carry out certain duties on its behalf. One of these Assistants may be the Resident Engineer who is assigned the day to day duties of the Employer's Representative. These roles are assigned to SMEC personnel.

The Contractor is required to provide all necessary superintendence during the execution of the Works.

The figure below shows the most likely way this organization will linked together.

Each contract will be different. SMEC appoints the Project manager. The client appoints personnel which normally includes personnel from SMEC in the role of Employer's Representative and Resident Engineer.

Notwithstanding it is up to the Employer to decide who he appoints and in what role.



### 3.1 Project Manager (PM)

The Project Manager's (PM's), name is shown above in the list of key personnel.

SMEC requires the appointment of a PM for every project they undertake. SMEC International Pty Ltd has been assigned the role of the Employer's Representative. The PM will represent SMEC and be assigned the role of an Assistant to the Employer<sup>i</sup> and either as the Employer's Representative or Resident Engineer for the purpose of contract administration or in some lesser role. It is not necessary for the PM to have a contractual role as this is a SMEC administration position.

The PM has total responsibility for the day to day management of the Project on behalf of SMEC and for its successful delivery. This includes the delivery of all technical outputs meeting the technical criteria defined in the contract and delivery of a financial outcome that meets or exceeds SMEC's expectations. The Project Manager has been appointed by the Regional Manager.

The PM is the primary person responsible for the project quality and environmental management, including the implementation of quality assurance and environmental management systems for their project. The PM assumes responsibility and accountability for compliance to the relevant occupational health, safety and rehabilitation legislation, codes of practice and standards, as they relate to the workplace and project

<sup>i</sup> or Employer's Representative if SMEC is required to nominate a person for this role.

deliverables. The PM is responsible for ensuring that project communications work well and client liaison is effective and that the client's expectations are always satisfied. The PM does not have to be the first point of contact for the Client but this would not be normal if this did not happen. The PM is responsible to the Regional Manager for the financial and technical performance of the project.

SMEC's financial management system (Epicor Enterprise) assigns a Primary Contact as the manager of the project's financial management system. This Primary Contact is normally the same person assigned the role of Project Manager<sup>i</sup>.

For this construction project, SMEC's PM normally has multiple roles of managing both SMEC's team (hereinafter called "consultant administration"), managing the as well as managing SMEC's contractual with their contractor (hereinafter called "construction administration")<sup>ii</sup>.

### 3.2 Employer's Representative

#### A. Background

The Employer's Representative's name is shown above in the list of key personnel. It is not necessary to have an Employer's Representative but if SMEC is involved, it is highly likely there will be one.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 3.1 [Employer's Representative]

This Sub-Clause has five main point as shown below:

1. This Sub-Clause states that the Employer may appoint an Employer's Representative to act on his behalf under the Contract.
2. In this event, he shall give notice to the Contractor of the name, address, duties and authority of the Employer's Representative.
3. The Employer's Representative shall carry out only the duties assigned to him, and shall exercise the authority delegated to him, by the Employer.
4. Unless and until the Employer notifies the Contractor otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer under the Contract.
5. If the Employer wishes to replace any person appointed as Employer's Representative, the Employer shall give the Contractor not less than 14 days' notice of the replacement's name, address, duties and authority, and of the date of appointment.

#### Relevant Particular Conditions of Contract

[insert PC requirements here]

Unlike the Engineer in other forms of Contract, the Employer's Representative acts, either expressly or impliedly, as the agent of the Employer. He/she does not perform determination / certifier functions under the contract. He/she does not require any degree of impartiality.

The Employer and the Contractor are bound by the obligations included in the Contract. The detailed requirements for the Contractor's work are contained in Sub-Clause and PC as well as other documents such as the Employer's Documents (Drawings etc). The Contractor must comply with all of these. Any test for satisfaction is included in the Employer's Requirements to ensure the Contractor meets its obligations.

The Sub-Clause defines the Contract requirements for the Employer. The Employer appoints the Employer's Representative to be responsible for some of these as an agent for the Employer.

The Employer's Representative has no authority to alter the Contract or to relieve the Contractor of any of his obligations under the Contract.

<sup>i</sup> Insert name of Primary contact if not the Project Manager

<sup>ii</sup> Delete those components that are not applicable



Subject to the necessary powers being given to the Employer's Representative, the Employer's Representative shall exercise the Employer's authority specified by or implied by the Contract to issue instructions, directions and orders to the Contractor that vary the Contract.

The Employer's Representative will need help to complete this work. The Employer or Employer's Representative will appoint Assistants throughout the life of the Contract that may include a Resident Engineer and will delegate to them, with certain exceptions, some of his/her powers and duties under the construction contract. The appointment of Assistants and the delegation to them of powers and duties are undertaken under the provisions of Sub-Clause 3.2) of the Sub-Clause.

If the Contractor is dissatisfied with a determination or instruction which had been given by an assistant or by the Employer's Representative, he may refer the matter to the Employer, who shall confirm, reverse or vary the determination or instruction. The consequences of the reversal will depend upon the nature of the determination or instruction and on the actual events, particularly any events which were influenced by, or took account of, the determination or instruction.

The Consulting Services Agreement between SMEC International Pty Ltd and the client sets out conditions of appointment of the Employer's Representative and these impose restrictions on the Employer's Representatives freedom of action under the construction contract. The PM shall ensure that the restrictions described in the Consulting Services Agreement do not conflict with the restrictions defined in the Contract. Should a conflict exist, the Employer's Representative or PM shall raise this matter with the Employer.

Any powers assigned to the Employer's Representative can be modified or revoked at any stage by the Employer.

### 3.3 Other Employer's Personnel (Assistants)

#### A. Background

##### Relevant General Conditions Sub-Clauses

##### Sub-Clause 3.2 [Other's Employer's Personnel]

This Sub-Clause states that the Employer or the Employer's Representative may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall not take effect until a copy of it has been received by the Contractor.

The appointment of "assistants" is essential for the success of a project. The word "assistants" should not be interpreted as indicating that they will have a minor supporting role. Generally, these persons have a major role in the achievement of a successful project, and should therefore be selected with some care. The word "assistants" is only used in order to allow each appointee to have whatever formal title is considered by the appointing party to be appropriate. Many assistants may need to be appointed, including resident engineer(s) and other professional staff on the Site, and inspectors on the Site and/or to visit manufacturers' works. Some of these persons may need to have authority delegated to them in accordance with Sub-Clause 3.2, so that they can be fully effective. Delegation and revocation do not take effect until copies have been passed to the Parties, and therefore cannot be retrospective.

The Employer should ensure that there are sufficient assistants, and that they comply with the criteria in the second paragraph of Sub-Clause 3.2. They are all included within the definition of "Employer's Personnel".

#### Letter of Delegation

All Assistants appointed, including the Resident Engineer, are responsible to the Employer. All powers and duties must be delegated by the Employer or Employer's Representative, in writing (with copies to the Contractor and the Employer), under the provisions of Sub-Clause 3.2. The main duty will be administering the construction of the works to be able to ensure that they are completed in general accordance with the requirements of the construction contract.

### 3.4 Resident Engineer

#### A. Background

The Resident Engineer is the most senior assistant appointed other than the Employer's Representative. The title "Resident Engineer" is given to indicate this importance.

As can be seen from below, the Employer's Representative may have a large amount of power and duties. A Resident Engineer has therefore been appointed for this project to allow the Employer's Representative more time to focus on the main issues. Many of the powers and duties of the Employer's Representative are delegated to the Resident Engineer.

The Employer's Representative may appoint additional assistants. The Resident Engineer, in consultation with the Employer's Representative, shall determine which powers, duties and responsibilities are to be further delegated to the Assistants to the Employer.

A typical letter of delegation is given in the Book of Forms.

The letter of delegation does not take effect until it has been received by the Employer and the Contractor. The Resident Engineer shall ensure that these delegations are included in a register of delegations.

The Resident Engineer shall give the Employer sufficient advance notice of any absence from site. It is important that, if the Resident Engineer is, at any time, going to be absent from the Site for an extended period (more than 4 days), then a temporary replacement shall be appointed, by the Employer so that appropriate letters can be prepared and delivered.

The Resident Engineer must not instruct the Contractor about matters relating to methods of construction of the Works, type of equipment or the amount to use. The Employer is responsible for verifying the quality of the completed works. The Resident Engineer shall be careful not to interfere, beyond the specific requirements of the Contract, with the manner in which the Contractor undertakes the Works. If this happens, the contractor's profitability may be affected resulting in the contractor making claims for his interference.

The Resident Engineer, within the limits of authority delegated by the Employer, is empowered to give instructions to the Contractor and the Contractor must comply with such instructions. Although the Employer's Representative and the Resident Engineer, have wide powers under the contract to instruct and vary the Works, both must be continually careful not due the financial implications of such instructions being given to the Contractor.

The Employer's Representative and Resident Engineer shall maintain good communications with the Employer on all such matters, and, particularly, must be sure to gain the Employer's specific approval for any expenditure beyond their prescribed limits under the Contract.

It is important that the Employer and Resident Engineer are consistent in their understanding of meanings and requirements.

### 3.5 Client and Employer

The Client's primary responsibilities are to ensure that the Site where the works are to be executed is available for the Contractor when required, that issues related to other external bodies that affect the project are resolved (relocation of utilities etc.) and that payments are made promptly in accordance with the requirements of the Contract. These issues can however have major and serious repercussions if the Client fails in his duties.

The Client appoints and Employer to administer the Contract

The Sub-Clause includes the statement that the Employer covenants to pay the Contractor the Contract Price in consideration of the execution of the Works and the remedying of defects therein. However, this does not mean that the Employer is only required to appoint an Employer's Representative to administer the project and then sign the payment cheques. As well as the responsibilities described above, the Sub-Clause describes a large number of tasks that the Employer, and not the Engineer, must undertake.

Although the Silver Book introductory notes indicates the Employer should exercise limited control over and should in generally not interfere with the Contractor's work, there are still many aspects of the Contract where the Employer has to be involved in the Contractor's work. The Employer's Representative will also have to abide by these requirements and needs to be aware of the, These are described in the table below both for the Sub-Clause.

Sub-Clause CI No	Clause
1.8	Care and Supply of Documents - right of access of the Employer's personnel to all contractor documents as all reasonable times
1.14	Joint and Several liability – prohibiting the Contractor to alter the Contractor's JV or other association without the Employer's agreement
3.4	Instructions – ability to instruct the contractor regarding contract execution

3.5	Determinations – power to unilaterally determine disputed matters such as price increases, decrease and time extensions
4.1	Contractor's General obligations - ability to require the contractor to submit details of contractor's construction methods and arrangements
4.3	Contractor's Representative – power to approve or reject the contractor's representative
4.9	Quality Assurance – ability to audit QA system put in place by the contractor
4.21	Progress reports – requirement of monthly report to the employer
5.2	Contractor's documents – power to review and reject the contractors documents
6.9	Contractor's Personnel – power to order removal of the contractors personnel and representative
7.2	Samples – ability to review samples of materials
7.3	Inspections –power to inspect all parts of the works and progress of construction at all times
7.4	Testing – powers to vary details of any testing
7.5	Rejection – Power to reject plant, materials, design or work
7.6	Remedial Work – power to instruct remedial work
8.3	Programme – power to reject the contractor's programme
8.6	Rate of Progress – power to order an acceleration of works progress
8.8	Suspension of Works – power to suspend work
9.2	Delayed Tests – power to execute testing upon the contractor's failure
11.4	Failure to Remedy Defects – power to reduce contract price or terminate contract for contractor's failure to remedy defects
11.5	Removal of Defective work – power to approve removal of defect work for repair
13.1	Right to vary - power to order a variation
13.3	Variation procedure – power to order a variation proposal form the contractor
13.5	Provisional sums – power to control expenditure of provisional sum
14.6	Interim Payments – Power to withhold payment for non-performance
14.11	Application for final payment – power to approve or reject the contractor's application for final payment
15.1	Notice to Correct – power to order the contractor to carry out any obligation under the contract
15.2	Termination by the Employer – power to terminate the contract
15.5	Employer's Entitlement to Termination – power to terminate for convenience

The PC has also introduced additional requirements as shown below.

PC Clause No	Clause

### 3.6 Contractor

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 4.1 [Contractor's General Obligations]

This clause states that the Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract. The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods,

consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works. The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works. The Contractor shall, whenever required by the Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.

The Works, when completed, shall be fit for the purposes for which they are intended as defined in the Contract. This standard is stated to apply "when completed". The obligation of fitness for purpose would be implied under the Laws of many countries, but is here clarified to relate to the intended purposes (if any) which are defined in the Contract. Generally, the initial purpose should be obvious from the scope defined in the Employer's Requirements, but matters such as ease of maintenance and expected life may need to be specified, unless implied by law. Fitness for purpose is thus the basic criterion with which Contractor-designed Works must comply.

The general duty of the Contractor consists of the obligation to complete the Works in compliance with the Contract.

The Contractor shall appoint a Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative<sup>i</sup>.

### 3.7 Contractor's Representative

#### A. Background

##### Relevant General Conditions Requirements

##### Sub-Clause 4.3 [Contractor's Representative]

The Sub-Clause states that the Contractor shall appoint the Contractor's Representative and shall give him the authority necessary to act on the Contractor's behalf under the Contract. Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement. The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 (Instructions).

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Employer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in English

##### Relevant Particular Conditions Sub-Clauses

<sup>i</sup> He may also be named in the Contract

[inset details of Sub-Clause here]

The role of Contractor's Representative is of much more importance than might be inferred from the few mentions made of this person in the General Conditions. The Contractor's Representative is the individual responsible for the performance of the Contractor's obligations under the Contract, including directing the Contractor's Personnel and Subcontractors. Therefore, before consent is given under this Sub-Clause, both Parties should be reasonably satisfied that the proposed individual appears competent for the task. If a named Contractor's Representative has become unavailable by the time the Contract has commenced, or if he/she is subsequently to be replaced, the Contractor would have to seek two consents, namely to a revocation and to a reappointment.

### 3.8 Sub-Contractors

#### Relevant General Conditions Sub-Clauses

##### Sub Clause 4.4 [Subcontractors]

The sub-clause states that the Contractor shall not subcontract the whole of the Works. The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Where specified in the Particular Conditions, the Contractor shall give the Employer not less than 28 days' notice of: the intended appointment of the Subcontractor, with detailed particulars which shall include his relevant experience, the intended commencement of the Subcontractor's work, and the intended commencement of the Subcontractor's work on the Site.

#### Relevant Particular Conditions Sub-Clauses

[inset details of clause here]

Although the Contractor can appoint Sub-Contractors, the Sub-Clause forbids the Contractor from subcontracting the whole of the Works. The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor.

The Contractor shall not be required to obtain consent to suppliers solely of materials or to a subcontract for which the Subcontractor is named in the Contract. The prior consent of the Employer shall be obtained to other proposed Subcontractors..

### 3.9 Delegations

#### A. Background:

The Employer's Representative under the Contract shall be SMEC International Pty Ltd<sup>iii</sup>. To enable functional administration, the Employer's Representative must delegate powers and authorities to act on its behalf to individuals.

#### Relevant General Conditions Requirements

##### Sub-Clause 3.1 [The Employer's Representative]

This Sub-Clause states that the Employer may appoint an Employer's Representative to act on his behalf. The Employer's Representative shall carry out the duties assigned to him, and shall exercise the authority delegated to him.. Unless and until the Employer notifies the Contractor otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer, except in respect of Termination by Employer. If the Employer wishes to replace any person appointed as Employer's Representative, the

i It is important that the correct company name be used in all correspondence.

ii If the Employer's Representative is a person or the client's representative, insert name.

Employer shall give the Contractor not less than 14 days' notice of the replacement's name, address, duties and authority, and of the date of appointment.

#### **Sub-Clause 3.2 [Other Employer's Personnel]**

This Sub-Clause states that The Employer or the Employer's Representative may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall not take effect until a copy of it has been received by the Contractor.

#### **Sub-Clause 3.3 [Delegated Persons] defined in Sub-Clause 1.4 [Law and Language]**

This Sub-Clause states that all these persons, including the Employer's Representative and assistants shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. If the Contractor questions any determination or instruction of a delegated person, the Contractor may refer the matter to the Employer, who shall promptly confirm, reverse or vary the determination or instruction.

#### **Relevant Particular Conditions Requirements**

[describe requirements here]

### **B. Procedure:**

Sub-Clause 3.2) entitles the Employer's Representative to appoint "Assistants"<sup>xiv</sup>, one of whom will normally be designated as "Resident Engineer" (or "Chief Resident Engineer" in the case of larger projects) and who will normally be delegated the power to appoint further assistants and to delegate powers to them from within the range of powers delegated to him by the Employer.

It is considered undesirable for the Employer's Representative to delegate to the Resident Engineer his powers under Sub-Clause 4.3, for removal from Site of the Contractor's Representative. If this extreme step does become necessary, then the Employer should take upon himself the responsibility for doing so.

Copies of the delegations shall be communicated to:

1. the Contractor;
2. the Employer; and
3. the Financing Agency<sup>i</sup>.

If any delegation is changed or revoked, the above-mentioned parties must be advised.

Any appointed Assistants, including the Resident Engineer<sup>ii</sup>, are responsible only to the Employer and employer's Representative. These people are required to carry out such duties and exercise such authorities as may be delegated to them, by the Employer or employer's Representative, in writing. If the Employer's Representative makes delegations, copies of these delegations must be forwarded to the Contractor and Employer under the relevant provisions of the Sub-Clause. Principal among these delegations shall be administering the construction of the works and ensuring that the Works are completed in accordance with the requirements of the construction contract.

The template for the delegations letter is found in the Book of Forms. It shall be noted that, as well as delegating duties and powers, the Employer and / or Employer's Representative's letter may impose restrictions upon these staff that do not apply to the Employer's Representative (e.g. the Employer's

<sup>i</sup> If appropriate

<sup>ii</sup> While the appointment of a Resident Engineer is not mandatory, it would be most unlikely for the Employer's Representative to be able to devote enough of his time to the supervision of any one construction contract, so that the appointment of an individual to represent the Employer's Representative to act on his behalf, and to lead the Site team would be entirely normal. This manual is written on the assumption that the Employer or Employer's Representative will exercise the option to appoint a Resident Engineer.



Representative may place financial limits on the powers of these to instruct additional works). The letter of delegation does not take effect until it has been received by the Employer and the Contractor.

It is important that, if these staff, at any time are going to be absent from the Site for an extended period (more than, say, 5 days), then a temporary replacement shall be appointed, by the Employer's Representative. These staff must, whenever practicable, give the Employer's Representative sufficient advance notice of any such absence so that appropriate letters can be prepared and delivered.

Unless and until the Employer notifies the Contractor otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer under the Contract, except in respect of Sub-Clause 15. [Termination by Employer].

**C. Records/Templates (see Book of Forms):**

3.8.1: Letter Template for Delegation of Powers and Duties by the Employer's Representative to the Resident Engineer

3.8.2: Letter Template for Appointment of Assistants by the Employer's Representative

## GENERAL PROCEDURES

### 4. GENERAL TASKS

#### 4.1 Engineer's Establishment

**A. Background:** It is generally the responsibility of the Contractor to provide SMEC's offices, laboratory, furnishings, fittings, equipment and transport<sup>1</sup>. The technical specification should describe the requirements for these facilities.

**B. Procedure:** The Project Manager shall ensure that the facilities are fully provided, as specified, and that the facilities specified are adequate to allow SMEC to perform its duties.

If the Project Manager is of the opinion that it is not possible to administer the Contract by a lack of site facilities or lateness in their provision, discussions will be held with the Employer and agreement reached on an appropriate action. Many times the Contractors will try to supply inferior facilities. This must be resisted as the performance of SMEC is very much affected by the facilities provided to its staff.

**C. Records/Templates:**

Nil

#### 4.2 Record Keeping

**Background:** A full set of records must be maintained on site by SMEC Staff (the Employer's Representative and Resident engineer) and other staff for payment and quality assurance purposes as well of the possibility of future litigation.

**Procedure:** These records will include many specific categories of data e.g. quality records, measurement records, payment records, weather records, site communications and communications with the Employer and the Contractor. The principal means of storage for the majority of records shall be hard and soft copy in the Data Management System established by the Project Manager. As much as possible records should be kept electronically for safekeeping after the end of the project. The originals of all communications with the Contractor and Employer must be kept as a hard copy in case of future litigation.

The type of records which shall be kept will vary from site to site. The technical records which will be required will be dictated by the nature of the Works and this may change as the contract progresses. Records shall however include most, if not all of the items listed below.

- all official correspondence received by and sent by the Project manager's staff

<sup>1</sup> If this is not the case, specify the Contract and Consultancy requirements and modify following paragraphs appropriately.

- copies of all instructions, variation orders issued to the Contractor
- all Contract Documents
- registers for all incoming and outgoing correspondence
- materials investigation records, including borehole and test-pit logs and laboratory test reports
- survey data
- drawings received and issued to the Contractor
- a register of third party claims, together with file copies of all such claims and complaints
- materials quality control records
- Daywork sheets etc
- Contractor's labour and equipment returns
- minutes of site meetings
- progress photographs
- daily diaries and reports
- all reports
- copies of all calculations
- Contractor's claims, including all relevant correspondence and Employer's Representative's assessments
- "as-built" drawings
- an OH&S register that records accidents and injuries
- handover of all equipment
- a visitor's book
- staff files

#### **C. Records/Templates:**

Nil

### **4.3 Daily Site Report and Daily Diaries**

**A. Background:** The site report follows a set template and is generally prepared each day and delivered to the Resident Engineer. The daily diary does not follow a set format and is kept by the Inspector throughout the life of the Project. The importance of Site Reports and Diaries cannot be overstated. Inspectors must keep site Reports and SMEC employee must keep a diary, not only to ensure that the maximum amount of detailed information is collected but also to permit cross checking to confirm the truth or otherwise of disputed statements.

#### **B. Procedure:**

Inspectors shall maintain two types of daily records:

1. daily site reports
2. daily diaries

#### **Site Report**

Inspector's site reports are an important form of contract administration records and they are important substantiation for assessing Contractor's claims. Prior to construction commencement, the Project Manager shall discuss with the inspectors and other field staff about the contents to be recorded in the site report. The Project Manager shall ensure that the site reports are properly recorded with all the important site facts included. Discrepancies in information such as weather conditions, numbers and types of plant and labour on site may have important ramifications shall the diaries be relied on in resolving any disputes.

All Staff shall fill in their own Daily Site Report. These forms permit cross-checking of information contained within Site Reports and Contractor's records, that an arbitrator, the courts or the Contractor's legal team etc., will accept as evidence.

Daily site reports shall follow the standard form as shown in the Book of Forms.

Daily entries shall start at the top line, writers must never leave a gap or a blank line, at the end of the last entry for the day a line must be drawn across the page and the remaining lines slashed with a diagonal line. It must be clear that the insertion of additional material at a later stage is impossible. If additional space is required for any entry, the last line shall indicate "(continued on Sheet 2)" and a second diary form shall be attached to the first. The



object of these precautions is to establish diaries as a routine contemporary system of records which will be acceptable as reliable evidence in any subsequent proceedings such as arbitration.

Entries are mainly meant to be factual records, entries should be as they happen during the day, do not attempt to group entries in different parts of the page.

The Daily Site Report shall be filled in at the end of each day, or first thing the next morning or immediately following a period of absence from site (one form may suffice to cover a period eg. sick leave, course etc).

Information to be included in the Daily Site Report may include (where applicable):

- numbers and classification of men and plant engaged and their locations
- dates of commencing and finishing various sections of the work
- areas/structures where work is in progress, with details of work being performed and the major plant and approximate number and classification of men involved
- when work commences in a new area or on a new structure and when work has stopped for a period
- concrete placements achieved, including start and finish times
- subcontractors on site and location of areas where working
- details of any lost time due to industrial disputes, weather etc
- arrival/departure of major items of plant, significant non-availability of major/critical items of plant
- arrival of major items of material
- significant changes to the Contractor's supervisory staff.

The report will be prepared for each main feature of the work and be completed for all normal working days irrespective of whether or not any progress was accomplished.

Inspectors will forward their reports to the Project Manager on a daily basis. The Project Manager will note any matter requiring his action and initial the reports as having been received and reviewed. Any follow-up action required and carried out will be documented in the reports. The Project Manager shall maintain a register of reports received to ensure that all site monitoring staff have submitted all of their reports. The template for this register is found in the Book of Forms.

The Project manager will maintain files of the Inspector's reports and ensure that the reports are submitted daily by maintaining a register of reports received. The template for this register is found in the Book of Forms.

#### **Miscellaneous Information Report**

Daily information such as rainfall, site delays and visitors will be recorded by the Inspectors on a Miscellaneous Information Form. These forms will be retained in a working file by the Inspectors. The form for this report is found in the Book of Forms.

#### **Daily Diary**

All staff should maintain a site diary in which notes and records of daily activities and conversations are kept. The diary is not a substitute for the Daily Site Report and shall record:

- general daily activities. Every day should be recorded. If there is no work carried out on a given day, or the recorder is absent for any reason, these details should be recorded
- details of all substantial conversations held with the Contractor and other stakeholders, as well as any instructions issued and commitments made by either party
- any work or material not conforming to the specified requirements, as well as the action taken
- unforeseen conditions or other problems that may affect the Contractor, dates of commencing and finishing various sections of the work
- particulars of detours including their condition and the date of opening or closing
- directions/instructions given to the Contractor, other than those of a routine nature
- reference to photographs or videos taken at the direction of the Resident Engineer.

#### **C. Records/Templates (Refer to book of Forms):**

4.3.1: Daily Report – General

4.3.2: Daily Report – Equipment

4.3.3: Daily Report – Register of Reports Received and Filed

### **4.4 Data Management**

#### **A. Background:**

The Employer and SMEC's offices will generate a large quantity of contractual correspondence and data throughout the life of a project. Contract management is all about communications. Good data management and communications are essential to successful supervision of a Contract.

The Project Manager through the Resident Engineer and employer's Representative must establish data management, correspondence registration and filing systems, in order to ensure efficient management and traceability and reproducibility of all data stored.

## **B. Procedure:**

### **Method of Storage of Data**

Electronic storage systems offer the advantage of cheaper long term storage costs and better search and retrieval systems. With the advent of much cheaper high speed scanners, the primary system of data management shall be computer based however a hard copy system will still be maintained. The hard copy filing system shall be closely compatible with the electronic system.

All contractual correspondence shall be issued and received as a hard copy. A clear record of delivery of all main items of correspondence shall be kept, by signature of the recipient either on a copy of the correspondence or in a formal correspondence dispatch book.

### **Data Management System**

It is essential that the great majority of all the data generated on Site shall be stored in an efficient data management system. This data shall include hugely voluminous items such as materials quality control data.

The data management system must include a correspondence registration system allied to a filing system which will ensure that correspondence can be traced and reproduced in future.

The Project Manager shall institute a system for the circulation of copies of correspondence so that all the members of staff are aware of the overall conduct of the project and not just matters of their own immediate concern.

All incoming drawings, and subsequent revisions to them, shall be separately registered by type (and possibly source). The issue of all Drawings must be clearly recorded.

The Project Manager shall be the first recipient, after his secretary, of all correspondence, with the exception of certain prescribed communications, such as submissions of completed work for approval, which for practical reasons may be permitted to be submitted directly to nominated site staff.

It is thus important that staff are kept aware of policy in all matters of concern to them and clearly understand the limitations on their authority with respect to correspondence.

### **Storage of Site Records and Correspondence after Project Completion**

The Project Manager should have established a complete electronic record during the life of the Contract. This will only include correspondence and major site documents but all of the quality records will remain as hard copies due to their large number. Many of these hard copy records remain important and should be retained.

The Project Manager must decide, and instruct the Employer's Representative and Resident Engineer, well in advance of Contract completion, the policy to be adopted in respect of the retention, storage and disposal of hard copy documentation after completion of construction.

The Project Manager's project filing system which, if correctly established and maintained, should include all contract data generated during the administration of the Contract. The Project Manager shall work with the Employer's Representative and Regional Manager to decide:

- which documents have become irrelevant after the end of the construction phase
- how will unwanted documents be disposed
- which hard copies of documents will require to be retained until after the expiry of the Defects Liability Period. Hard copies of all documents which are relevant, or could be relevant, to the measurement of the Works, and to the assessment and settlement of claims and disputes, should therefore be retained until after the Contractor has provided the discharge (under Sub-Clause 14.12).

## **C. Records/Templates (Refer to Book of Forms):**

### **4.4.1: File Register**

## **4.5 Management of Contractual Correspondence**

### **A. Background:**

Although management of correspondence is described in the Project Plan and above, additional clarification is provided here for contractual correspondence.

It is essential that all project staff be aware of their limits of authority in communicating with the parties to the contract, of the significance of their written communication and of the formal or contractual communication required.

It is also essential that the distinction between SMEC's role as the Employer's Personnel under the contract be understood and that correspondence be signed and filed appropriately. Matters relating to the consulting services must be clearly separated from those relating to administration of the construction contract to prevent possibly commercially confidential information being revealed during any dispute resolution discovery process.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 1.3 [Communications]**

The giving or issuing of approvals, certificates, consents, determinations, notices and requests shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Particular Conditions; and
  - (b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract.
- However:

- (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
- (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

#### **B. Procedure:**

##### **Drafting of Correspondence**

The Resident Engineer or other staff may draft correspondence for the consideration of the Employer or Employer's Representative or if delegated certain authorities for himself.

All correspondence will have a file number and two associated identifying numbers – a sequence number and a folio number. Inwards and outwards correspondence will have a unique numbering system. The folio number will be a consecutive numbering system to identify each separate sheet in a particular file. Each separate item of correspondence will have only one sequence number but may have a series of folio numbers.

Contractual correspondence within the authorities of the Resident Engineer will be issued under signature of "The Resident Engineer" whilst all contractual correspondence issued within delegated powers of the Employer Representative will be issued under the signature "for SMEC International Limited" (where SMEC is assigned the role of Employer's Representative)<sup>1</sup>.

For all outwards correspondence, the originator will first obtain a file and outwards sequence number from the Office Manager.

After typing and proofreading, the originator will initial the site file copy and obtain the Resident Engineer's or Employer's Representative's signature.

Communications with the Contractor shall refer to relevant Sub-Clauses in the Contract.

The Book of Forms include standard letter templates for many of the letters that might be generated by the Employer's Representative or Resident Engineer if delegated the authority to do so.

##### **Receipt of Contractual Correspondence**

All correspondence shall be addressed to the Employer, Employer's Representative or Resident Engineer (if delegated authority), and not to individual members of the Resident Engineer's staff. The Contractor shall be advised of this at the initial site meeting.

<sup>1</sup> If an individual is appointed, this person shall sign.

The Resident Engineer shall keep the Employer's Representative informed of all important correspondence if not addressed to the Employer's Representative's and other information that are not otherwise adequately recorded in written documentation.

All correspondence will be received at the SMEC's main office (normally the Employer's Representative's office). The Resident Engineer will forward all correspondence on matters not within his authority to the Employer's Representative.

All inwards correspondence will be received by the Office Manager and will be stamped with the date received and the inwards sequence number. A copy will be made and stamped with the distribution list.

The original, together with all attachments, will be filed in the appropriate Box File. Separate Box files will be established for:

- correspondence from Contractor
- correspondence to Contractor
- correspondence from Employer
- correspondence to Employer
- internal Correspondence.

A copy made by the Office Manager will be passed to the Resident Engineer who will allocate a file number and fill in the distribution list.

The Office Manager will then make an additional copy, place it on the appropriate file, give each sheet its folio number and complete the relevant details in the appropriate register. The copy will be circulated to all personnel marked on the distribution list and, at the completion of circulation, will pass back to the Office Manager for placing on the appropriate backup file.

It is important that correspondence shall not be marked with anything other than the initials of staff on the distribution list. Comments on the contents of the correspondence shall not be made on the correspondence itself.

### Issue of Correspondence

For contractual matters within the delegated authority of the Resident Engineer, all correspondence will be responded to from the site.

Correspondence must be signed by the delegated individual and not by anyone else. If the person with the delegated authority is to be absent from site for a lengthy period, it may be necessary to revoke his authority and appoint an alternate during that period.

The copies will be passed to the Office Manager who will place a copy on the relevant box file and backup file, place a copy on the correct site file after giving each sheet its folio number and then complete the appropriate register. The Office Manager will circulate copies of the outward correspondence to other site staff as required for information purposes.

### C. Records/Templates:

4.5.1: Proforma Contractual Letter

4.5.2: Register – Correspondence from Contractor

4.5.3: Register - Correspondence to Contractor

4.5.4: Register – Correspondence from Employer

4.5.5: Register – Correspondence to Contractor

4.5.6: Register – Internal Correspondence

## 4.6 Contractor's Document Management

### .A. Background:

#### Relevant General Conditions Sub-Clauses

#### Sub-Clause 5.2 [Contractor's Documents]

The main points in this Sub-Clause are:

1. The Contractor's Documents shall comprise the technical documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, and the documents described including As-Built Documents and Operation and Maintenance Manuals]. The Contractor's Documents shall be written English.

2. If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Employer for review, they shall be submitted accordingly, together with a notice as described below. Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 day.

3. The Employer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed in accordance with this Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the Parties otherwise agree execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which

are relevant to its design and execution, execution of such part of the Works shall be in accordance with these Contractor's Documents, as submitted for review and if the Contractor wishes to modify any design or document which has previously been submitted for review, the Contractor shall immediately give notice to the Employer.

#### **Relevant General Conditions Sub-Clauses**

[insert PC Sub-Clauses here]

### **B. Procedure:**

#### **Receipt of Contractor's Document**

The description of the content of the contractors documents are described in the Employer's Requirements. Contractor's documents including all drawings, including maps, plans and the like, received in a project or in the Office are to be registered by the Office Manager and then reviewed. Any document no longer required are to be marked as superseded. For drawings to be retained:

- the drawing, or set of drawings, is to be numbered using the next consecutive number in the appropriate section in the "in-drawing" register. Numbers are in the form "project No/IN/xxx" e.g. 32503/IN/023
- enter the drawing details in the appropriate project section of the "in-drawing" register
- mark the "in-drawing" number on the drawing
- check if the drawing supersedes a previously registered drawing in the project or producer section of the register. If a previous drawing is superseded the register entries are to be marked SUPERSEDED and the drawing is to be similarly marked. If only part of a drawing or set of drawings is superseded note that in the register and mark the superseded parts.
- the "in-drawing register" is to contain sections for each project
- the "in-drawing" registers are to use the appropriate pages included with this work instruction.
- the Resident Engineer is the custodian of the "in-drawing" registers and is responsible for their maintenance.

#### **Issue of Drawings**

The Contractor will issue Contractor Documents as part of their contractual requirements. Prior to issue, all revised or new drawings will be checked for variations from the scope of work or departures from the Employer's Requirements. The results of this check will initiate, if necessary, the appropriate procedure for issue of a Variation Order.

If necessary, the SMEC's staff will liaise with the designer to ensure the designer is aware of any drawing that is inconsistent with contractual obligations or that may give rise to a variation. This will give the designer the opportunity to reconsider or confirm the revised drawing prior to issue to the contractor.

After acceptance and issue of drawings for construction by the Contractor, the Project Manager will arrange to update the master set of drawings and Drawings Register.

### **C. Records/Templates:**

4.6.1: Transmittal Advice

4.6.2: Drawing Issue Form

4.6.3: In Drawing Register

4.6.4: Register of Drawings Issued

### **4.7 Design Information**

**A. Background:**

A design consists of not only drawings but the specification, schedules and other support information such as geotechnical data.

Sub-Clause 5.1 states that the Contractor shall be deemed to have scrutinised the Employer's Requirements (including design criteria and calculations, if any). The Contractor shall be responsible for the design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Sub-Clause contains no such requirements for designers to comply with criteria or for them to be subject to anyone's consent. It is assumed that the Employer should not become involved in the choice of designer(s), and that they need not discuss design aspects

**Relevant General Conditions Sub-Clauses**

Sub-Clause 5.1 [General Design Obligations]

**Sub-Clause 5.2** [Contractor's Documents]

**Sub-Clause 5.3** [Contractor's Undertaking]

**Sub-Clause 5.4** [Technical Standards and Regulations]

**Sub-Clause 5.5** [Training]

**Sub-Clause 5.6** [As-Built Documents]

**Sub-Clause 5.7** [Operation and Maintenance Manuals]

**Sub-Clause 5.8** [Design Error]

**Particular Conditions****B. Procedure:**

The Contractor is required to be responsible for the accuracy of the Employer's Requirements, except as stated in the four sub-paragraphs of Sub-Clause 5.1. The Employer is not responsible for their accuracy. It is expected that the Contractor's technical resources exceed those of the Employer.

Sub-Clause 5.2 specifies procedural requirements for "Contractor's Documents", which include calculations, computer software (programs), drawings, manuals and models. These include:

- documents specified in the Employer's Requirements, which must therefore specify the documents which the Employer requires the Contractor to submit;
- documents which are required to satisfy regulatory approvals, irrespective of whether they are specified in the Employer's Requirements, and
- as-built documents and operation and maintenance manuals under Sub-Clauses 5.6 and 5.7, which may be elaborated in the Employer's Requirements.

The procedure for review (which excludes approval) is similarly specified in such a way as not to impose on the Employer any duty to agree to execution proceeding, although it does not prevent him doing so if it is appropriate. Before the expiry of the review period for Contractor's Documents which are relevant to the design and execution of a part of the Works, the Employer should either agree that the Contractor should proceed, or notify the Contractor that the review period is shorter or has expired, or notify the Contractor of any non-compliance with the Contract.

As-built records have to be kept up-to-date, throughout the execution of the Works, and two copies supplied before the Tests on Completion. The Employer's Requirements may specify a larger number of copies, and their format and the extent of technical detail may be described in such Requirements or in any document prepared or completed by the tenderer. However, these factual records do not have to be submitted for review unless the Employer's Requirements specify otherwise.

Design is the responsibility of the Contractor. He will wish to economise, in terms of his costs, which may be at the expense of quality. Therefore, it is considered essential that the Employer has (or procures) expert technical services, in order to ensure that his requirements are elaborated in the tender documents



and are achieved in practice. If expertise is unavailable, problems may arise, particularly in respect of the need for variations.

**C. Records/Templates:**

Nil

#### 4.8 Inception Report and Project Management Plan

**A. Background:** The Project Manager is required to submit a Project Management Plan (PMP) as well as the Inception Report.

**B. Procedure:** Many of the requirements of the PMP will be covered by the Inception Report. If this is the case, there is no need to repeat this information in the PMP. The PM will seek agreement with SMEC's Regional Manager as to the need to submit a PMP as well as an Inception Report. This will depend on the level of detail provided in the Inception Report.

**C. Records/Templates:**

- Inception Report Template

#### 4.9 Site Relations

**A. Background:**

Good site relations are important for both the Employer's Representative, Employer and Contractor.

**B. Procedure:**

The Project Manager shall encourage the Employer's Representative and Resident Engineer to promote good relations and good communications amongst the consultant staff and between consultant staff, the public and the staff of the Employer and the Contractor, as well as with government departments and public utility agencies with whom the contract may be concerned, and with other contractors working at or near the site.

**C. Records/Templates:**

4.9.1: Letter for Removal of Staff from Site

#### 4.10 Public Relations and Visitors to Site

**A. Background:**

Due to the construction activities that are happening on the Site, any visitor entering the Site needs to be made aware of these activities and the risks associated with them.

**B. Procedure:**

The Project Manager is responsible for those visitors invited onto site by the Project Manager or his staff, Where appropriate, visitors shall be accompanied on site by a member of the Project Manager's staff.

A register shall be maintained to record details of visitors to the Site who enter the Site through the office of SMEC.

An adequate supply of safety helmets and other protective clothing shall be available on Site for the use of visitors.

Any requests from the media for interviews and site visits shall be referred to the Project Manager who will usually, in turn, consult the Employer.

**C. Records/Templates:**

Nil

#### 4.11 Workplace Health and Safety

##### Emergencies

The Health, Security and Emergency Evacuation Plan shall address all emergency situations. Procedures shall be agreed, and staff instructed in the application of them in the event of the occurrence of emergencies (e.g. local unrest and war, kidnapping, flooding, fires etc).

**A. Background:**

The Sub-Clauses provided in the GC and PC includes specific requirements for the minimum standard for health and safety on Site. Government legislation is still applicable to the site and all who work on it. The Contractor, Consultant and Employer must adhere to the requirements of the legislation relating to health and safety issues.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 4.8 [Safety]**

This Sub-Clause states that the Contractor shall comply with all applicable safety regulations, take care for the safety of all persons entitled to be on the Site, use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons, provide fencing, lighting, guarding and watching of the Works until completion and taking over and provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

##### **Sub-Clause 6.7 [Health and Safety]**

This Sub-Clause states that Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel collaborating with local health authorities to ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. The Contractor shall send, to the Employer, details of any accident as soon as practicable after its occurrence.

The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Employer may reasonably require.

#### **Particular Conditions**

[add additional Sub-Clauses here]

#### **B. Procedure:**

##### **Safety of Site Staff**

Although the Employer or delegated SMEC staff shall take care not to issue any instruction to the Contractor which may be construed as an instruction to vary the Contractor's work or as interfering with the Contractor's responsibilities, SMEC staff shall react immediately to possible threats to safety of personnel<sup>i</sup>. Staff shall immediately report these concerns to the Contractor.

##### **Safety of SMEC Staff**

Notwithstanding the requirements imposed in the Employer and Contractor by the Contract, SMEC must also treat site safety with the utmost importance. The Project Manager shall appoint a Workplace Health and Safety Officer (WSHO) who will be responsible for SMEC's health and safety issues.

Where it is within their powers to do so, SMEC staff must take reasonable care of the health and safety of themselves and of all others who may be affected by the Employer's, Contractor's or SMEC's Procedure whilst at work.

<sup>i</sup> Increasingly, construction contracts are specifically requiring contractors to appoint safety officers, with varying power to interrupt the Works should unsafe situations arise. Safety officers shall be involved in proceedings (e.g. Site meetings), whenever safety issues are involved.

(It shall also be noted that, under some jurisdictions, the Employer's Representative and the Resident Engineer may be held to share the responsibility for unsafe practices on Site).



The WSHO shall carry out a detailed assessment of the primary risks to health and safety on the Site and in the area in which the Works are to be undertaken. A SMEC Occupational Health and Safety Plan<sup>i</sup> and Health, Security and Emergency Evacuation Plan<sup>ii</sup> shall be developed (part of the Project Management Plan). All staff shall familiarise themselves with these plans, and must adhere to the advice given in the Plans.

Notwithstanding, if anything of a dangerous nature shall become apparent, whether covered by the Plans or not, SMEC staff are expected to take reasonable precautions to mitigate or eliminate this risk.

All SMEC staff shall:

- report immediately, to the Project Manager or WSHO, situations that they consider dangerous
- wear the appropriate protective clothing and/or equipment provided, e.g. safety helmet, safety boots, waterproof clothing, reflectorised jackets, goggles etc. The Project Manager shall ensure appropriate equipment is provided free of charge to all SMEC staff. When staff require equipment, but it is not available, this shall be brought to the attention of the Project Manager, or the WSHO.
- observing written warning signs
- ensure adequate fire fighting equipment and a medical kit is provided and maintained in SMEC's offices and staff must be fully conversant with its use
- if working alone or in isolation from the general area of Site activity, staff shall inform a colleague of where they will be and when they expect to return
- discourage any situation in which the general public could be put at risk by the Contractor's actions
- not interfering with or allow others to interfere with anything provided in the interests of safety
- avoid taking unnecessary risks, e.g. avoiding: parking a vehicle in a situation which is likely to create a hazard, driving without seat belts, standing under suspended loads or; taking extreme care when driving or standing in the path of construction vehicles or; working without protective clothing, signs etc, entering an unsupported open trench.
- when SMEC staff sees a situation developing, or which may develop, which may be dangerous, immediately draw it to the attention of the most conveniently contactable member of the Contractor's staff, and inform the Project Manager of the situation as soon as possible.

The Project Manager must ensure that vehicles and safety equipment are in good working condition. Staff must refuse to use vehicles that they regard as unsafe. In the event of a disagreement over vehicle condition, the matter shall be referred to the Project Manager.

### **C. Records/Templates:**

Nil

## **4.12 Administration of SMEC Staff**

### **A. Background:**

The Project Manager shall be responsible for the conduct of all SMEC staff on the project, as well as the health and welfare and shall be concerned with general health matters. For works undertaken outside Australia, these requirements also apply to the families of these staff.

### **B. Procedure:**

As far as is possible the Project Manager shall ensure that SMEC staff and SMEC subconsultant's staff take reasonable health and safety precautions and that those who become unwell avail themselves of necessary treatment. The Project Manager shall implement a number of actions to achieve the above including:

- removing staff from the site when it is apparent that they continue to ignore the requirements of SMEC's WSHO and Health, Security and Emergency Evacuation Plan
- promoting good relations between SMEC staff and subconsultants at levels and ensuring that all are treated with fairness and respect

<sup>i</sup> For Australian projects – delete if not applicable.

<sup>ii</sup> For International projects – delete if not applicable.

- arranging working times to ensure that sufficient numbers of his staff are present on site while the Contractor is carrying out work requiring supervision. Such working hours must take into consideration the local labour laws.
- controlling leave and overtime (maintain the records of attendance). It is important that SMEC staff maintain good coverage of the contractor's activities. Leave shall be permitted, as far as possible, to conform to the Contractor's programme and/or to coincide with known shut down periods such as public holidays, winter season in very cold countries, floods, etc.

#### **C. Records/Templates:**

Nil

### **4.13 Inductions and Training**

#### **A. Background:**

The Project Manager shall ensure that all staff receive an induction in accordance with SMEC's Induction Checklist and the Contractor's workplace health and safety procedures. The Induction Checklist is found in the Book of Forms.

The Resident Engineer shall ensure that all SMEC staff who will be working with the Sub-Clause receive training at the start of the project in the implementation of the Sub-Clause

#### **B. Procedure:**

##### **Induction**

Once the staff member has completed the induction, he/she shall sign the Induction Checklist and this shall be filed. A register of staff that have completed the induction shall be maintained for the life of the Project.

Any visitor induction is Contractor's responsibility; SMEC induction needs to cover only admin/quality for staff.

##### **Training**

The Project Manager or delegate shall:

- identify existing skills and qualifications of SMEC team members
- identify the way in which tasks and operations influence quality in total
- identify SMEC staff individual's training needs against those required for satisfactory performance of the work.

The Project Manager or delegate shall then plan appropriate specific training for SMEC staff where the needs analysis indicates training gaps. Appropriate training could include:

- on the job training and mentoring
- formal training sessions conducted by team members
- formal training sessions conducted by resources outside the team, including SMEC experts and external providers.

The Project Manager or delegate shall then arrange for implementation of the training plan.

Records shall be kept of the needs analysis training plan and training sessions and results of any assessment.

#### **Training in Understanding of General Conditions**

The Project Manager shall ensure sufficient resource material is made available to these staff to allow them to develop a good understanding of the many issues that they will face throughout the life of the project. The standard form Sub-Clauses are well supported by user guides, books, manuals and other internet material. Appendix 3 provides a list of some reference material. The Project Manager can seek advice from the CTP Contracts (Robin Schonfield) as to the most suitable resource material. The Project Manager shall obtain the prior approval of the Regional Manager (RM) before purchase of training material. The PM has no authority (see the Instrument of Delegation). The Project Manager shall also contact the CTP for advice on what material would be best suited for the SMEC team.

#### **C. Records/Templates:**

4.13.1 Induction Checklist

4.13.2 Training Plan (Example)

4.13.3 Training Attendance Register

4.13.4 Training Workshop Evaluation Form

## 4.14 Monitoring of Progress

### A. Background:

### B. Procedure:

#### I. Financial Progress

The Project Manager shall assign this responsibility to responsible team members who shall exercise financial control adapting the report format in the Book of Forms and Templates to reconcile variations, claims, and cost adjustment and provide an update of the estimated final Contract Price. Adverse cost trends, are less likely in FIDIC Silver Book contracts because far more of the risk has been assigned to the contractor. Any trends shall be identified at an early stage and possible lines of action considered to mitigate adverse cost increases including:

- elimination or mitigation of cause of increase
- design changes reducing scope or quality of work
- adopting less expensive forms of construction
- reprogramming the affected activities
- seeking additional funds.

#### II. Physical Progress

The Project Manager will maintain a special set of drawings and/or schedules on which progress, date of placement, erection or installation, date of inspection and of acceptance of various features of the work will be recorded.

#### Programme

Regular monitoring and documentation of the progress of construction is required to measure project performance and allow an "as-built" program to be produced which will be useful for an analysis of delay claims. This is in addition to the Contractor's programme. It is also required for reporting to the Employer as part of SMEC's monthly report

The construction schedule will be an important document for claims. It is imperative that the construction schedule be understood and used properly. When the critical path changes, the reasons must be recorded so that the information is available for any dispute that may arise.

The Project Manager or delegate will establish the initial Contractual Program on suitable computer software at the start of the Project. This program will be based on the one submitted by the Contractor for the Employer's consent and will be in sufficient detail to identify individual features and the critical path(s).

Where possible, the same software as the Contractor will be used so as to facilitate data exchange.

The Contractual Programme will be fixed as a "baseline" program and actual progress input periodically to give a comparison between planned and actual progress.

#### Drawings, Charts and Schedules

The Project Manager or delegate will maintain a special set of drawings, charts and schedules on which progress, date of placement, erection or installation, date of inspection and of acceptance of various features of the work will be recorded. Drawings and/or charts will be prepared for each major item of work e.g.:

- excavation and earthworks
- road pavements
- bridge substructures
- bridge superstructures
- anchor bars, rock bolts
- foundation drainage
- drilling
- grouting, including water pressure testing
- concrete placement
- embedded metalwork, including pipes

### C. Records/Templates:

4.14.1: Summary Of Physical Progress to Date

4.14.2: Financial Progress Report

## 4.15 Progress Reporting

### A. Background:

The Contractor is responsible for the submission of progress reports. The GC Sub-Clause 4.21 [Progress Reports] describes in some detail what is to be included in the report. It is almost always supplemented by additional requirements that are included in the Employer's Requirements or PC.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 4.21 [Progress Reports]

This sub-clause states that unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Employer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include charts and detailed descriptions of progress, including each stage of design, Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection, testing, commissioning and trial operation, photographs, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of manufacture and deliver, details of personal as per Sub-Clause 6.10, copies of QA documentation, list of variations, safety hazards and a comparison of planned and actual progress.

#### Relevant Particular Conditions Sub-Clauses

[insert a summary of additional PC Sub-Clauses here]

Notwithstanding the need for the contractor to submit a report, SMEC is also required under the consultancy contract to submit a monthly progress report.

### B. Procedure:

#### 1. Contractor Progress report

The Project Manager on behalf of the Employer shall arrange for one of his staff to examine each contractor's report to ensure it conforms to the requirements of Sub-Clause and PC Sub-Clause 4.21 and 6.10.

If not, the Employer must within the review period, give notice to the Contractor that does not comply with the Contract and it shall be rectified, resubmitted and reviewed at the Contractor's cost.

#### 2. Consultant's Progress report

The Consultant's reports shall be concise and should, as far as is possible, be kept free of opinions and jargon. Each section of the report shall be prepared by those who have the most knowledge of that topic. A checklist of suggested contents of progress reports is included in Book of Forms and Templates.

#### I. Physical Progress

Reports on physical progress should include commentary on the progress of the Works, Contractor's resources, instructions and variations, contractual matters, design progress, staff movements and visitors, site meetings, Contractor's equipment and labour and programme.

#### II. Quality Progress

This shall include summarised results of Contractor's materials testing, observations on its conformance with the specifications, as well as any actions to be taken to improve quality.

#### III. Financial Progress

Financial reviews shall include a comparison between programmed and actual expenditure and current estimate of cash flow to completion and should take account of Variation Orders, Site Instructions and should include actual and anticipated claims.

### C. Records/Templates:

#### 4.15.1: Progress Report Template



## CONTRACTUAL PROCEDURES

### 5. CONTRACTUAL PRELIMINARIES

#### 5.1 Commencement of the Work and Time for Completion

##### A. Background:

The Contract shall come into full force and effect on the date stated in the Contract Agreement. Unless otherwise stated in the Contract Agreement the Employer shall give the Contractor not less than 7 days' notice of the Commencement Date. The Commencement Date shall be within 42 days after the date on which the Contract comes into full force

##### Relevant General Conditions Sub-Clauses

##### Sub-Clause 1.6 [Contract Agreement]

This Sub-Clause states that the Contract shall come into full force and effect on the date stated in the Contract Agreement and any stamp duty costs shall be borne by the Employer.

##### Clause 8.1 [Commencement Date]

This Sub-Clause states that unless otherwise stated in the Contract Agreement the Employer shall give the Contractor not less than 7 days' notice of the Commencement Date. The Commencement Date shall be within 42 days after the date on which the Contract comes into full force and effect under Sub-Clause 1.6. The Contractor shall commence the design and execution of the Works as soon as is reasonably practicable after the Commencement Date, and, shall then proceed with the Works with due expedition and without delay.

##### Clause 8.2 [Time for Completion]

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including achieving the passing of the Tests on Completion and completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

##### Relevant Particular Condition Sub-Clauses

[insert relevant PC here]

##### B. Procedure:

The "Commencement Date" is the date on which the Time for Completion commences. The Contractor is required to commence the execution of the Works as soon as practicable thereafter. No period is specified within which he has to commence, because of the practical difficulties in defining what constitutes commencement. The date on which the Works are completed is typically more important than the date on which they appear to have been commenced.

The Employer should not enter into the Contract until he expects to be able to comply with Sub-Clause 2.1 (Possession of Site). The Contractor cannot start work on the Site until possession has been given under Sub-Clause 2.1. The period of 42 days is specified because one or both of the Parties usually prefers an early Commencement Date. If no such time is stated in the Particular Conditions, the Employer shall give the Contractor right of access to, and possession of, the Site with effect from the Commencement Date.

Failure to notify the Commencement Date in accordance with Sub-Clause 8.1 would constitute a breach of the Contract, the effect of which would depend upon the magnitude of the failure and applicable Laws. For example, if the notified Commencement Date were only a few days after the 42 days had expired, the Contractor might only be entitled to relatively small financial compensation, and not to termination.

##### C. Records/Templates:

5.1.1: Letter for Notice of Commencement Date

#### 5.2 Contractor Relations

**A. Background:**

Establishment and maintenance of good relations between the SMEC and the Contractor's staff will aid in the achievement of a successful project.

**B. Procedure:**

The Project Manager and his team including the employer's Representative and Resident Engineer and Contractor shall reach agreement on procedures for communicating between each other at the beginning of the project to assist in avoiding misunderstandings. These procedures will include both oral and written instructions and requests, day to day co-operation regarding joint inspections, measurements and surveys, extent of authority of members of SMEC's staff, members of Contractor's staff who are permitted to receive instructions, etc.

All SMEC's staff shall become familiar with the Contractor's site organisation and the location of equipment, plant, quarries, casting yards etc. The Project Manager, Employer's representative and Resident Engineer shall keep the names, addresses, contact phone numbers and specimen signatures of the Contractor's Representative and other site staff authorised by the Contractor to sign documents and receive instructions. Where appropriate, the SMEC team will exchange with the Contractor, "out of hours" contact details for SMEC and the Contractor's senior Site staff.

**C. Records/Templates:**

Nil

**5.3 Contractor's Programme****A. Background:**

The Sub-Clause requires the Contractor to submit to the Employer, within 28 days after the Commencement Date, a programme for the execution of the Works, and prescribes various data to be included in the submission (which is elaborated upon in the Particular Conditions and specification).

**Relevant General Conditions Sub-Clauses****Sub-Clause 8.3 [Programme]**

The sub-clause states that the Contractor shall submit a time programme to the Employer within 28 days after the Commencement Date. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Unless otherwise stated in the Contract, each programme shall include the order in which the Contractor intends to carry out the Works including the anticipated timing of each major stage of the Works, the periods for reviews under Sub-Clause 5.2 [Contractor's Documents], the sequence and timing of inspections and tests specified in the Contract, and a supporting report. The report includes a general description of the methods which the Contractor intends to adopt for the execution of each major stage of the Works and the approximate number of each class of Contractor's Personnel and of each type of Contractor's Equipment for each major stage.

Unless the Employer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel, shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Employer of specific probable future events or circumstances which may adversely affect or delay the execution of the Works.

In this event, or if the Employer gives notice to the Contractor that a programme fails to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Employer in accordance with this Sub-Clause.

<sup>i</sup> Delete this if it is not elaborated on anywhere else in the Contract



**Relevant Particular Conditions Sub-Clauses**

[insert PC Sub-Clauses here]

**B. Procedure:**

The details required will usually include a cash flow estimate which shall relate to expected expenditure by the Employer (i.e. a schedule of the payments to which the Contractor considers he will become entitled, from the Employer, during the Contract) and not to the Contractor's own cash flow, which may be considerably different<sup>i</sup>.

The Employer's Assistants shall check the programme to see if it is a reasonable representation of the various activity durations and construction sequences in relation to the allocation of resources and methods of execution of the Works.

Within 21 days of receipt of the programme, the Employer must inform the Contractor in what respects the programme does not conform to the requirements of the Contract (if that is the case) and request the Contractor to revise and re-submit the programme.

In examining the Contractor's proposed programme, the Employer's Assistants shall pay particular attention to the following aspects:

- Contractors will sometimes try to use the presentation of their Sub-Clause 8.3 programmes to gain acceptance of additional conditions and qualifications to the Contract. The Employer's Assistants shall examine carefully all notes included by the Contractor in the programme, and the implications of all "latest delivery" dates for design, or materials, or works, any of which could alter the intent of the contract or which appear to be unnecessarily onerous. They shall not be accepted.
- the Employer's Assistants shall examine the programme in relation to the timing of release of information, handing over possession of parts of the site, dates for handing over the Works or Sections of the Works to the Employer, and any other matters relating to the programme about which the Employer is aware, such as the interconnecting projects of others. The Employer's Assistants shall advise the Employer of any actions required of him, such as any third party approvals, handing over dates etc.
- the Contractor's programme may also be of assistance to the Employer in planning the deployment of his own staff, both long-term and specialist visitors.

Contractors will frequently try to take the opportunity of the programme to create situations which may later be conducive to claims. An example is the creation of multiple critical paths so that delay to almost any operation will result in an extension of time. Some of these features of the programming may be legitimate, but the Employer shall ensure that such conditions are not unreasonably included. It is very difficult under the Silver Book to justify a claim for extension as the risks have been passed to the contractor under this form of Contract

- a Contractor may programme to complete the Works ahead of the Contract time for completion. While it is generally good practice to try and assist the Contractor to achieve such early completions, it shall be noted that by programming an early finish, the Contractor does not automatically impose any additional contractual responsibilities on the Employer or the Employer's Representative.
- the Employer's Assistants shall monitor the progress of work in relation to the programme and shall review it with the Contractor at progress meetings. If progress is not in accordance with the programme this shall be drawn to the Employer attention. The Employer has two courses of action:
  - a) if progress is not seriously delayed then the Contractor shall be required to produce a revised programme for the works under the provisions of the Sub-Clause.
  - b) if however, in the opinion of the Employer, the works are progressing too slowly to ensure completion by the required date and if the reason for this delay does not entitle the Contractor to an extension of time, then the Employer may instruct the Contractor under the provisions of the Sub-Clause, both to revise his programme and to adopt revised methods in order to expedite progress and complete within the Time for Completion. It will be noted that for the Employer to implement this Sub-Clause there

<sup>i</sup> Delete this clause if it is not applicable



shall be no outstanding decisions on extensions of time. If a Contractor can later show that extensions of time were warranted, he might be entitled to claim back an appropriate part of the cost of acceleration. The Contractor shall be required to revise its Sub-Clause 8.3 programme whenever an extension of time is awarded.

There is no simple contractual sanction that can be applied to a Contractor, under the provisions of the Sub-Clause, for failure to provide a programme, or for failure to revise a programme to the satisfaction of the Employer. It is arguable that the sanctions provided under Sub-Clause 15.2(c)(i) (i.e. termination) could apply. This would however be a drastic measure and probably inappropriate. The success or otherwise of several categories of claim may depend upon the timings established by an approved programme (e.g. failure to give possession of site, provision of late information etc.) so that an astute Contractor will usually comply.

#### **C. Records/Templates:**

Nil

### **5.4 Possession of Site**

#### **A. Background:**

The Employer gives possession of the Site. Sub-Clause requires that possession of and access to the Site shall be provided in accordance with the times stated in the PC. If no such time is stated in the Contract Data, possession shall be provided in time to allow the Contractor to proceed without disruption and in accordance with the programme.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 2.1 [Right of Access to Site]**

The Employer shall give the Contractor right of access to, and possession of, all the Site parts of the Site within the time (or times) stated in the Particular Conditions. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Employer's Requirements. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Particular Conditions, the Employer shall give the Contractor right of access to, and possession of, the Site with effect from the Commencement Date.

If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

#### **Relevant Particular Conditions Sub-Clauses**

**[insert relevant Sub-Clauses here]**

#### **B. Procedure:**

The Employer's Representative or Resident Engineer shall prepare a schedule of the sections of Site required by the Contractor, and the dates on which they shall be provided, in order that the Contractor can adhere to his programme. This schedule shall be discussed with the Employer's Representative and the Employer to ensure that the letter makes the Site available in good time. Delays in giving possession of Site may result in time and cost claims from the Contractor.

Note that Sub-Clause 2.1 makes it clear that such right of access and possession may not be exclusive to the Contractor alone.

#### **C. Records/Templates:**

*5.4.1: Letter for Possession of Site*

## 5.5 Removal of Services and Utilities

### A. Background:

While the Sub-Clause does not include any specific requirement in respect to removal or repositioning of services and utilities on the Site, these are covered in the Employer's Requirements<sup>i</sup>. The Contractor will be required to relocate the services<sup>ii</sup>.

### B. Procedure:

The Employer's Assistants must familiarise themselves with the specific provisions of the Contract in this regard, from the outset of the contract and must ensure their prompt application<sup>iii</sup>. Because the relocation of services will most likely require the Contractor to work closely with the Service Providers, it is important that the Employer's Assistants foster the relationship between the Contractor and Service Provider and encourage the Contractor to be proactive in working with the Service Providers. This can be achieved through facilitation of meetings. Some of the services that are within the site boundaries remain undetected or incorrectly located at the time of award of the Contract. SMEC staff to always be on the lookout for undetected services. Although this is not the Employer's responsibility, early location of undetected services will provide the Contractor with more time to investigate and then arrange for design of service relocations or protection.

### C. Records/Templates:

Nil

## 5.6 Working Hours

### A. Background:

The Contractor cannot carry out work on the Site on recognised days of rest and any times stated in the Contract Data, unless the Employer agrees or the work is unavoidable such as concrete pours or there is a life threatening event or property is under serious threat. The Contractor may, within the restrictions stated above, work the hours it needs to in order to achieve the programme (subject to the limitations imposed by the government Labour Laws).

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 6.5 [Working Hours]

This Sub-Clause states that that no work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless otherwise stated in the Contract, the Employer gives consent, or the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer.

#### Relevant Particular Conditions Sub-Clauses

[include PC Sub-Clauses here]

### B. Procedure/Approach:

Contractors will most likely seek agreement from the Employer to work seven days a week. The Employer but is advised not to accept the proposal. The reason for this is that such permission may encourage the Contractor to plan and resource on the basis of working a seven day week. Therefore, if any delay occurs, he has already used up any rest days which might otherwise have been used for recovery<sup>iv</sup>.

<sup>i</sup> If not covered in the Employer's Requirements, remove this sentence.

<sup>ii</sup> If this is not the case, change the clause as appropriate.

<sup>iii</sup> Most often the primary responsibility for removal of services and utilities lies with the Employer. However some contracts do include allowance for removal of services under the Contract (with appropriate Provisional Sums included in the Bills of Quantities) in order to cater for any services which may not have been removed by the time the contract starts or for which the need for removal only becomes apparent after construction commences.

<sup>iv</sup> If however the Contractor has provided the larger amount of equipment necessary to achieve completion working, say, only six days a week, on which basis his tender is deemed to have been made, then shall a delay event occur he still has the option, and the resources, to increase his rates of production.

**C. Records/Templates:**

Nil

**5.7 Performance Advances and Security****A. Background:**

Construction contracts have large initial expenditures associated with the mobilisation of plant, materials, personnel and equipment. In order to assist the Contractor with these initial expenditures and reduce its financial burden, the Employer will provide an interest free cash advance to the Contractor. This advance payment is twenty percent of the contract value<sup>1</sup>.

**Relevant General Conditions Sub-Clauses****Sub-Clause 4.2 [Performance Security]**

The main points of this Sub-Clause are:

The Contractor shall obtain a Performance Security for the amount stated in the Particular Conditions.

The Contractor shall supply this to the Employer within 28 days after both Parties have signed the Contract Agreement. It shall be issued by an entity and from within a country approved by the Employer in the form as shown in the Particular Conditions.

The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract e.g.

- in the event of failure by the Contractor to extend the validity of the Performance Security as described in the preceding paragraph, in which event the Employer may claim the full amount of the Performance Security,
- failure by the Contractor to pay the Employer an amount due, as either agreed by the Contractor or determined under Sub-Clause 2.5[Employer's Claims] or Clause 20 [Claims, Disputes and Arbitration], within 42 days after this agreement or determination,
- failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied,
- or circumstances which entitle the Employer to termination

The Employer shall return the Performance Security to the Contractor within 21 days after the Contractor has become entitled to receive the Performance Certificate.

**Specific Particular Conditions**

[insert PC Sub-Clauses here]

**B. Procedure:**

A performance security is required by Sub-Clause 4.2. The Contractor must supply that security, in the amount stated in the Contract Data, to the Employer, within 28 days of the Letter of Acceptance and advise the Resident Engineer accordingly. The Resident Engineer shall check that the Security has been received. When the Employer accepts the Performance Security, the Employer shall return the Contractor's Bid Guarantee.

**C. Records/Templates:**

5.7.1: Performance Security Template

<sup>1</sup> Insert correct percentage.

## 5.8 Advance Payment Guarantee

### A. Background:

A provision for an Advance Payment is applicable to this contract<sup>1</sup>. The Advance Payment is conditional upon the provision by the Contractor, to the Employer, of an advance payment guarantee, in the amount of the Advance Payment as specified in the Contract Data (note that the Advance Payment guarantee is additional to the performance security).

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 14.2 [Advance Payment]

The key point in this Sub-Clause are as follows.

The Employer shall make an advance payment, as an interest-free loan for mobilization and design, when the Contractor submits a guarantee in accordance with this Sub-Clause including the details stated in the Particular Conditions.

The Employer shall pay the first instalment after receiving (i) a Statement (under Sub- Clause 14.3 [Application for Interim Payments] ), (ii) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] , and (iii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer,

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

### B. Procedure:

The Resident Engineer shall consult the Employer to ensure that the security has been correctly furnished, and shall check the advance payment.

This advance payment is repaid to the Employer by deducting pre-agreed amounts from each of the payments made to the Contractor. Following the full repayment of the advance payment the security is returned to the Contractor for cancellation.

The Resident Engineer shall provide to the Employer and to the Contractor an Interim Payment Certificate for the advance payment after receiving a Statement from the Contractor if the guarantee has been provided.

Sub-Clause 14.2 requires the Contractor to extend the validity of Advance Payment guarantee 28 days before the expiry. Under banking procedures if the any guarantee expires, after proper legal notices and the Contractor doesn't extend the validity then Client has the option to deduct full amount of Advance Payment or full amount becomes due.

### C. Records/Templates:

5.8.1: Advance Payment Guarantee Template

## 5.9 Setting out the Works

### A. Background:

It is the Contractor's responsibility to set out the original points, lines and level references. The Employer is not responsible for the correctness of the points at the time of handing over. The Contractor is responsible for the accuracy of the setting out data specified in the Employer's Requirements

<sup>1</sup> Delete this clause if an advance payment is not to be provided.

**Relevant General Conditions Sub-Clauses****Sub-Clause 4.7 [Setting Out]**

The Contractor shall set out the Works in relation to original, points, lines and levels of reference specified in the Contract. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

**B. Procedure:**

The Employer's Personnel (normally the Resident Engineer) shall provide the Contractor, in writing, in accordance with the requirements of Sub-Clause CI 4, details of reference points to be used in setting out the Works. These will have been established in advance, during the design phase.

The Contractor is responsible for the accuracy of the setting out data specified in the Employer's Requirements. The reference points become the responsibility of the Contractor. Shall any become damaged or displaced, the Contractor is responsible for their replacement and for the accuracy of the new reference values related to them. It is wise for the Employer's Personnel (again the Resident Engineer) to check newly replaced reference points if there are staff available for this. Even though the contractor is responsible for any errors, it is better to identify them early in the life of the contract.

The Contractor is responsible for any errors in its setting out. While the Employer's Personnel (most likely the Resident Engineer's staff) and SMEC site staff shall carry out regular monitoring checks on the Contractor's setting out, no check carried out can relieve the Contractor of this responsibility. Tki is major difference between the sivler book and Red Book.

**C. Records/Templates:**

5.9.1: Survey Beacon/Benchmark Details

**5.10 Consenting to Subcontractors****A. Background:**

Sub-Clause 4.4 restricts the Contractor to not subcontract the whole of the Works (with the exception of suppliers of material and any subcontract work for which the Subcontractor was included in the Contract) without the earlier consent of the Employer. This provision is often misunderstood, particularly by Clients, who, imagine that Sub-Clause 4.4 gives them the right to refuse any level of subcontracting they think undesirable. The PC has established an additional requirement limiting the percentage of the Works above which the Contractor cannot subcontract<sup>i</sup>.

**Relevant General Conditions Sub-Clauses****Sub-Clause 4.4 [Subcontractors]**

The most important sections of this Sub-Clause are:

1. The Contractor shall not subcontract the whole of the Works.
2. The Contractor shall be responsible for the acts or defaults of any Subcontractor,
3. Where specified in the Particular Conditions, the Contractor shall give the Employer not less than 28 days' notice of the intended appointment of the Subcontractor, with detailed particulars which shall include his relevant experience, the intended commencement of the Subcontractor's work, and the intended commencement of the Subcontractor's work on the Site.

<sup>i</sup> Delete this sentence if the PC does set further limits on the GC requirements. Use the flowing words in this case "It may not subcontract the whole of the Works, although there is some debate over how much of the work it needs to undertake in order to circumvent this provision."

**Sub-Clause 4.5 [Nominated subcontractors]**

The most important sections of this Sub-Clause are

1. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Employer as soon as practicable, with supporting particulars.

**Relevant Particular Conditions Sub-Clause 4.4 [Subcontractors]**

[insert Sub-Clauses here]

**B. Procedure:**

Sub-Clause 1.5 states that approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. Therefore, to deny the Contractor the right to subcontract up to the limits set in the PC, without very good reason, can be seen as interference with his commercial right to execute the works at the least legitimate cost to himself and could well lead to claims.<sup>i</sup>

The Employer's Personnel (most likely using the Resident Engineer) is responsible for monitoring site operations and so becoming aware of subcontractors, checking whether subcontractors have been approved and advising the Employer's Personnel of non-approved subcontractors working on the site. He shall follow up with the Contractor to ensure that the provisions of the Contract are followed.

**C. Records/Templates:**

Nil

## 6. SITE MANAGEMENT MATTERS

### 6.1 Site Meetings

**A. Background:**

There are two types of meetings that will occur on the Project. These are called Progress Meetings and Site Meetings.

**B. Procedure:**

All meetings shall generate minutes to describe the business of the meeting, decisions agreed, action items to follow, to identify attendees and to indicate distribution of the minutes. Brief, intelligible, and accurate minutes are important and shall be given sufficient attention and care. If meetings are in the field or time is critical, it is permissible to distribute handwritten notes, provided they are legible.

Meetings shall also generate Action Item Lists. These may be part of the minutes or a separate document. Actions to be taken following the meeting shall be clearly described so all parties understand what the action is, shall have a specific name assigned to carry out or otherwise be responsible for the action, and a date by when the action will be completed.

**Contractor Progress Meetings**

The Project Manager (or Employer's Representative or Resident Engineer) shall establish the frequency of progress meetings in coordination with the Contractor. In general, bi-weekly progress meetings are preferred and shall be adopted unless otherwise directed. Where meetings are held at regularly scheduled intervals, the use of a standard agenda will be used. The Project Manager shall see that the minutes are accurately kept, distributed, and filed. The Project Manager shall be copied on all project-meeting minutes. The recommended agenda for progress meetings is as follows:

- minutes of Previous Meeting

<sup>i</sup> Employers shall be advised that if they wish to restrict the extent to which Contractors are to subcontract the Works, then they can legitimately do so prior to letting the Contract (preferably by including the restriction in the Contract Data).



- progress, Construction activities last period (week, two-weeks)
- schedule for next period
- submittals - Other Information or Approval Requirements
- requests for Information
- utilities
- safety
- quality Issues
- changes, Claims, Delays
- any Other Business
- list of Action Items.

A more detailed agenda is included in the Book of Forms.

Depending on the project, other subjects can be added but all of the above shall be addressed. If there is nothing to report or discuss on a particular subject, the minutes shall so note to indicate that the subject was raised.

Progress meetings are important for co-ordination and management of the project but also for the record of progress they generate. It shall always be kept in mind that progress meetings are intended to review and record progress for the past period and to review the planned schedule for the upcoming period.

It cannot be overemphasised that progress-meeting minutes constitute one of the most important elements of the contract document record and shall receive the requisite care and attention. They are important to the management and coordination of the work through the distribution of information to all parties, on and off the project site. They are important for educating new participants on the projects and they are often critical in the resolution of claims or disputes.

Formal progress meetings with the Contractor shall be held at frequencies to suit the needs of the project but, in any event, at least once a month.

Whenever a particular issue, such as progress or financial matters, assumes unusual significance, separate meetings shall be convened to address them.

The Project Manager should organise meetings, proposing agendas and taking and distributing minutes. When practicable, agendas shall be agreed in advance and circulated to all participants. By taking the lead, the Project Manager is able to better control the outcomes.

### **Site Meetings**

The Project Manager can expect, and shall not hesitate to call for, various meetings with various people at various times and at various locations. Often, the only way to get progress on some issues is to get the people involved to sit down together and agree on how to go forward or to resolve some issue. Meetings shall not be called unless really necessary and shall be as brief as the business allows. The Project Manager shall chair the meetings whenever possible and keep the meeting focused and on track.

Site meetings should be chaired by the Project Manager. The Project Manager shall keep minutes, clearly indicating what resultant action is to be taken, who is to take it and any time limits on so doing. The Project Manager shall obtain the Contractor's agreement to them either by getting the Contractor to return a copy of the minutes, signed as agreed, or by recording agreement to them at the next meeting.

The Project Manager should not issue instructions to the Contractor by means of site meetings and their minutes. Instructions may be discussed during such meetings, but shall always be formally issued in the form of a Site Instruction, Variation Order or similar appropriate format.

Where practicable, the Employer's Representative (if an individual) will usually attend Site meetings. In many instances, the Employer will also wish to attend Site meetings. This can be helpful, especially when such meetings can be used to enlist the Employer's help to address problems with government organisations. The Employer may have more influence than can private organisations.

### **Initial Site Meeting**

A meeting with the Contractor will be held in the early stages of the Contract. This meeting will be chaired by the Project Manager and the following will attend for SMEC:

- Project Manager
- Employer's Representative's Representative (if not Project Manager)
- Resident Engineer.

Apart from an exchange of organisation charts and an explanation of the responsibilities of project staff, the agenda for the meeting will include the following:



- contractual obligations of both parties - these include the submission of proposals, schedules, labour and accommodation returns and other information by the Contractor; the handling of correspondence and the issue of drawings
- procedures to be adopted for processing interim payment claims, escalation claims, issue of variation orders, submission of claims by the Contractor and issues of certificates by the Employer's Representative
- technical details and procedures for examination, inspection and testing of work in accordance with the Contract, construction procedures, Contractor's proposals, approvals and directions by the Employer's Representative, submission of construction programmes, and progress reports.
- number of copies of each letter, proposal or other submission required from the Contractor. The number of shop drawings, manuals, spare-parts lists and other data to be submitted by the Contractor is set out in the Contract. The Contractor will also nominate the number of copies of correspondence required.

Draft minutes of this meeting setting out basic agreements and procedures will be recorded and distributed to all persons attending by the Project Manager. The Contractor will be requested to confirm in writing that the minutes represent an accurate reflection of the meeting.

Templates for various forms of meeting (including agendas and minutes) are found in the Book of Forms.

### **C. Records/Templates:**

6.1.1: Agenda for Initial Site Meeting

6.1.2: Agenda For Site Meeting

6.1.3: Template for Minutes of Site Meeting

## **6.2 Contractor's Employees**

### **A. Background:**

The Contractor is required to have a competent person at the site, on a full time basis, as the Contractor's Representative, who shall have all authority necessary to act on the Contractor's behalf under the Contract.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 4.3 [Contractor's Representative]**

This sub-clause states that the Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement. The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [Instructions].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Employer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked. The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]

##### **Sub-Clause 6.9 [Contractor's Personnel]**

The sub-clause requires that Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Employer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who: persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform with any provisions of the Contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment. If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

**B. Procedure:**

The Contractor is required, by the provisions of Sub-Clause 4.3, to formally submit for the consent of the Employer, details of this person.

If the Employer is dissatisfied with the Contractor's Representative, discussions will be held with the Employer regarding the reasons for his objections. Only the Employer can remove the Contractor's Representative from Site.

The Contractor's Representative may delegate any of his powers, functions and authority to others. Such delegation shall not be effective until the Employer shall have received notice of it.

In accordance with Sub-Clause 6.9, the Contractor's Personnel shall be appropriately skilled and experienced in their respective trades or occupations and have appropriate certificates as required by Government legislation. The Employer can request the Contractor to remove any of the Contractor's employees employed on the Site or Works, including the Contractor's Representative who:

- (a) show misconduct or lack of care
  - (b) are incompetent in undertaking tasks or act in a negligent manner
  - (c) fails to conform with Contract requirements
  - (d) undertake activities which are harmful to safety and health of personnel on the Site or the environment.
- Unless the incident is extremely serious, the employee should generally be given a warning in the first instance.

**C. Records/Templates:**

6.2.1: Letter for Objection to Appointment of Contractor's Representative

6.2.2: Letter for Removal of Contractor's Person from Site

**6.3 Contractor's Cooperation in Allowing Others on Site****A. Background:**

The Contractor must permit other contractors contracted to the Employer, the Employer's own employees, or the staff of other official bodies, to enter onto, and work on, the Site for purposes related to the Works or otherwise when specifically required by the Employer to do so or if instructed in the Contract.

**Relevant General Conditions Sub-Clauses****Sub-Clause 4.6 [Cooperation]**

The sub-clause requires that the Contractor shall, as specified in the Contract or as instructed by the Employer, allow appropriate opportunities for carrying out work to: (a) the Employer's Personnel, (b) any other contractors employed by the Employer, and (c) the personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract. Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to incur Cost in an amount which was not reasonably foreseeable by an experienced contractor by the date for submission of the Tender.

Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor. The Contractor shall be responsible for his construction activities on the Site, and shall co-ordinate his own activities with those of other contractors to the extent (if any) specified in the Employer's Requirements. If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Employer in the time and manner stated in the Employer's Requirements.

**B. Procedure:**

Sub-Clause 4.6 requires that the Contractor must give the Employer's Personnel including SMEC personnel reasonable opportunities to undertake their work. In such cases, the Project Manager (and his staff) shall liaise with the Employer and the various contractors in order to try and minimise any potentially disruptive effects.

In the event that the Contractor incurs delays or unforeseeable costs then it shall be entitled to the issue of a Variation Order and to recovery of those costs.

**C. Records/Templates:**

Nil

## 6.4 Contractor's Labour and Equipment

### A. Background:

It is important that accurate record of Contractor's labour and equipment are maintained for the purpose of making progress claim and assessing claim.

#### Relevant General Conditions Sub-Clauses

##### Clause 6.10 [Records of Contractor's Personnel and Equipment]

This Sub-Clause requires that the Contractor shall submit, to the Employer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Employer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

##### Sub-Clause 4.17 [Contractor's Equipment]

This Sub-Clause says that the Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works

### B. Procedure:

The Employer shall instruct the Contractor, at the commencement of the Contract to submit records of:

- labour returns showing the location of labour and their classification between various items of work
- details of equipment at each construction operation, including equipment item description, hours for each item, hours available, hours working and where they were deployed.

Sub-Clause 6.10 says that data shall be submitted monthly. One month is too long a period to get accurate data that can be checked. The Contractor shall be asked to submit this data on a daily basis.

The Project Manager, using his site staff shall check the information provided and agree and record any corrections with the Contractor. These returns may be of considerable benefit in evaluating claims, calculating extensions of time and assessing progress.

The Project Manager, through his Site Inspectors, shall maintain a schedule of all the Contractor's Equipment on Site, recording its arrival date, departure date and status or ownership (e.g. whether hired or owned by the Contractor). It is usual for Contractor's to refer to each item of Equipment by a unique reference number, which the Employer can usefully adopt for reference purposes. The Site Report will be used for the purpose of recording this data.

Sub-Clause 4.17 requires that Major items of Contractor's Equipment are not removed from Site without the consent of the Employer. Reasonable grounds for withholding consent might be based upon indications in previous submissions, which (for example) may have indicated that the item would be required at a later stage. The item might become unavailable if it is taken to another project and was then that project indicated it is intended for exclusive use there.

### C. Records/Templates:

Nil

## 6.5 Request for Information

### A. Background:

From time to time the Contractor may request information in addition to the information provided in the contract documents or for clarification of information provided.

### B. Procedure:

These Contractor requests must be logged and documented. Prior to the commencement of construction, the Project manager shall provide to the Contractor a supply of Request for Information (RFI) forms. The Contractor shall be instructed to use these RFI forms for all information or clarification requests, numbering each request consecutively. A copy of the RFI Form is found in the Book of Forms.

The Contractor shall be instructed to use the RFI forms only for information or clarification purposes. They

shall not be used to request changes to the work or to offer savings through different materials, processes, or procedures. A request for information or clarification may result in a change, which will then be dealt as a variation. On receipt of a RFI, the Employer's Assistants shall review the RFI to determine who is to respond. The Employer's Assistants will track and expedite the RFI to ensure a timely response. The Employer will forward the response to the Contractor together with any further instructions generated by the response. For instance, the RFI may indicate a need to change the design or contract requirements, which will, in turn, generate a variation request.

The Project Manager shall maintain a RFI Log which will list the RFI numerically, describe the nature of the RFI, indicate date of receipt, name of person acting on RFI, date response returned to Contractor and any changes or other instructions generated by the RFI. The RFI Log shall be reviewed at Progress Meetings to ensure that processing of RFIs does not impede the progress of the work. The RFI log template is found in the Book of Forms.

### **C. Records/Templates:**

6.5.1: Request for Information Form

6.5.2: Request for Information Register

## **6.6 Public Relations**

### **A. Background:**

Public relation, community liaison and communication with external stakeholders involves local community members, businesses, media organisations, local elected representatives, councils, other government departments and agencies, public transport providers, emergency services and other interested/enquiring parties.

#### **Public**

Where the local community can see that their comfort, safety and convenience are important and given due consideration, they will be far more co-operative. The Project Manager, in the absence of any specific Public Relations (PR) requirements or prohibitions, shall consider Public Relations an essential element of their duties. The Employer's Representative will always wear some part of the blame should the public criticise project construction activities.

### **B. Procedure:**

The Project Manager shall work closely with the Employer regarding this matter. The Project Manager must take an active role on the Site in public information and involvement programs, handling complaints and providing the interface between residents, businesses, other agencies, Contractor and the Employer.

The Project Manager shall be familiar with contract requirements relating to Public Relations and co-operate with Employer sponsored official programs and monitor Contractor compliance with the Contract PR requirements.

The Project Manager shall, working within his/her powers, take all reasonable steps to mitigate or avoid potential nuisance, disruption, noise, and irritants. The Project Manager shall review the Contractor's notification procedures and ensure that they comply with their contractual requirements.

The Contractor shall be instructed to notify the Employer of complaints received from the public and incidents or disputes that arise from construction operations. These shall be communicated to the Employer.

Consideration for the welfare of the local community will help to prevent incidents and disputes that can affect the progress and/or cost of the work. A complaints register shall be maintained by the Project Manager.

The Project Manager shall only respond to general enquires from the public. Specific enquires, particularly where time/money commitments are being sought, shall be directed to the Employer and Contractor.

#### **Media and Political**

The Project Manager shall direct all media and political enquires, courteously and tactfully, to the Employer's Liaison Officer. Immediately after the inquiry has been redirected, the Employer and/or Contractor is to be contacted by telephone with a background report.

### **C. Records/Templates:**

6.6.1: Complaints Register

## **6.7 Photographs and Videos**

**A. Background:****Photographs**

Progress photographs shall be taken by the Project Manager and Contractor's staff. Photographs shall be taken at the start of construction and shall continue at fixed intervals until the end of construction of the Works.

Progress photographs are the responsibility of the Contractor<sup>i</sup>. Additional photographs will be taken by the Project Manager's staff, as and when required.

**Videos**

Videos provide a useful medium for capturing a succinct overview of project progress special issues/features, the video is used to support photographs not to replace them.

**B. Procedure:****Photographs**

Although the Contractor is responsible for progress photographs, a camera (s) shall be provided for the sole use of SMEC staff on site. All cameras used for this purpose shall have a dating facility and ideally shall be equipped with a zoom lens suitable for both panoramic views and for detailed close ups. All cameras shall be digital and kept charged and available at all times in the Site office to record, as soon as possible after it has occurred, any event for which he considers a photographic record may be necessary, e.g. accidents, damage to property during storms or blasting operations, significant works about to be covered up etc.

For Contractor's photographs, SMEC staff shall accompany the Contractor's photographer around the Site and direct the locations and fields of view required. Emphasis shall be placed on items which may prove to be contentious, and items which are to be covered up. If possible, locations commanding panoramic view of large parts of the Works shall be selected for regular photographs showing the progress of construction. Digital cameras shall have a date stamp and these stamps shall be checked for correctness each time photographs are taken.

The Contractor shall submit digital copies of all photographs taken to the Employer, to permit the Employer's Representative's staff to select those from which prints are required. Prints of progress photographs for record purposes shall be mounted in albums with the project title and date readily visible. Digital copies shall be stored in accordance with SMEC procedures for soft copy filing. Further prints must be supplied to the Project Manager in time for possible inclusion in monthly or other reports.

The Contractor shall take progress photographs twice monthly for all major parts of the project. Where possible, such photographs will be taken from the same vantage point to provide a clear comparison of progress.

The Office Manager will maintain albums and store albums in an appropriate manner. The Office Manager will maintain a register of all photographs that are taken. A template for this register is found in the Book of Forms.

**Videos**

The Project Manager will arrange for a video camera to be located on site and shall ensure that the complete contract works are videoed at least once a month and more frequently as required. All issues are (where practical) to be video recorded. Videos may have an accompanying voice narrative reading instead of written location, direction and captions. All videos shall be recorded with the date and time switched on.

**C. Records/Templates:**

6.7.1: Instruction to Contractor for Taking Photographs

6.7.2: Photograph and Video Register

**7. QUALITY MANAGEMENT**

<sup>i</sup> Delete this clause if this is not the case.

## 7.1 Surveillance of Quality of Materials, Plant and Workmanship

### A. Background:

The contractor is required to develop a large number of plans including quality, environmental, traffic, etc.

#### Relevant General Conditions Sub-Clauses

##### Clause 4.9 [Quality Assurance]

The Sub-Clause requires the Contractor to institute a quality assurance system. The system shall be in accordance with the details stated in the Employer's Requirements. The Employer shall be entitled to audit any aspect of the system. Details of all procedures and compliance documents shall be submitted to the Employer for information before each design and execution stage is commenced. Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

#### Relevant Particular Conditions Sub-Clauses

[insert any additional PC requirements here]

### B. Procedure:

#### Review of Contractor's Quality System

The Quality system is sometimes called a Quality Plan. The Employer's Personnel (normally the Resident Engineer and his staff) shall arrange for the review of the contractor's Quality Control Plan including all Inspection and Test Plans. The reviewers must be experienced and have a good working knowledge of the specifications. Care must be taken throughout this review, as the contractor's quality control procedures determine to some extent the quality of the contractor's deliverables.

Where the plan is found to be deficient the Employer's Personnel shall require the contractor to rework and resubmit the plan. The resubmitted plan shall be reassessed to ensure that deficiencies identified in the original plans have been adequately addressed. If acceptable, the project register shall be completed to reflect this acceptance.

#### SMEC's Surveillance System

The Employer shall accept the Works only when they are in accordance with the Contract as described in Employer's Document. It is assumed that the Employer will assign this role to SMEC staff. SMEC's Site Engineers and Inspectors (and others conducting surveillance) have the primary responsibility for the observation of:

- the work being done (i.e. work method/process) and work conditions
- the end product
- the Contractor's Conformance records (both in the field, his office and his laboratory). Contractor's conformance records shall be monitored for all work lots. Site Engineers (and others conducting surveillance) plus Surveyors shall have the prime responsibility for surveillance of conformance records.

Field surveillance shall be carried out in accordance with a surveillance system that includes a:

- Surveillance Plan
- Surveillance Checklists.

The SMEC's Resident Engineer shall prepare a Field Surveillance Plan, based on the Contractor's Construction Program and Quality Plan, allocating a percentage of available field surveillance time to each work process. For planning purposes about 75% of the Site Inspector's available time shall be allocated to field surveillance, the balance being taken up by daily diaries, and general administration matters.

SMEC's Resident Engineer shall implement a surveillance system for this purpose which is described in detail in Appendix 1.

In respect of quality control, one of the most important tasks of the Resident Engineer is to ensure uniformity of standards of acceptance of all his staff. It is vitally important that the Contractor quickly becomes aware of precisely what standard of workmanship is acceptable to the Resident Engineer, and this standard must remain constant regardless of which member of the Resident Engineer's staff carries out the assessment



**Delivery of Material to Site**

The Contractor shall submit samples to the Employer, for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2, as specified in the Contract and at the Contractor's cost. Each sample shall be labelled as to origin and intended use in the Works.

The Resident Engineer shall require the Contractor to provide a list of all Materials and Plant critical to the Contractor's approved Programme, and their proposed delivery dates and rates of delivery (or, in the case of materials generated on Site their rates of production).

The responsibility for provision of materials and Plant lies with the Contractor. The Resident Engineer shall monitor forecast delivery dates against the latest versions of the Works programme, and to draw the Contractor's attention to any possible delays.

Generally, the Contractor shall be required to provide samples of and, when appropriate, the results of quality testing on, materials originating from any new or previously untried source, whether on or off Site, in sufficient time for their compliance with their assessment. Satisfactory samples shall be labelled and kept by the Resident Engineer for reference and comparison with materials delivered to the Works. Relevant technical data shall be catalogued. Unsatisfactory samples of proprietary materials shall be recorded and the reasons for rejection noted.

The Resident Engineer shall check, inspect and, where appropriate, compare with satisfactory samples, all materials delivered to Site. At regular intervals, the Resident Engineer or one of his assistants shall, whenever practicable, visit and check that the local sources of supply of materials, off Site batching and mixing plants and arrangements for the transport and delivery of materials to Site, are satisfactory. Manufacturers' certificates shall be checked to ensure that they relate to the items and classes of goods actually delivered to Site.

The Resident Engineer shall periodically check all on Site and off Site materials storage areas (including quarries) for proper segregation of materials, protection from the weather, identification of types and sources, shelf life (where appropriate) etc.

**Plant and Equipment Assembled Off Site**

Under this form of contract the extent of off-Site examinations and inspections must have been specified in the Contract. The Employer's Personnel are not expected to monitor the execution of the Works as thoroughly as is usually expected of the Engineer under a construction supervision contract. For all equipment to be assembled or fabricated off Site, the Resident Engineer shall inspect such items at regular intervals during their assembly, to check that materials and workmanship are in accordance with the Contract. The Contractor is required to arrange for permission for such inspections and for any testing required at the site of manufacture. Sub-Clause 7.4 makes provision for the Resident Engineer to attend the tests.

Sub-Clause 7.5 requires that if the Resident Engineer rejects any materials or plant, either brought to site or at the source of supply, the reasons for such rejection shall be stated to the Contractor.

Tests may be required at many stages of manufacture, construction, erection and commissioning, and could be significant in terms of verifying that Plant and Materials are fit for their intended purposes, in accordance with Sub-Clause 14.1. The outcome of the specified tests (i.e., those specified in the Contract) shall be properly recorded in a Contractor's report and a certificate.

**Contractor's Testing Facilities**

The Employer's Personnel must ensure that the staff provided by the Contractor for the purposes of testing are experienced and sufficient in numbers to be able to perform the testing at the required rates<sup>1</sup>. Adequate testing facilities must be provided before the Contractor undertakes construction of any significant portions of the Permanent Works.

**C. Records/Templates:**

<sup>1</sup> Contracts may specify that the Engineer's laboratory is the principle means of testing the quality of materials on site; that its role is to check on the correctness of the Contractor's testing; or that an independent laboratory shall be provided for the provision of materials testing. In each case,



Surveillance procedures are included in the Surveillance and Supervision Quality Manual

7.1.1: Inspection and Test Plan Checklist

7.1.2: Surveillance Plan (Details)

7.1.3: Surveillance Plan (Details)

7.1.4: Surveillance – Non Conformity Report

7.1.5.1: Surveillance Checklist– Level Check

7.1.5.2: Surveillance Checklist– Density Testing

7.1.5.3: Surveillance Checklist– Priming and Sealing and Asphalt

7.1.5.4: Surveillance Checklist– Subbase and Base Course

7.1.5.5: Surveillance Checklist– Concrete

7.1.5.6: Surveillance Checklist– Precast Piles and Girders

7.1.5.7: Surveillance Checklist– Testing: Air Content (Gravimetric), Weight Per Cubic Foot & Yield

7.1.5.8: Surveillance Checklist– Testing: Air Content of Freshly Mixed Concrete by Pressure Method

7.1.5.9: Surveillance Checklist– Testing: Compressive Strength of Concrete Cylinders

7.1.5.10: Surveillance Checklist– Slump of Portland Cement Concrete

7.1.5.11: Surveillance Checklist– Making & Curing Concrete Test Specimens in the Field

7.1.5.13: Surveillance Checklist– Sampling of Fresh Concrete

[additional templates to be developed for surveillance]

## 7.2 Examination of Work Before Covering Up

### A. Background:

Sub-Clause 7.3 requires the Contractor to give notice to the Employer's Personnel whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport, and no part of the Works may be covered up until the Employer's Representative has given his approval to do so.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 7.3 [Inspections]

The Sub-Clause provides four main points as follows:

1. The Employer's Personnel shall at all reasonable times have full access to all parts of the Site and to all places from which natural Materials are being obtained and during production, manufacture and be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.
2. The Contractor shall give the Employer's Personnel full opportunity to carry out these activities.
3. If Employer's Personnel are entitled to examine, inspect, measure and/or test, the Contractor shall give notice to the Employer whenever any such work is ready and before it is covered up.
4. If the Contractor fails to give the notice, he shall, if and when required by the Employer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

### B. Procedure:

On receipt of such notice the Employer's Personnel (Resident Engineer) shall inspect the Works without unreasonable delay. Where applicable, such inspections and approvals shall include inspection and assessment of foundation conditions. The Employer (e.g. Resident Engineer) shall take any measurements appropriate to the Works to be covered up, and shall obtain the Contractor's written agreement to the measurement.

Care shall be exercised over the use of the word "approval". While Sub-Clause 7.3 calls for the Employer's Personnel to give his approval to cover up any part of the Works, in accordance with the provisions of Sub-Clause 11.9, state that only the Performance Certificate shall be deemed to constitute acceptance of the Works

Whilst the Contractor is obliged to give the Employer's Personnel full opportunity to inspect and test, this Sub-Clause assumes that no significant Unforeseeable Cost will be incurred. Tenderers must make appropriate allowance for providing facilities for inspections and testing mentioned in the Contract.

What constitutes an unreasonable delay may vary considerably according to circumstances and the type of work being inspected. It is therefore desirable to agree with the Contractor notice periods for differing elements of the work. The Employer's Personnel (most likely Resident Engineer) shall then organise his staff so that they are able to consistently respond within the agreed times.

The Employer's Personnel (Resident Engineer) may agree that some forms of construction may continue while tests are being undertaken or while test results are awaited. It must however be clearly understood, by the Contractor, that any residual risk arising because the test results may indicate that the work in question is unacceptable, is carried by the Contractor. Thus, if any tests shall fail then the cost of uncovering the failed work, as well as the cost of reinstating it, must be borne by the Contractor.

Sub-Clause 7.3 also permits the Employer to instruct the Contractor to uncover any work for which such notice has not been given before covering up, and reinstate it after testing, all at the cost of the Contractor.

Sub-Clause 7.5), advises that if the Employer's Personnel rejects any materials as not complying with the Contract, or rejects any workmanship, the Contractor shall be instructed to remove and substitute such materials and remove and properly re-execute the faulty work. This requirement applies even if the Employer has previously approved such work or materials. Employer's Personnel may prefer to avoid prescribing the method of rectification, which should remain the Contractor's responsibility

### **C. Records/Templates:**

7.2.1: Submission Of Work For Inspection/Coverup

7.2.2 Request For Inspection Form

7.2.3 Request For Inspection Register

## **7.3 Testing**

### **A. Background:**

Sub-Clause 7.4 refers to the Contractor's responsibility to carry out all the tests specified in the Contract, except for any Tests after Completion. Sub-Clause 7.4 thus also applies to the Tests on Completion

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 7.4 [Testing]**

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any). The main points of this Sub-Clause are:

1. The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently.
2. The Contractor shall agree, with the Employer, the time and place for the specified testing
3. The Employer shall give the Contractor not less than 24 hours' notice of the Employer's intention to attend the tests.
4. If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible
5. The Contractor shall promptly forward to the Employer duly certified reports of the tests. When the specified tests have been passed, the Employer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Employer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

##### **Sub-Clause 7.5 [Rejection]**

The main points in this sub-clause are:

1. If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the Contract, the Employer may

reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons.

2. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

3. If the Employer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall pay these costs to the Employer.

#### **Relevant Particular Conditions of Contract**

*[insert Sub-Clauses here]*

Tests may be required at many stages of manufacture, construction, erection and commissioning, and could be significant in terms of verifying that Plant and Materials, and Works, are fit for their intended purposes, in accordance with Sub-Clause 4.1. The final paragraph of Sub-Clause 7.3 therefore requires the outcome of the specified tests (i.e. those specified in the Contract) to be properly recorded in a Contractor's report and a certificate.

Sub-Clause 7.4 states that it is the Contractor's responsibility to carry out all the tests specified in the Contract, except for any Tests after Completion. The Employer's Personnel are to be given all reasonable access to inspect and test materials and workmanship.

Employer's Personnel may prefer to avoid prescribing the method of rectification, which should remain the Contractor's responsibility.

B. Procedure

C. Records/Templates

### **7.4 Offshore Testing**

#### **A. Background:**

The ER shall provide suitably qualified and experienced staff to conduct inspections from time to time of manufacturing work done outside Bangladesh for the Works. The Consultant has included the costs and expenses of such inspections in its fee and shall ensure that such staff accept no gratuities or inducements from the Contractor or third parties in connection with their work.

The major issue with offshore manufacturing is quality control (or lack of it). To mitigate this risk, there are a number of things the Contractor should do:

Establish a Quality Standard for Each Product – by creating formal documentation that establishes what is acceptable and what is not in terms of appearance, function, dimension, performance, etc., The ER will at least have a starting point to argue what is a good product and what is not. Without formal quality standard documents such as detailed drawings, test plans, process control plans, etc. product quality can quickly become a war of opinions with no winners.

Ensure the Manufacturer Has Quality Management System in Place. Before agreeing to any offshore manufacturer visit them in person and ensure they have a quality management system in place such as ISO9001. How do they measure their quality and performance as a company? How do they build quality checks into every step of the manufacturing process.

The problem is that quality can be a very real issue with offshore contract manufacturing and only extensive in-person supplier interviews and evaluations can root out whether a manufacturer is acceptable.

- Review of survey data
- Review of equipment proposed for the works
- Review of borrow pits
- Review of quality control testing
- Review of construction throughout the life of construction.
- Regular audits and site inspections

B. Procedure

C. Records/Templates

## 8. RISK AND INSURANCES

### 8.1 Risk Assessment Distribution of Risk

#### A. Background:

Project risk is defined as an uncertain event or condition that may have a positive or negative effect on one or more project objective including :

- completion within the time scheduled for completion
- completion within the agreed budget or contract price
- completion of the specified scope
- completion to the specified standards.

An important function of the Sub-Clause is to clearly define the distribution of risk and responsibility between the parties (the Employer and the Contractor). Sub-Clause 17 is principal amongst the Sub-Clauses defining distribution of risk and liabilities, although Sub-Clauses of other sections of the Sub-Clauses are relevant as well. Sub-Clause 18 recognises that certain risks can further be distributed by transferring some of them through Insurance, and lays down responsibilities for implementing insurances.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 17.1 Indemnities

This Sub-Clause relates to the Contractor and Employer indemnifying the other party against bodily injury, sickness, disease or death, of any person whatsoever arising the design, execution and completion of the Works in the case of the Contractor and negligence, wilful act or breach of the Contract by the Employer.

##### Sub-Clause 17.2 [Contractor's Care of the Works]

This clause states that the Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued. After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed. The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

##### Sub-Clause 17.3 [Employer's Risks]

This sub-clause identifies Employer's project risks including (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country, (c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors, (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and. (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

##### Clause 17.4 [Consequences of Employer's Loss]

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Employer and shall rectify this loss or damage to the extent required by the Employer.

#### B. Procedure:

As well as assisting the Employer manage the contractual risks as described in the GC, SMEC requires the Project Manager to prepare a Risk Management Plan for the contract works and consultancy. The contract works

plan focus on those issue that place the project at risk whereas the consultancy plan focuses on risks that will affect the safety of staff, profitability and reputation of SMEC. The methodology followed in developing this Risk Management Plan involved a series of steps:

- identifying potential threats
- quantifying the likelihood that each threat will materialise
- defining the consequences for the project if each threat materialises
- rating the relative impact on the project of each consequence
- identifying potential risk abatement strategies for each threat
- selecting appropriate risk abatement strategies
- assigning responsibility for implementation of each strategy
- defining the appropriate timing or trigger for implementation.

Further details of how to undertake a Risk Management Plan are found in the Project Management Handbook which is available on the BMS.

### **C. Records/Templates:**

8.1.1: Short Format Contractual Risk Management Plan

Consultancy Risk Management Plan Template (located in Consultancy Services Book of Forms)

## **8.2 Care of the Works**

### **A. Background:**

According to Sub-Clause 17.2 the Contractor is responsible for care of the Works during construction, plus any outstanding Works that the Contractor undertakes to finish during the defects notification period (see Sub-Clause 11.1, excluding loss or damage caused by specified excepted risks as described in Sub-Clause 17.3. Under Sub-Clause 18.2 the Contractor must insure against damage or loss to the Works as well as the Contractor's Equipment.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 17.2 [Contractor's Care of the Works]**

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer.

### **B. Procedure:**

As many details as possible shall be recorded by the Project Manager's staff irrespective of which party is responsible or liable if loss or damage occurs. The Staff shall report to the Employer giving relevant particulars including: the nature of the damage; the date of occurrence; and its extent, expressing an opinion as to the reason for the damage or loss. The cost of the damage shall be assessed as soon as possible. No opinion shall however be expressed to anyone other than the Employer, as to do so might prejudice the Contractor's ability to make an insurance claim.

In areas subject to predictable weather patterns, significant damage to the Works may be caused by weather-related events (e.g. by the flow of accumulated snow-melt, cyclones, annual flooding). Well in advance of the expected adverse weather, the Project Manager's staff shall write to the Contractor, pointing out measures which he considers necessary to protect the Works, especially partially completed Works, from the effects of the weather. This will not only help to prompt action by the Contractor, it will also deny the Contractor the opportunity to later claim that he could not have foreseen the potential for damage.

### **C. Records/Templates:**

8.2.1: Damage Report Form

## **8.3 Injury to Person and Property**

### **A. Background:**

The Contractor is required, under Sub-Clause 17.1, to indemnify the Employer (and the Employer's Personnel) in respect of death or injury to persons or damage to third party property, subject to stated exceptions for which

the Employer is responsible. The Insuring Party (normally the Contractor)<sup>1</sup> is required, under Sub-clause 18.3 to obtain third party insurance to cover his liabilities under Sub-Clause 17.1.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 17.1 [Indemnities]**

The main points of this sub-clause are:

1. The Contractor and Employer shall indemnify and hold harmless each other including their Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer and the Employer by the Contractor, including their Personnel, or any of their respective agents.

##### **Sub-clause 18.2 [Care of the Works]**

The main points of this sub-clause are that the Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued

##### **Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property]**

The main point of this subclause are that the insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property with some exceptions or to any person with some exceptions, which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

#### **B. Procedure:**

It is in the interests of the Employer, and the Contractor, that third party claims and complaints are dealt with as expeditiously as possible and that claimants are made aware that their claims are being properly investigated.

When the Employer's Personnel (in most cases Resident Engineer) is contacted directly over a complaint, he should make an assessment of whether the Contractor or Employer should deal with the matter, pass the complaint/claim to the party concerned, and maintain a record copy. The Employer's Personnel should then write to the third party, notifying the third party of actions undertaken, and providing details of the party concerned (i.e. the Employer or the Contractor) and advise the third party to deal directly with the relevant party.

If the complaint/claim is a result of inadequate safety precautions, take action in terms of the authority delegated to him to instruct the Contractor to take all necessary precautions to avoid any repetitions.

The Employer's Personnel shall not discuss liability of any party nor enter into direct negotiations.

The Employer's Personnel (SMEC's Resident Engineer) should open a register of complaints/claims and maintain separate files for each complaint. He should investigate and record details of third party complaints/claims made against the Employer and report his findings to the Employer.

The Employer's Personnel responsible for monitoring these complaints (normally the Resident Engineer) shall instruct the Contractor, and request the Employer, to inform him when any of them receive any complaints from third parties, and obtain copies of relevant documentation. This person shall record, at site meetings with the Contractor, progress made on any outstanding complaints/claims.

This person should follow similar procedures where third party complaints are made directly against SMEC personnel.

Types of claims commonly made by third parties include:

- interference with legal right of access
- loss or damage to crops and cultivated land
- damage to water supply, drainage or power connections
- drying up of wells or springs

<sup>1</sup> Modify this clause if insuring party is the Employer.



- damage due to settlement of buildings
- damage due to use of vibrating equipment in close proximity to buildings
- damage due to dust emanating from batching plants or from earthworks
- damage due to blasting operations.

### C. Records/Templates:

8.3.1: Third Party Insurance Injury Or Damage Complaint Notification And Assessment Form

8.3.2: Third Party Injury Or Damage Complaint Notification Register

## 8.4 Interaction with Traffic and Adjoining Properties

### A. Background:

The Contractor to provide roadways, footways, guards and fences which may be necessary due to the activities of the contractor for the use and protection of the public and of owners and occupiers of adjacent land. The Specification<sup>i</sup> also provides requirements that the Contractor must comply to.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 4.8 [Safety Procedures]

This Sub-Clause's main requirements are:

1. The Contractor shall comply with all applicable safety regulations, take care for the safety of all persons entitled to be on the Site,
2. Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
3. Provide fencing, lighting, guarding and watching of the Works until completion and taking over
4. Provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

#### Relevant Particular Conditions Sub-Clauses

[to be inserted]

### B. Procedure:

The Employer's Personnel (most likely the Resident Engineer) shall ensure that the Contractor is taking reasonable measures to cause the least inconvenience to the public. Traffic diversions shall be planned well in advance and the Employer's Personnel shall ensure that the Contractor complies with any statutory requirements with regards to notices, safety etc. The Employer's Personnel shall liaise with the local police and with those responsible for any properties or utilities affected to ensure the Contractor is complying with the requirements of the Contract. If access to private premises will be temporarily affected, the occupant must be informed well in advance and the Contractor must ensure that adequate alternative access is provided until the permanent access is restored.

There is always a temptation for the Contractor to sacrifice the safety of the travelling public in the interests of economy. The specification defines, in some detail, the standards of traffic management. The Employer's Personnel must ensure these requirements are complied with and that police instructions and statutory requirements are implemented.

<sup>i</sup> Delete this if the Specification is silent on this.



Where the removal and/or replacement of public utilities by others is required to allow construction to proceed, and when this has not been completed prior to commencement of the Works, the Employer shall ascertain who is responsible and arrange for the work to be carried out.

**C. Records/Templates:**

8.4.1: Traffic Diversion Plan Checklist

## 8.5 Avoidance of Damage of al Road and Structures

**A. Background:**

In the event that the Contractor wishes to transport loads of unusual dimensions or excessively heavy loads, the Contractor is responsible for any strengthening of roads and/or bridges necessary, or for constructing any temporary works necessary for by-passing roads and/or bridges inadequate for their passage.

### Relevant General Conditions Sub-Clauses

#### Sub-Clause 4.15 [Access Route]

The Sub-Clause has several parts.

1. The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site.
2. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes.
3. The Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
4. The Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route. This is fully at the Contractor's risk.

**B. Procedure:** The Contractor must take all reasonable precautions to prevent damage to roads and bridges by traffic directly associated with the Works.

At the start of the construction work, the Employer's Personnel (should be the Resident Engineer and his staff) shall inspect all public roads (including structures) that provide access to the site and determine whether these roads and structures will require strengthening or other improvements. A detailed report, including photographs, shall be prepared to provide evidence for future reference. The Employer's Personnel shall advise the Contractor of the location of all of these roads and structures. If a complaint about damage to a road is received during the project, the Employer's Personnel shall prepare a condition assessment report and advise the contractor of such complaint in order that the Contractor can address the complaint.

**C. Records/Templates:**

8.5.1: Project Access Roads Inspection Report Template

8.5.2: Letter For Site Instruction **Error! Bookmark not defined.**

## 8.6 Insurances

**A. Background:**

The Contract Data states which contracting party is responsible for providing insurances (called insuring party) <sup>i</sup>.

The insuring party shall:

<sup>i</sup> Most commonly the Contractor.

1. insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit
2. insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property or to any person which may arise out of the Contractor's performance of the Contract

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 18.1 [General Requirements for Insurance]**

The main requirements of this Sub-Clause include:

1. "insuring Party" means the Party responsible for effecting and maintaining the insurance.
2. Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer.
3. Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.
4. The relevant insuring Party shall, submit to the other Party: evidence that the insurances described in this Sub-Clause have been effected
5. If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due.

##### **Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]**

The main requirements of this Sub-Clause include:

1. The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit.
2. The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site.
3. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment

##### **Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property]**

The main requirements of this Sub-Clause include:

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 or to any person (except persons insured under Sub-Clause 18.4 which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

#### **B. Procedure:**

The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The Employer's Personnel (generally through the Resident Engineer) shall check that the insuring party, has submitted to the other party the required insurance policies, in the joint names of the Employer and Contractor, as required under Sub-Clause CI 18. There are a number of activities that need to be undertaken by the Employer's Personnel including:

- note relevant insurance details including such things as the dates for insurance renewal and monitor insurance coverage with respect to extensions of time awarded and any delay to progress
- obtain receipts for repeat premiums from the Contractor and forward them to the Employer. Those insurances that have to extend over the Defects Notification Period must also be monitored.
- check that the insurances cover Sub-contractors fully or that separate insurances are in operation which cover Sub-contractors fully. The Contractor shall be instructed to submit Sub-contractor's

policies which shall indemnify the Contractor and Employer together with copies of receipts of payment of the appropriate premiums.

- seek Employer confirmation that the insurances are acceptable. SMEC staff who undertake this review are not required to be experienced insurance advisors and, will only undertake a preliminary view of their validity, based on an initial comparison with Contract requirements. The Employer must seek final confirmation of the acceptability of the insurances from its own insurance advisors<sup>i</sup>.

#### **C. Records/Templates:**

8.6.1 Insurance Policy Schedule **Error! Bookmark not defined.**

## **9. TESTS AFTER COMPLETION**

### **9.1 Tests at Completion**

#### **A. Background:**

##### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 12.1 [Procedure for Tests after Completion]**

The main requirements of this Sub-Clause are:

1. The Employer shall provide all electricity, fuel and materials, and make the Employer's Personnel and Plant available;
2. the Contractor shall provide any other plant, equipment and suitably qualified and experienced staff, as are necessary to carry out the Tests after Completion efficiently; a
3. The Contractor shall carry out the Tests after Completion in the presence of such Employer's and/or Contractor's Personnel as either Party may reasonably request.
4. The Employer shall give to the Contractor 21 days' notice of the date after which the Tests after Completion will be carried out. Unless otherwise agreed, these Tests shall be carried out within 14 days after this date, on the day or days determined by the Employer.
5. The results of the Tests after Completion shall be compiled and evaluated by the Contractor, who shall prepare a detailed report.

##### **Sub-Clause 12.2 [Delayed Tests]**

The main requirement of this Sub-Clause is:

1. If the Contractor incurs Cost as a result of any unreasonable delay by the Employer to the Tests after Completion, the Contractor shall (i) give notice to the Employer and (ii) be entitled subject to payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

##### **Sub-Clause 12.3 [Retesting]**

The main requirement of this Sub-Clause is:

1. If the Works, or a Section, fail to pass the Tests after Completion either Party may then require the failed Tests, and the Tests after Completion on any related work, to be repeated under the same terms and conditions.

##### **Sub-Clause 12.4 [Failure to Pass Tests]**

The main requirement of this Sub-Clause is:

<sup>i</sup> The TOR for the Consultant Services may require the Employer's Representative to undertake this role on behalf of the Employer.

1. f and to the extent that this failure and retesting are attributable to any of the matters listed in sub-paragraphs (a) to (d) of Sub-Clause 11.2 and cause the Employer to incur additional costs, the Contractor shall pay these costs to the Employer.
2. After Completion if the Works or a Section, fail to pass any or all of the Tests after Completion, (b) the relevant sum payable as non-performance damages for this failure is stated (or its method of calculation is defined) in the Contract, and (c) the Contractor pays this relevant sum to the Employer during the Defects Notification Period, then the Works or Section shall be deemed to have passed these Tests after Completion.
3. If the Works, or a Section, fail to pass a Test after Completion and the Contractor proposes to make adjustments or modifications to the Works or such Section, the Contractor may be instructed by (or on behalf of) the Employer that right of access to the Works or Section cannot be given until a time that is convenient to the Employer.

Tests after Completion might include a combination of electrical, hydraulic and mechanical tests, with the Works being operated continuously during a reliability run. Its duration must be specified, for which 28 days is often appropriate. Specification of these performance tests may be made more difficult by the Employer's Requirements having to be written before the details of the Works are known, and possibly some years before the Tests will be carried out. However, inadequate specification could give rise to dispute, because the Tests have a major role in determining the acceptability of the Works.

For some types of Works, it might be necessary to carry out these Tests during a particular season of the year. Under this Sub-Clause, the Employer decides the date after which the Tests after Completion are to be carried out, and is responsible for making the necessary arrangements described in sub-paragraph (a).

Evaluation of the results should be carried out jointly by the Employer and the Contractor, in order to resolve any technical differences at an early stage. They may find it difficult to take account of the prior use of the Works by the Employer, depending on the required long term performance specified in the Employer's Requirements. Ideally, the Tests after Completion should be specified in such a way that, when carried out during the Defects Notification Period, the results should not be influenced by the foreseeable use prior to testing.

Either Party may require Tests after Completion to be repeated, including tests on "related work" which may have been affected by any remedial work. The Party requiring repetition should do so promptly. This Sub-Clause is applicable following any failure of a repeated Test after Completion, without any constraint on the number of repetitions following failure.

**B. Procedure:**

**C. Records/Templates:**

## **9.2 Certification and Payment**

### **A. Background:**

Sub-Clause 14 describes the requirements for payment of the Contractor.

The Employer (most likely the Resident Engineer) must issue the Interim Payment Certificates within 28 days of receiving the Contractor's Monthly Statements, provided the net amount due to the Contractor is more than the minimum amount for an interim payment stated in the Contract. This requirement is defined in Sub-Clause CI 14.6.

### **Relevant General Conditions Sub-Clauses**

#### **Clause 14 [Contract Price and Payment]**

##### **Sub-Clause 14.1 [The Contract Price]**

This Sub-Clause primarily states that payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract and the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract.

##### **Sub-Clause 14.2 [Advance Payment]**

This Sub-Clause primarily states that the Employer shall make an advance payment, as an interest-free loan for mobilization and design, when the Contractor submits a guarantee in accordance with this Sub-Clause including the details stated in the Particular Conditions. If the Particular Conditions does not state the amount of the advance payment, then this Sub-Clause shall not apply

**Sub-Clause 14.3 [Application for Interim Payments]**

This Sub-Clause primarily states that the Contractor shall submit a Statement in six copies to the Employer after the end of the period of payment stated in the Contract (if not stated, after the end of each month), in a form approved by the Employer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting document

**Sub-Clause 14.4 [Schedule of Payments]**

This Sub-Clause primarily states that if the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, payment will be made on this a basis.

**Sub-Clause 14.5 [Plant and Materials intended for the Works]**

This Sub-Clause states that if the Contractor is entitled, under the Contract, to an interim payment for Plant and Materials which are not yet on the Site, the Contractor shall nevertheless not be entitled to such payment unless the relevant Plant and Materials are in the Country and have been marked as the Employer's property or the Contractor has delivered, to the Employer, evidence of insurance and a bank guarantee

**Sub-Clause 14.6 [Interim Payments]**

No amount will be paid until the Employer has received and approved the Performance Security. Thereafter, the Employer shall within 28 days after receiving a Statement and supporting documents, give to the Contractor notice of any items in the Statement with which the Employer disagrees

**Sub-Clause 14.7 [Timing of Payments]**

This Sub-Clause states that the first instalment of the advance payment shall be paid within 42 days after the date on which the Contract came into full force and effect or within 21 days after the Employer receives the necessary documents, the amount which is due in respect of each Statement, other than the Final Statement, within 56 days after receiving the Statement and supporting documents; and the final amount due, within 42 days after receiving the Final Statement and written discharge

**Sub-Clause 14.8 [Delayed Payment]**

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [ Timing of Payments ], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay.

**Sub-Clause 14.9 [Payment of Retention Money]**

This Sub-Clauses states that when the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be paid when the Section passes all tests

**Sub-Clause 14.10 [Statement at Completion]**

This Sub-Clause states that within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Employer six copies of a Statement at Completion.

**Sub-Clause Sub-Clause 14.11 [Application for Final Payment]**

This Sub-Clause states that within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Employer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Employer.

**Sub-Clause 14.12[ Discharge]**

This Sub-Clause states that when submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract

**Sub-Clause 14.13 [Final Payment]**

In accordance with sub-paragraph (c) of Sub-Clause 14.7 [ Timing of Payments ], the Employer shall pay to the Contractor the amount which is finally due, less all amounts previously paid by the Employer

**Sub-Clause 14.14 [Cessation of Employer's Liability]****Sub-Clause 14.15 [Currencies of Payment]**

The Contract Price shall be paid in the currency or currencies named in the Contract Agreement.

The contract will include a schedule. It is normally based on completion of defined milestones. This method is considered preferable, but it necessitates careful definition of the payment milestones. Disagreements may rise when the work required for a payment milestone is nearly achieved but the balance cannot be completed until some months later.

Sub-Clause 14.5 is based upon the assumption that, if payments are to be made for Plant or Materials before incorporation into the Works, such payments are defined in a Schedule of Payments. If any interim payment expressly includes an amount for Plant or Materials which are not on the Site, payment of such amount may be withheld unless and until the Contractor provides suitable security.

For interim Payments, the Employer gives "notice of any items in the Statement with which the Employer disagrees, with supporting particulars". This notice should allow the Contractor to calculate the payment which he will receive.

**B. Procedure:**

After the Contractor has submitted a Statement to the Employer, the Employer has 28 days (see Sub-Clause CI14.6, to certify the amount he considers to be due. The Employer will delegate the responsibility to certify the statement as being correct.

The Employer must pay the amount certified, otherwise the Employer is in breach of contract.

The following are procedures relating to certification that the Resident Engineer (provided he is given this authority) must introduce:

- the extent of support documentation required in Monthly Statements shall be discussed and agreed with the Employer. It is normally permissible to include provisional amounts in Interim Certificates, pending final agreement/valuation of Variations, Claims etc., even though it may not be possible to fully substantiate them at the time.
- supporting documents such as invoices, receipts and quotations should be cross referenced so that they are readily traceable
- variation Orders, Provisional Sum Orders, and Dayworks Orders shall be sequentially numbered and cross-referenced to the section of the Bills of Quantities to which they relate
- claims should be numbered sequentially and, when final values have been agreed with the Contractor, those values should be included in the Interim Certificate. When a claim is not final, an interim payment may be made (after agreement with the Employer's Representative), based on an estimate of the Employer's Representative.
- a reasonable valuation of plant and material not yet incorporated in the Works, may be included in Interim Certification (if not precluded by the Contract) if the conditions set in Sub-clause 14.5 have been met:
- retention money shall be deducted at the percentage provided in the Contract Data
- agree on as much as possible so that as few items and disputed claims as possible are left to be settled in the Final Certificate
- statements shall be on forms agreed by the Resident Engineer, and should indicate previous month, present month and accommodated totals, as well as any breakdown between currencies (see Book of Forms)
- adjustments shall be made to relevant Certificates for price escalation as shown in Sub-Clause 13.7 and 13.8
- correction of errors discovered in earlier subsequent Certificates



- the Certificate shall be sent to the Employer for signature (if the Employer's Representative and Resident Engineer does not have that delegated responsibility). The signed Interim Certificate should then be submitted to the Employer for payment.
- the amount of information that the Employer requires to be submitted to him with any Certificate shall be agreed in advance
- if the Employer requires complete information, SMEC staff should supply it, but must ensure that copies are retained on file.
- the Final Payment Certificate shall be prepared in accordance with the provisions of the Sub-Clause CI 14.13. It is usual that the right to issue the Final Certificate is reserved to the Employer
- if the Employer's Personnel (normally Resident Engineer) does not agree with the Contractor's Statement on the amount due, then he is required to make his best estimate (within 28 days) of the value of work and certify this amount.

#### **C. Records/Templates:**

9.2.1: Letter For Interim Certificate

9.2.2: Interim Payment Certificate

9.2.3: Schedule Of Interim Payments Made

### **9.3 The Contract Price**

#### **A. Background:**

The Contract Price is a fixed amount that is subject to adjustment.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 14.1 [The Contract Price]**

This Sub-Clause states that unless otherwise stated in the Particular Conditions: (a) payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract; and (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs, except for changes in legislation.

The Contract Price as the agreed amount stated in the Contract, subject to adjustments in accordance with the Contract. Sub-clause 14.1 does not therefore define the Contract Price, but simply refers to it being the lump sum upon which payments are based.

The Contract Price is defined as the agreed amount stated in the Contract Agreement for the design, execution and completion of the Works and the remedying of any defects, and includes adjustments (if any) in accordance with the Contract.

The Contractor pays duties and taxes under other provisions of the Contract: see Sub-Clause 1.13. The Contract Price is thus deemed to include these taxes and duties, together with associated administrative Costs, based on the rates applicable at the Base Date. If the rates of duty/tax increase after the Base Date, Sub-Clause 13.7 applies. Note that Sub-Clause 14.1 commences with the words "Unless otherwise stated in the Particular Conditions", which may include contrary provisions under which the Contractor may be entitled to exemption from, or to reimbursement of, taxes and/or duties.

#### **B. Procedure:**

#### **C. Records/Templates:**

Nil

### **9.4 Delay Damages**

#### **A. Background:**

If Works are delayed beyond the latest date for completion, in respect of which the Contractor is not entitled to an extension of time, the Contractor becomes liable to pay Delay Damages under the provisions of Sub-Clause CI 8.7. The claiming, by the Employer of Delay Damages is subject to Sub-Clause CI 8.7 under which prior notification is required before payment can be claimed by the Employer.



**Relevant General Conditions Sub-Clauses****Sub-Clause 8.7 [Delay Damages]**

The main requirements of the sub-clause are:

1. If the Contractor fails to comply with Sub-Clause 8.2 *[Time for Completion]*, the Contractor shall subject to Sub-Clause 2.5 *[Employer's Claims]* pay delay damages to the Employer for this default.
2. These delay damages shall be the sum stated in the Particular Conditions, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate.
3. The total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Particular Conditions.
4. These damages shall not relieve the Contractor from his obligation to complete the Works, or, from any other duties, obligations or responsibilities which he may have under the Contract.

**B. Procedure:**

The assumption appears to be therefore that Delay Damages will be deducted as soon as they become due.

The claim from the Employer shall specify the basis of the claim, and shall include substantiation of the amount to which the Employer considers himself to be entitled in connection with the Contract. The Employer's Personnel (most likely the Employer's Representative or Resident engineer) shall then proceed in accordance with Sub-Clause 3.5) to agree or determine the amount (if any) which the Employer is entitled to be paid by the Contractor.

The relevant rate of delay damages must be stated in the Contract Data. The main reason for stating the rate of damages is to define damages in terms of money in order to avoid disputes over their amount.

It is usual, in the event that the Contractor has given notice of intent to claim an extension of the Time for Completion, not to deduct Delay Damages until the Claim has been resolved.

When Delay Damages become due, the appropriate notice shall be served. If the Employer would prefer not to apply Delay Damages immediately then the Contractor shall be asked to confirm his agreement, in writing, that if the deduction of Delay Damages is deferred then the Employer's rights subsequently to deduct them are not affected. If the Contractor agrees then the deduction can be delayed. If not then it is suggested that they shall be deducted as and when they become due.

**C. Records/Templates:**

Nil

**9.5 Price Adjustment****A. Background:****Relevant General Conditions Sub-Clauses****Sub-Clause 13.8 [Adjustment for Changes in Cost]**

This is a very brief Sub-Clause stating that if the Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, the adjustments shall be calculated in accordance with the provisions in the Particular Conditions

This Sub-Clause provides no formulae to adjust the contract values to reflect escalation of costs due to inflation, which is intended to place greater risk on the Contractor. If a formulae is to be included, the provisions that are used in the FIDIC "Red book" or "Yellow Book" P&DB 13.8 are normally incorporated, by reference, with appropriate adjustments to the wording in respect of defined words and phrases: such as "Engineer" and "Appendix to Tender".

The Employer's Personnel (normally the Resident Engineer) is responsible for adjusting the amounts payable to the Contractor if a formulae is included in the PC.

**B. Procedure (Where a formulae is included in the PC:**

The Employer's Personnel shall adjust the amount certified in each IPC by applying the respective price adjustment factor to the payment amounts due in each currency.

The Employer's Personnel shall check and sign the draft IPC only if after further checking he/she is satisfied that it meets all requirements of the contract documents. He shall then issue to the Employer and Contractor.

**C. Records/Templates:**

Nil

## **10. ISSUES, CLAIMS, DISPUTES AND DETERMINATIONS**

### **10.1 Issues**

**A. Background:**

Issues are circumstances that could result in future monetary or extension of time claims or necessitate variations. Issues can be resolved rapidly, or can advance into claims or variations. Each issue shall be tracked until it is resolved or superseded by a variation or a claim, at which time it is transferred to the appropriate claims or variations register.

**B. Procedure:**

When an issue becomes known, SMEC staff including the Employer's Representative, Resident Engineer and Inspectors shall enter the details in the Issues Register and create an issues file for that issue.

The Issues Register will clearly identifies a unique identifier number, the subject of the issue, Contractor's and Employer's Representative's claim numbers, variation numbers and EOT numbers when finalised and a tracking identifier to easily ascertain the status of the issue.

All relevant documentation to do with a particular issue will be placed on the issues file, with a divider being used for each issue. If the issue evolves into a claim, or a variation is issued, the Issues Register will be noted with this fact and the documentation will be removed to the particular claim or variation file.

**C. Records/Templates:**

10.1.1: Register Of Issues

### **10.2 Contractor's Claims**

**A. Background:**

In this Contract the term claim means something in between a claim for additional monies or for extension of Time for Completion and an actual entitlement to additional monies or for extension of Time for Completion.

In the event that a Contractor considers that circumstances justify, the Contract permits him to make claims for one or both of the following:

- an extension of the time for completion; and/or
- additional payment.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 20.1 [Contractor's Claims]**

The main requirements of this sub-clause are:

1. If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Sub-Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Employer, describing the event or circumstance giving rise to the claim.
2. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.
3. If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim.
4. The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Employer. Without admitting liability, the Employer may, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The

Contractor shall permit the Employer to inspect all these records, and shall (if instructed) submit copies to the Employer.

5. Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Employer, the Contractor shall send to the Employer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed.

6. Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Employer and approved by the Contractor, the Employer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

6. Each interim payment shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract.

## **B. Procedure:**

Sub-clause 20.1 specifies the procedures which the Contractor must follow in pursuit of a claim, and the consequences of a failure to do so.

Firstly, he must give notice as soon as practicable, not later than 28 days after becoming aware of the relevant event or circumstance giving rise to his claim. In practice, it may be easier to establish whether notice was given within 28 days after the Contractor "should have become aware of the relevant event or circumstance" giving rise to a claim.

The notice must describe "the event or circumstance giving rise to the claim" for an extension of time or additional payment, to which "the Contractor considers himself to be entitled". Generally, there is no need for this notice to indicate how much extension of time and/or payment may be claimed, or to state the Sub-Clause or other contractual basis of the claim. Notices must comply with Sub-Clause 1.3. Sub-Clause 4.21(f) requires progress reports to list all notices which have been given under Sub-Clauses 2.5 and 20.1.

The notice is to be sent to the Employer. They are not required to respond, other than to acknowledge receipt under Sub-Clause 1.3(a). They should not regard the notice as an aggressive act which must be rebutted, but merely as an act which enables the Employer to be aware of the possibility of the Contractor's enhanced entitlement. Although the recipient of a notice may respond if he is aware of factual errors in the notice, the absence of any rebuttal should not be taken as any indication of agreement.

This first notice is the start of the detailed procedure specified in Sub-Clause 20.1. The Contractor must ensure that notices are given in due time, in order to protect his rights under the Contract. Failure to give notice in accordance with the first paragraph deprives the Contractor of his entitlement to an extension of time and compensation, as stated in the second paragraph. The third paragraph confirms that notice may also be required to be given under another Sub-Clause, although it may be possible for one notice to satisfy the requirements of different Sub- Sub-Clauses

The Contractor can keep whatever contemporary records may be necessary to substantiate any claim he may wish to make, without awaiting instructions on the matter. The extent of recording is the responsibility of the Contractor, who should not assume that recording requirements will be specified by others, because they may not be able fully to anticipate what substantiation will be appropriate.

The importance of good record-keeping cannot be over-emphasised. The resolution of disputes frequently rests on the adequacy of contemporaneous records.

The extent to which the SMEC Resident Engineer or Employer's Representative is entitled to process claims will be the subject of the Employer's Representative's powers delegated by the employer. Notwithstanding such delegation, the Resident Engineer must keep the Employer and Employer's Representative aware of all developments related to claim and potential claim situations, and will be called upon to provide all necessary information data and advice required to allow comprehensive responses to be made to claims.

Appendix 2 provides additional information on Contractor's claims.

## **C. Records/Templates:**

### 10.2.1 Claims Assessment Table Of Contents

10.2.2: Register Of Claims

10.2.3: Schedule Of Status Of Claims

### 10.3 Employer's Claims

#### A. Background:

Sub-Clause 2.5 makes provision for the Employer to raise claims against the Contractor for payment of costs and for extensions of the Defects Notification Period. This Sub-Clause does not, in itself, provide the grounds for such Employer's claims. Those occur under various other Sub-Clauses of the Sub-Clause, but it does define the mechanism under which such claims are made.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 2.5 [Employer's Claims]

This main requirements of this Sub-Clause state:

1. If the Employer considers himself to be entitled to any payment under any Sub-Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, he shall give notice and particulars to the Contractor.
2. The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim.
3. The particulars of the notification shall specify the Sub-Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Employer shall then to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period.

#### Relevant Particular Conditions Sub-Clauses

[insert summary of Sub-Clauses here]

#### B. Procedure:

While there is no specific time limit on Employer's (Employer's Representative) claims being introduced, the Employer, or the Employer's Representative acting on the Employer's behalf, shall give notice of intent to claim as soon as practicable after becoming aware of the event or circumstances giving rise to the claim. Particulars may be given at any time, but excessive delay in their submission may be construed as an indication that the Employer will not be proceeding with the notified claim. In order to be effective, the particulars should include the basis of the claim, with relevant Sub-Clause number(s), and detailed substantiation of the extension and/or payment being claimed. The claim then becomes subject to the procedure prescribed in Sub-Clause 3.5.

Under Sub-Clause 3.5, the Employer endeavours to agree and settle the claim. If agreement is not achieved, he is required to make a fair determination, which becomes binding unless the Contractor notifies dissatisfaction within 14 days. In the case of a payment having been claimed and no such notice being given, the Employer may deduct the determined amount from any moneys otherwise due.

#### C. Records/Templates:

Nil

### 10.4 Delay Damages

#### A. Background:

The term "delay damages" is similar to the term "liquidated damages".

These are damages payable by the Contractor to the Employer in the event of the failure of the Contractor to achieve completion on or before the Time for Completion. This amounts to the compensation due to the Employer for both direct and indirect financial losses and is full compensation because the Employer has been unable to take possession of the works on the due date. The rate of delay damages should be a genuine estimate of the Employer's potential losses but should not be too great as to be construed as a penalty. It should not be likened to the cost of possible damages. Delay damages are the most that can be recovered

under the Contract in the way of losses incurred by the Employer. The delay damages are stated to be the only damages due to late completion. The Employer cannot recover his actual losses due to late taking over.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 8.7 [Delay Damages]**

This Sub-Clause states that if the Contractor fails to complete the works before the Time for Completion, the Contractor shall pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Particular Conditions, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due shall not exceed the maximum amount of delay damages (if any) stated in the Particular Conditions. These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [*Termination by Employer*] prior to completion of the Works.

#### **B. Procedure:**

If the Employer considers himself to be entitled to be paid delay damages, he is required to give notice and particulars in accordance with Sub-Clause 2.5. The particulars should include a reference to Sub-Clause 8.7 and the calculation of the amount to which the Employer considers himself to be entitled under these Sub-Sub-Clauses. Sub-Clause 2.5 concludes by stating that the Employer is not entitled to withhold the amount from payments due to the Contractor, unless and until the procedure described in Sub-Clause 2.5 has been followed. In practice, the procedure may take little time and should not prevent reasonably prompt recovery of the appropriate payment.

#### **C. Records/Templates:**

Nil

## **10.5 Disputes and Dispute Board**

### **A. Background:**

Disagreements may arise between the Contractor and the Employer's Representative or Employer concerning the interpretation of the contract; what constitutes extra work on the contract; payment for changes; extensions of time; damages for owner directed acceleration or slowdown; costs occasioned by owner-caused delay; defective Drawings or Specifications; changed conditions. Other similar matters may affect contract cost or time required to complete the work. Many of these disagreements cannot be resolved between the Contractor and the Employer's Representative or Employer.

Recognition of this is given by the inclusion of Sub-Clause 20.2 to 20.8. Sub-Clause 20.2 to 20.8 allows either party to the Contract to refer any matter in dispute, in the first instance, to a Dispute Board (DB).

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 20.2 [Appointment of Dispute Adjudication Board]**

The following is a summary of all of these sub-Clauses.

Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*]. The Parties shall jointly appoint a DAB by the date 28 days after a Party gives notice to the other Party of its intention to refer a dispute to a DAB in accordance with Sub-Clause 20.4. The DAB shall comprise, , either one or three suitably qualified persons. If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.

The terms of the remuneration of either the sole member or each of the three members, shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DAB (including each member) shall expire when the DAB has given its decision on the dispute referred to it under Sub-Clause 20.4, [

##### **Clause 20.3 Failure to Agree Dispute Adjudication Board**

If agreement can't be reached on the makeup of the Board, then the appointing entity or official named in the Particular Conditions shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB.

#### **Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision]**

Either Party may refer the dispute in writing to the DAB for its decision, with a copy to the other Party.

The DAB shall be deemed to be not acting as arbitrator(s).

Neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause. If the DAB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties.

#### **Dispute Board**

The settlement of disputes is covered by Sub-Clause 20. FIDIC has introduced a two-step procedure for the purposes of dispute settlement. At the outset, any dispute has to be referred to the DB. Sub-Clause 20.5 then provides for a last attempt of dispute avoidance and amicable settlement. Finally the dispute may be referred to arbitration – Sub-Clause 20.6.

The DB is an impartial and independent panel of one or three people who are ideally appointed at the start of project and give decisions on any disputes. When requested by both the Employer and the Contractor, the DB shall be available to give advice or opinions on any matter relevant to the contract. The DB has four main functions :

- to visit the site periodically and become familiar with the details of the project
- to keep up to date with activities, progress, developments and problems at the site
- encourage the resolution of disputes by the parties
- when a dispute is referred to it, hold a hearing, complete its deliberations
- prepare a Decision in a professional and timely manner.

Sub-Clause 20 defines the establishment of the DB and its functions. Decisions made by the DB are binding on the parties unless either party raises objections within 28 days of the ruling, in which case the parties shall first attempt amicable settlement, failing which the dispute must be referred to arbitration.

Whenever possible, it is advisable to solve any differences or disputes by amicable settlement, since disputes are time-consuming and expensive.

While there are no specific provisions of the Contract which place responsibility on the Employer or Employer's Representative for dispute avoidance, nevertheless it is considered a fundamental part of good site management. Active dispute avoidance cannot be rigidly defined, but as a minimum:

- anticipate the occurrence of various events resulting from the various approaches that the Contractor might take
- evaluate these events
- offer non binding constructive assistance in seeing that the potential problems either never occur or are minimised.

In order to maximise the DAB's chances of success in avoiding arbitration, its member(s) must be suitably qualified, impartial, and accepted and trusted by both Parties. Therefore, although the Employer usually prepares the tender documents and may therefore prescribe the number of members, it is essential that the adjudication arrangements and the membership of the DAB are all mutually agreed upon by the Parties, and not imposed by either Party.

If the DAB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties.

#### **B. Procedure:**

SMEC's role in a DAB hearing will be to provide evidence on behalf of the Employer. As such, the need to ensure that all records are kept up to date and are accurate are of paramount importance.

#### **C. Records/Templates:**



## 10.5.1: Register Of Disputes

**10.6 Determinations****A. Background:**

Sub-Clause 3.5 is referenced by many other clauses in instances when determinations are required to be made by the Employer (or Employer's Representative, Resident Engineer and other Assistants if they are given the delegated powers).

**Relevant General Conditions Sub-Clauses****Sub-Clause 3.5 [Determinations]**

This Sub-Clause states that whenever these Conditions provide that the Employer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Employer shall consult with the Contractor in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. The Employer shall give notice to the Contractor of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it.

**B. Procedure:**

This Sub-Clause states that whenever these conditions, provided that the Employer shall proceed in accordance with this Sub-Clause to agree or determine any matter and shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. The Employer is required to give notice to the contractor of each agreement or determination, with supporting particulars, within 28 days from the receipt of the corresponding claim or request except when otherwise specified.

The Contractor is firstly consulted by the Employer, or by the Employer's Representative (if delegated this responsibility). If the agreement of both Parties cannot be achieved within a reasonable time, the Employer is then required to make, and to notify the Contractor of, the Employer's "fair determination in accordance with the Contract". The Parties must give effect to such determination, unless the Contractor issues a notice of dissatisfaction within 14 days (in which case the determination is of no effect). Irrespective of whether the Contractor issues a notice of dissatisfaction, he may invoke the dispute resolution procedures in Sub-Clause 20.

**C. Records/Templates:**

10.6.1: Letter On Determination **Error! Bookmark not defined.**

**10.7 Suspension of Works****A. Background:**

Sub-Clause 8.8 give the Employer the right at any time to instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

**Relevant General Conditions Sub-Clauses****Sub-Clause 8.8 [Suspension of Work]**

The main requirements of the five sub-clause are:

1. The Employer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage. The Employer may also notify the cause for the suspension..

**Sub-Clause 8.9 [Consequences of Suspension]**

1. If the Contractor suffers delay and/or incurs Cost from complying with the Employer's instructions and/or from resuming the work, the Contractor shall give notice to the Employer and shall be entitled to: an



extension of time for any such delay, if completion is or will be delayed and payment of any such Cost, which shall be added to the Contract Price.

2. The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure.

#### **Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension]**

1. The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if the work on Plant or delivery of Plant and/or Materials, has been suspended for more than 28 days, and the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Employer's instructions.

#### **Sub-Clause 8.11 [Prolonged Suspension]**

1. If the suspension has continued for more than 84 days, the Contractor may request the Employer's permission to proceed. If the Employer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Employer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination.

#### **Sub-Clause 8.12 [Resumption of Work]**

1. After the permission or instruction to proceed is given, the Parties shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

### **B. Procedure:**

The decision to suspend shall not be made lightly. In all situations, the Resident Engineer shall discuss the matter with the Employer's Representative and Employer and obtain his agreement before taking action to suspend the Works.

When an order to suspend all or part of the Works has been issued, the Employer's Personnel (most likely the Resident Engineer) shall require the Contractor to take action, also in accordance with the above Sub-Clause, to protect the Works. The Employer's Personnel must record all relevant events, in case the suspension shall later lead to a claim by the Contractor.

If the Contractor suffers delay and/or incurs cost from complying with the Employer's direction, the Contractor must give notice to the Employer as a claim.

### **C. Records/Templates:**

Nil

## **11. INSTRUCTIONS**

### **11.1 Instructions**

#### **A. Background:**

Preparation and issue of Site Instructions, Variation Orders, Provisional Sum Orders and Daywork Orders are an important part of the Employer's Representative and Resident Engineer's duties.

According to Sub-Clause 1.5, the Employer shall give instructions and clarifications if there is any ambiguity or discrepancy in the Contract documents. Only the Employer's Representative (or an Assistant, within the limits of the powers delegated to him/her) may issue instructions to the Contractor. An instruction is a binding instrument. The Contractor will have to execute each instruction which has been given to him.

A Site Instruction is given to a Contractor to require the Contractor to perform properly its contractual obligations, to clarify existing documents and drawings, cover minor changes of detail etc, but not to vary the scope of the work to any significant extent (except as stated below).

#### **Relevant General Conditions Sub-Clauses**

#### **Sub-Clause 3.4 [Instructions]**

The Sub-Clause states that the Employer may issue to the Contractor instructions which may be necessary for the Contractor to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which relates and the Sub-Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, Sub-Clause 13 [*Variations and Adjustments*] shall apply. The Contractor shall take instructions from the Employer, or from the Employer's Representative or an assistant to whom the appropriate authority has been delegated under this Sub-Clause.

#### **Relevant General Conditions Sub-Clauses**

[state PC Sub-Clauses here]

#### **B. Procedure:**

The Instruction or Order shall always:

- refer to the relevant Sub-Clauses of the Sub-Clause under which they are issued
- have wording that is clear and unambiguous and shall avoid giving any impression of relieving the Contractor of any of his responsibilities under the Contract
- be approved or issued by the Employer's Representative, or issued by the Resident Engineer under the instructions of the Employer's Representative, in accordance with the Resident Engineer's delegated powers
- use standard forms
- be sequentially numbered and be filed separately, in sequential order, together with all related supporting documentation
- be listed on a regularly updated register
- be issued as soon as possible to reduce the likelihood or scope of any claims for extension of time
- be approved, in advance, by the Employer, when so required under the provisions of Sub-Clause 3.1).

Any order given to the Contractor to do work extra to, or in place of, work in the Contract, to vary or to omit work described in the contract documents, or to vary the quality of the works, must be given by means of a Variation Order. The Resident Engineer will normally have the power to issue Site Instructions, but may not have been delegated the authority to issue Variation Orders. If he has, he may be restricted to stipulated financial limits. Where the immediate issue of a Variation Order (or a Provisional Sum Order) is impractical, a Site Instruction for work can be given recording the intention that the work will be covered by a Variation Order to be issued as soon as possible thereafter.

It is often the case that the issuing of an instruction is avoidable. The Resident Engineer may request a proposal instead of giving an instruction. This will enable him to check all of the consequences of the intended Variation.

The Resident Engineer and the Consultant's site staff shall, whenever possible, avoid giving oral instructions to the Contractor. When issuing an oral instruction does become unavoidable, written confirmation shall be given as soon as possible thereafter. A pro forma letter for confirmation of verbal instructions is given in the Book of Forms. Written confirmation by the Resident Engineer, in words selected by the Resident Engineer, shall always be preferred to awaiting confirmation by the Contractor. If the instruction is not meant to be a variation, the Resident Engineer should state that his instruction is not intended to constitute an order under the respective variation Sub-Clause.

The Resident Engineer and his staff must not give instructions, oral or otherwise, to any members of the Contractor's staff not empowered to receive them. It is recognised that, on extensive sites, there will be circumstances in which it will be desirable to arrange for some form of communication between inspectors and foremen, especially when the former are aware that an operation is in some way unsatisfactory. The Resident Engineer and the Contractor's Site Agent must agree with procedures to address these situations.

It sometimes happens that the Employer attempts to issue instructions directly to the Contractor. This shall be tactfully discouraged.

#### **C. Records/Templates:**

11.1.1: Letter For Site Instruction

11.1.2: Letter For Confirmation Of Oral Instruction

11.1.3: Register Of Site Instructions

11.1.4: Schedule Of Site Instructions

## 12. VARIATIONS AND VALUATIONS AND EXTENSION OF TIME

### 12.1 Variations, Alterations, Additions and Omissions

#### A. Background:

While it is desirable that a Contractor shall know precise details of everything it is to construct, at the outset of a contract, in practice this is rarely possible. It is quite usual for the Contractor to be issued with new or revised details, sometimes as little as a few weeks before he intended to start construction but, provided that these details do not involve significant changes in the scope and quantities of works previously envisaged, and provided that they are issued in time to permit the Contractor's programme to be met, no contractual problems need arise.

The scope of the works, once defined within the Contract, including the Employer's Requirements may require various alterations to successfully adapt to circumstances and events which were not foreseen in detail. Sub-Clause 13) allows the Employer to vary the Works. This Sub-Clause gives the Employer wide powers to make variations. These are called Variation Orders. The contract implies that such variations shall relate to the original scope of the work, and shall be necessary for the proper completion of the Works.

The Employer is not permitted to omit work in order to have it done by others. He is also not permitted to amend the contract. Thus variations must not differ radically from what the Contractor has already promised to do.

#### Reasons for Variations

The reasons for variations can be many including:

- changes to the quality of any item of work
- changes to the levels, positions and/or dimensions of any part of the Works
- omission of any work
- any additional work necessary for the Works.

Variations may be made by the Employer, in accordance with Sub-Clause 13 of the Sub-Clause, either:

- by direct instruction of the Employer
- at the suggestion of the Contractor, accepted and instructed by the Employer
- following a requesting, made by the Employer, to the Contractor, to submit a costed proposal for a change to the Works, subsequently accepted and instructed by the Employer.

In the latter two cases, it is probable that there will be discussion of the options available, between the Employer and the Contractor. This should not be permitted to lead to a lack of formal documentation of the Variation.

#### Employer Instructed

When the Employer decides to issue a direct instruction, that instruction must contain complete details of the Variation together with the method and, where possible, amount of payment intended.

#### Contractor Suggested Variation

When the proposal originates with the Contractor, he must provide a detailed technical discussion of the reasons for the Variation, together with full details of the cost effects of implementing the Variation. This proposal must formally be accepted by the Employer's Representative before implementation.

#### Contractor Proposal Requested

In the case in which the Employer requests the Contractor to provide a cost proposal for a Variation, the Employer must provide a clear definition of the scope of his request. The Contractor must then respond with a clear statement of any technical data requested and an unambiguous statement of the cost effects of the proposed Variation. Again, this proposal must be formally accepted by the Employer before implementation. In order to avoid non intended variation orders or variation orders without having a full appraisal of its consequences, the Employer will usually follow this approach.

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 13.1 [Right to Vary]

The Sub-Clause states that variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Employer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Performance Guarantees. Upon receiving this notice, the Employer shall cancel, confirm or vary the instruction.

#### **Sub-Clause 13.3 [Variation Procedure]**

The Sub-Clause states that if the Employer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting a description of the proposed design and/or work to be performed and a programme for its execution, the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and the Contractor's proposal for adjustment to the Contract Price.

The Employer shall, as soon as practicable after receiving such proposal shall respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response. Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Employer to the Contractor, who shall acknowledge receipt. Upon instructing or approving a Variation, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments.

#### **Sub-Clause 13.4 [Payment in Applicable Currencies]**

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified.

### **B. Procedure:**

The Employer's Representative may have delegated powers to issue a Variation Order up to a certain value, otherwise all instructions to vary the Works must be signed by the Employer. As the Contract Data requires the Employer's Representative to gain prior approval from the Employer before issuing a Variation Order<sup>1</sup>, when a major Variation is being considered then he must discuss these changes with the Employer before proceeding.

#### **Support Documentation**

Dependent on the scale of the Variation, and the complexity of the options available, it may be that the justification for a Variation should be the subject of a formal report, providing comprehensive data on the background to the Variation, reviewing the options and costs considered and detailing the relevant arguments in favour of the option recommended.

When a Variation is ordered by the Employer, his decision to instruct a Variation will usually be made on the basis of documentation, as described above, provided by the Resident Engineer.

#### **Format of Variation Order Documentation:**

Variation orders must include the financial and time effects of an instruction or change. The proposal for a Variation Order to be issued by the Employer should detail:

- the Variation Order Number
- the Title of the Variation
- a description of the varied works, including details of their location
- the identity of the initiator of the variation proposal
- the prospective cost and/or time benefit/effects of the Variation

<sup>1</sup> Modify this clause if this is not the case

- an assessment of any prospective risks
- the draft of the specific Variation Order.

In the event that the scale and complexity of the proposed Variation justifies it, the proposed Variation should be accompanied by a formal report, providing comprehensive data on the background to the Variation, reviewing the options and costs considered.

### Records

Records to be maintained in respect of Variation Orders may include:

- the Employer's Instruction (as issued), to Vary the Works, and the Contractor's Acknowledgement of Receipt
- the Contractor's Notice, with supporting particulars of incurring additional Cost as a result of the omission of any work
- the Contractor's Notice with supporting particulars, in accordance with the provisions of Sub-Clause 13.1 (if applicable), that he cannot readily obtain the Goods required for the Variation, and the Employer's confirmation or variation of the Instruction
- full records of any Dayworks undertaken for any Variation instructed utilising a Dayworks Order
- any request made by the Employer to the Contractor, under the provisions of Sub-Clause 13.1, for a proposal (if applicable), the Contractor's response/proposal/ programme submission, made according to Sub-Clause 13.3, in response to any such request, and the Employer's subsequent approval, disapproval or comments
- measurement and evaluation of the Variation, fully detailed computations
- records of all correspondence, minutes of meetings and any other data relevant to the Variation.

No Variation can be initiated after the issue of the Taking-Over Certificate.

In respect of Contractor-designed works it is important that the Contractor remains responsible for his design. However, the Employer will generally be responsible for any design solution which he imposes. For example, he cannot vary (or immutably define in the Contract) the width of a road and then assert that the road is too narrow and not fit for its purpose. Variations should therefore be in the form of instructed changes to the Employer's Requirements, with which the Contractor's design must comply.

### C. Records/Templates:

12.1.1: Request For Price

12.1.2: Variation Order

12.1.3: Register Of Variation Orders

12.1.4: Register Of Variations

## 12.2 Adjustment to Contract Price

### A. Background:

Sub-Clause 13.3 states "Upon instructing or approving a Variation, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments."

#### Relevant General Conditions Sub-Clauses

##### Sub-Clause 3.5 [Determinations]

Whenever these Conditions provide that the Employer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Employer shall consult with the Contractor in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Employer shall give notice to the Contractor of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it. Either Party may then refer the dispute to the DAB in accordance with Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision]

### B. Procedure:

The determination of a revised Contract Price

- by agreement of the Employer on the Contractor's quotation
- in accordance with the Value Engineering rules set down in Sub-Clause Sub-Clause 13.2
- as Dayworks,

If no market prices are relevant for the derivation of a new price, it shall be derived from the reasonable cost of executing the work, together with profit, taking account of any other relevant matters. Until such time as an appropriate price is agreed or determined, the Employer shall determine a provisional price for the purposes of Interim Payment Certificates as soon as the concerned work commences.

Excessive variations can result in claims for payment over and above the cost of carrying out the work. Such claims may include increased overheads, extensions of time and other ripple effects not foreseen when individual variations are being processed.

#### **C. Records/Templates:**

12.2.1: Variation Assessment Checklist

12.2.2: Record Of New Rates

### **12.3 Value Engineering**

#### **A. Background**

The Contractor is not under any duty to submit value engineering proposals. He may be reluctant to do so, unless he seems likely to benefit from his endeavours. The Contractor may wish to propose changes that appear to be of benefit to the Contractor, in which case he may offer a reduction in the Contract Price in order to encourage the Employer's acceptance or may appear to be of benefit to the Employer, by improving the quality of the Works (by reducing the cost of maintenance or operation, or improving productivity or efficiency). This might involve an increase in the Cost, and thus in the Contract Price.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 13.2 [Value Engineering]**

The Contractor may, at any time, submit to the Employer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer. The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure]

#### **B. Procedure:**

The Contractor may, at any time and at his option and his cost, submit proposals which include the items listed in Sub-Clause 13.3. Sub-Clause 13.3 requires that work should not be delayed whilst he awaits a response. If the Contractor feels that the cost of preparing a fully detailed proposal may be excessive, he may (taking account of the possibility of rejection) prefer to put forward proposals in discrete stages. For example, he may initially describe the general concept of the changes proposed, together with financial proposals which may include suggestions regarding compensation for reimbursement of his Cost of performing the next stage: more detailed design, possibly.

The Employer does not have to devote considerable resources to study a detailed value engineering proposal. However, if he receives an indication from the Contractor regarding a possible proposal under this Sub-Clause and does not intend to study it, he should not mislead the Contractor by refraining from describing his intentions.

#### **C. Records Template:**

### **12.4 Extension of Time Claims**

#### **A. Background:**

Time for Completion is based on Sub-Clause 8 conditions. The time is defined in the Contract Data. Time for completion starts when the Employer's Representative has notified the Commencement Date.

Sub-Clause 8.1 places responsibility on the Contractor to proceed with the Works with due expedition and without delay. The Employer's Representative must endeavour to ensure that the Contractor is not delayed because of any fault of the Employer's Representative or of the Employer. If the Contractor can prove that he



has been delayed, in a manner that has delayed his overall progress that is in accordance within Sub-Clause 8.4

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 8.4 [Extension of time]**

This Sub-Clause specifies the grounds for an extension as follows:

The Contractor shall be entitled subject to Sub- Clause 20.1 [ *Contractor's Claims* ] to an extension of the Time for Completion if the Contractor is or will be delayed by a Variation (unless an adjustment to the Time for Completion has been agreed under Sub- Clause 13.3 [ *Variation Procedure* ], a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions, or delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site

The Contractor is not entitled to an extension of time for climatic conditions, unless they constitute Force Majeure under Sub-Clause 19.

#### **B. Procedure:**

On receipt of a claim, the Employer's Personnel ( most likely the Resident Engineer) will allocate a claim number and record the claim in the Extension of Time Claim Register.

The person will review the claim and submit a recommendation to the Employer. A checklist will be used to ensure that all aspects are considered in the review. The Employer will review the recommendation.

As required by the Sub-Clause, consultation with both the Employer and the Contractor will be made but the final determination will be based on all the information available to the person undertaking the assessment).

After approval from the Employer (if necessary), the Employer's Personnel (most likely the Resident Engineer) will prepare the Extension of Time letter for signature by the properly delegated person, the advice of determination which will give details of the time awarded as well as the revised contract completion dates for the whole of the Works and for any separable sections.

When the determination is issued, SMEC staff will complete the Register with details of the award.

The Employer's Personnel (Resident Engineer) will check that the Contractor submits a revised construction program that is updated to account for the revised completion dates.

#### **C. Records/Templates:**

12.3.1: Register Of Extension Of Time Claims

12.3.2: Extension Of Time Checklist

## **12.5 Dayworks**

### **A. Background**

The Dayworks is a Provisional Sum item. Payment is made to the Contractor based on the cost of materials and wages plus a percentage for overheads and profits. The percentage is provided in the PC.

#### **Relevant General Conditions Sub-Clauses**

##### **Sub-Clause 13.6 [Daywork]**

For work of a minor or incidental nature, the Employer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the daywork schedule included in the Contract, and the following procedure shall apply. If a daywork schedule is not included in the Contract, this Sub-Clause shall not apply. Before ordering Goods for the work, the Contractor shall submit quotations to the Employer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the daywork schedule specifies that payment is not due, the Contractor shall deliver each day to the Employer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work: the names, occupations and time of Contractor's Personnel, the identification, type and time of Contractor's Equipment and Temporary Works, and the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Employer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Employer, prior to their inclusion in the next Statement

### B. Procedure:

When the Employer or his Personnel exercises the option to undertake varied work using daywork, under the provisions of Sub-Clause 13.6, they shall be issued a Dayworks Order by the Employer. A template is shown in the Book of Forms.

When work is carried out on a daywork basis, the Employer shall require the Contractor to provide daily details of resources used (labour, equipment and materials) used on pro-forma daywork Agreement Sheets. These can be found in the Book of Forms. The Contractor shall also provide sufficient details to identify who or what was used or the quantity used. These shall be checked and, if agreed, the facts signed as "agreed for record purposes only", pending final settlement.

The Employer shall only agree to dayworks times and quantities when sure that the work was undertaken for the stated duration. If information is not agreed, it shall be reviewed with the Contractor. If it remains in dispute, the Employer shall indicate what is agreed and make clear the limits of what is being countersigned.

It is the Contractor's responsibility to notify the Employer at the commencement of work to be done on dayworks so that agreed records can be kept. In the event that work has commenced prior to the Inspector (if delegated this responsibility by the Employer) being notified by the Contractor, the Inspector shall note the time he/she first noticed work was underway and shall make an assessment of the plant labour and materials prior to that time. It is not necessary to take the Contractor's word for this. The Employer has the power to determine payment. The Contractor may lodge a claim if in disagreement.

Evaluation on a daywork basis is frequently considered to be a convenient and readily agreed method of evaluation of work of a minor or incidental nature.

### C. Records/Templates:

12.4.1: Letter For Dayworks Order

12.4.2 Dayworks Agreement Sheet

12.4.3: Register Of Dayworks Orders

## 12.6 Provisional Sum

### A. Background

Provisional Sums are used for payment of work that is not possible to clearly define at time of tendering.

A Provisional Sums may be included occasionally in this form of contract, for such parts of the Works as tenderers are not required to price. However, Provisional Sums reduce the degree of certainty of the final Contract Price of these lump sum contracts, particularly if they do not include measurement provisions

The amount paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Employer shall have instructed.

Provisional Sums are defined as any sums specified in the Contract as provisional sums, so the Employer cannot add new Provisional Sums (by Variation or otherwise). Also, Sub-Clause 13.5 refers to each Provisional Sum being used "in whole or in part", but not in excess, so the Employer cannot increase the amount of a Provisional Sum (by Variation or otherwise).

### Relevant General Conditions Sub-Clauses

#### Sub-Clause 13.5 [Provisional Sums]

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Employer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Employer shall have instructed. For each Provisional Sum, the Employer may instruct work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or Plant, Materials or services to be purchased by the Contractor, for which there shall be added to the Contract Price less the original Provisional Sums (i) the actual amounts paid (or due to be

paid) by the Contractor, and (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the Contract. The Contractor shall, when required by the Employer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

#### **B. Procedure:**

This sub-clause clearly indicates that the use of Provisional Sums constitutes a variation.

Certainly in the event that it appears that a Provisional Sum will be exceeded then the Employer's agreement must be obtained to the issue of a Variation Order increasing the value of the Provisional Sum.

A form for the issue of Provisional Sum Orders is included in the Book of Forms.

#### **C. Records Template:**

#### **C. Records/Templates:**

12.5.1: Provisional Sum Order

12.5.2: Schedule Of Provisional Sum Orders

## **13. COMPLETION OF THE WORKS**

### **13.1 Taking-Over Certificate**

#### **A. Background:**

A Taking-Over Certificate can be issued except for minor outstanding works and defects that will not substantially affect the use of the Works. These are to be completed in the Defects Notification Period.

Substantial completion can be defined as when the Works have been completed except for minor deficiencies which do not impair the function of the Works as a whole.

#### **Relevant General Conditions Sub-Clauses**

#### **Clause 10 [Employer's Taking Over]**

#### **Sub-Clause 10.1 [Taking over the Works and Sections]**

This Sub-Clause states that the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract and a Taking-Over Certificate for the Works has been issued,.

The Contractor may apply by notice to the Employer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over.

The Employer shall, within 28 days after receiving the Contractor's application issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued.

If the Employer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

#### **Sub-Clause 10.2 [Taking Over of Parts of the Works]**

Parts of the Works (other than Sections) shall not be taken over or used by the Employer,

#### **Sub-Clause 10.3 [Interference with Tests on Completion]**

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Contractor shall carry out the Tests on Completion as soon as practicable. If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the

Tests on Completion, the Contractor shall give notice to the Employer and shall be entitled subject to an extension of time for any such delay, if completion is or will be delayed, and payment.

## **B. Procedure:**

If in the Contractor opinion it considers that the Works are complete (with the exception of minor defects), or when it considers that they will be complete within 14 days, notice may be given to the Employer, under the provisions of Sub-Clause 10.1.

The Employer shall, as soon as possible after receiving a copy of the notice, inspect the Works, with the Contractor, and, if appropriate, prepare a list of those items of work which the Resident Engineer considers must be completed before a Taking Over Certificate can be issued. The Resident Engineer on behalf of the Employer shall prepare a checklist for this purpose prior to inspecting the works. The checklist shall make reference to the requirements of drawings and specifications.

It is best to keep the minor outstanding works and defects to a minimum or nil. Once the Certificate is issued, it may be difficult to get the Contractor to quickly rectify these minor works and defects.

In the event that neither a list of defects nor a Taking Over Certificate has been issued within 28 days then, provided the Works are substantially in accordance with the Contract, a Taking-Over Certificate shall be deemed to have been issued on the 28<sup>th</sup> day.

Sub-Clause 10.2 states that the Employer may only take over the whole of the Works, or Sections defined in the Contract. Any attempt to take over any other part of the Works would normally entitle the Contractor to relief due to the breach

One of the most important effects of the issue of a Taking-Over Certificate is that the responsibility for the care of Works, including normal maintenance, is no longer carried by the Contractor but is transferred to the Employer. It shall be noted however that even with the issue of a Taking Over Certificate, the Contractor is still responsible to rectify any latent defects or to complete any outstanding works.

Works insurance cover will cease<sup>i</sup> at the date of the Taking-Over Certificate. The Employer shall therefore be advised to take out the necessary insurances and be aware of his responsibilities for normal maintenance

## **C. Records/Templates:**

13.1.1: Taking Over Certificate In Respect Of Whole Of The Works

13.1.2: Defects / Omissions List

13.1.3: Register Of Sectional Taking Over Certificates

## **13.2 The Defects Notification Period**

### **A. Background:**

The Defects Notification Period is defined in Sub-Clause (CL 1.1.3.7) as the period for notifying defects in the Works or a section of the Works which extends over 365 days or otherwise noted in PC<sup>ii</sup> calculated from the date on which the Works or Section is completed and a Taking Over Certificate is issued.

### **Relevant General Conditions Sub-Clauses**

#### **Sub-Clause 1.1.3.7 [Defects Notification Period]**

This Sub-Clause defines Defects Notification Period as the period for notifying defects in the Works, completion of outstanding work and remedying defects as stated in the PC with extensions. It is calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [*Taking Over of the Works and Sections*].

<sup>i</sup> Modify this clause if the Contract Data has a different requirement

<sup>ii</sup> This can be modified in the Contract Data

**Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects]**

This Sub-Clause states that the Works and Contractor's Documents shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter. The Contractor shall have completed any work which is outstanding on the date stated in a Taking Over Certificate and execute all work required to remedy defects or damage, as may be notified by the Employer on or before the expiry date of the Defects Notification Period.

**Sub-Clause 11.2 [Cost of Remedying Defects]**

All outstanding work referred to in sub-paragraph (b) of Sub-Clause 11.1 shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to the design of the Works or in accordance with the contract. If and to the extent that such work is attributable to any other cause, the Employer shall give notice to the Contractor treating this as a variation.

**Sub-Clause 11.3 – [Extension of Defects Notification Period]**

The Employer shall be entitled to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Notification Period shall not be extended by more than two years.

**Sub-Clause 11.4 [Failure to Remedy]**

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. If the Contractor fails to remedy the defect or damage by this notified date, the Employer may (at his option) carry out the work himself or by others or agree or determine a reasonable reduction in the Contract Price if the defect or damage deprives the Employer of substantially the whole benefit of the Works, the Employer may terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. The Employer shall then be entitled to recover all sums paid for the Works, plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

**Relevant Particular Condition Sub-Clauses**

[refer to PC for additional requirements]

**B. Procedure:**

It is obviously undesirable to retain a large presence on Site after the issue of the Taking Over Certificate for the whole of the Works due to cost considerations. Although there will be itemised lists of outstanding works that the Contractor will have undertaken to finish during the Defects Liability Period, these are minor in nature. The majority of the Project Manager's site staff will be demobilised during the period leading up to the issue of the Taking Over Certificate, or shortly thereafter. It is only necessary for the Employer's Representative or Resident Engineer, assisted by one or two members of local staff, as agreed with the Employer, to remain on site long enough to ensure that any major problems are resolved, periodic inspections are carried out, the final measurement is carried out in a satisfactory manner, and the Employer is fully briefed on any outstanding matters.

The SMEC staff shall inspect the Works during the Defects Notification Period and report to the Employer on:

- progress the Contractor is making on completing those Works outstanding at the time of issue of the Taking-Over Certificate
- any further defects that may become apparent during inspections.

The Contractor is obliged to make good those faults when instructed by the Employer during the Defects Liability Period. The SMEC site staff must undertake an inspection with the Contractor before the end of the Defects Notification Period to identify defective, which is the responsibility of the Contractor, or unfinished work. The Employer may then, under Sub-Clause 11.8, instruct the Contractor to search for the cause of any defect. If, in the opinion of the SMEC site staff, it is necessary to investigate the causes of any additional defects, the Employer shall be advised. In the event that the defect is shown to be the responsibility of the Contractor then he shall pay for the rectification of the defect and for the search. Otherwise the costs shall be borne by the Employer.

Final acceptance of the Contractor's work occurs when the Employer issues a Performance Certificate. This depends on the Contractor having completed all work and having remedied all defects, following an inspection

made by or on behalf of the Employer (most likely the Resident Engineer, prior to the expiration of the Defects Notification Period).

**C. Records/Templates:**

Nil

### 13.3 Performance Certificate

**A. Background:**

The Contract is not considered to be completed until a Performance Certificate has been signed and issued by the Employer in accordance with Sub-Clause 11.9.

**Relevant General Conditions Sub-Clauses**

**Sub-Clause 11.9 [Performance Certificate]**

This Sub-Clause states that the performance of the Contractor's obligations shall not be considered to have been completed until the Employer has issued the Performance Certificate to the Contractor.

The Employer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. If the Employer fails to issue the Performance Certificate accordingly the Performance Certificate shall be deemed to have been issued on the date 28 days after the date on which it should have been issued.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

**B. Procedure:**

The Employer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Period, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer. It is not recommended that the Employer's Representative issue this certificate.

Note that, in accordance with the provisions of Sub-Clause 4.2, the Contractor is entitled to have his Performance Security returned to him within 21 days of the issue by the Employer's Representative of the Performance Certificate.

It is very important to note that the Performance Certificate shall constitute acceptance of the Works.

**C. Records/Templates:**

13.3.1: Performance Certificate

### 13.4 Clearing the Site

**A. Background:**

The Contractor is required, on receipt of the Performance Certificate, to clear the Site of all Contractor's Equipment, surplus material, buildings, hard stand areas, rubbish etc

**Relevant General Conditions Sub-Clauses**

**Sub-Clause 11.11 Clearance of Site**

Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site. If all these items have not been removed within 28 days after the Employer issues the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items and be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

**B. Procedure:**

The Contractor may clear the Site as the works proceed and are completed. Although it is not an obligation under Sub-Clause 11.11, the Employer should give reasonable notice to the Contractor of his intention to sell or dispose of equipment and other items. The notice should identify the items concerned, particularly in view of the possibility that the Contractor may have no record of them having been left on the site.

**C. Records/Templates:**



Nil

### 13.5 Hand Over of Project Assets

#### A. Background:

This Contract makes provisions for certain facilities provided by the Contractor, under the construction Contract, to become the property of the Employer, after completion of the Contract<sup>i</sup>.

#### B. Procedure:

The Employer will ensure that a complete list of all such assets is compiled and, close to the time of hand-over, will inspect them to ensure that they are present and in a condition compatible with the degree of use they will have had.

The Project Manager shall consult the Employer over the details of the hand-over to ensure that the Contractor complies with the Employer's wishes in respect of their delivery provided the Contract makes provision for these.

#### C. Records/Templates:

Nil

### 13.6 As-Built Records

#### A. Background:

As-built records (also called Work-as-Executed records) drawings are required to provide a record of the work as actually constructed. Sub-Clause Sub-Clause 5.6 [As Built Documents] requires the Contractor to submit as-built documents. The Contract clarifies this requirement in the Specification<sup>ii</sup>.

#### Relevant General Conditions Sub-Clauses

#### Sub-Clause 5.6 [As Built Documents]

This Sub-Clause states that the Contractor shall prepare, and keep up-to-date, a complete set of "as-built" records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Two copies shall be supplied to the Employer prior to the commencement of the Tests on Completion. The Contractor shall obtain the consent of the Employer as to their size, the referencing system, and other relevant details. Prior to the issue of any Taking-Over Certificate, the Contractor shall supply to the Employer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements..

#### B. Procedure:

Notwithstanding the requirements of the contract however, it is essential that the SMEC staff shall have an active role in the production of the as-built record and, particularly, in ensuring that they give a reasonable representation of the completed Works. While the as-built record traditionally takes the form of drawings, this is not always the most efficient means of delivering the required information. Consideration may therefore be given to the provision of much of the required information in the form of schedules. The Employer may also welcome their delivery in electronic format.

The Project Manager's staff will regularly check that the Contractor is keeping accurate, properly marked-up as-built drawings.

In so far as is practicable, the as-built record shall be compiled during the construction process, usually by the Contractor. The Project Manager's staff must ensure that the record has been accurately compiled and must ensure that it is delivered to the Employer in the format(s) required prior to the issue of a Taking Over Certificate.

<sup>i</sup> This will depend on what is required to be handed over under the contract. Delete this clause if not applicable.

<sup>ii</sup> Modify this if this statement is not appropriate.

**C. Records/Templates:**

None.

**13.7 Final Report****A. Background:**

As part of SMEC's services, it is necessary to produce, within a set time frame of the project having been completed, a Final Report covering details of the execution of the project.

**B. Procedure:**

The Final Report shall be a compilation and refinement of data previously reported in various formats, especially in progress reports, although the precise format would be discussed and agreed with the Employer. The Project Manager will allocate responsibility for various sections of the report to members of SMEC's staff. The report will be produced as a draft and submitted to the Client and after receiving comments, the final report will be produced and issued.

**C. Records/Templates (see Book of Forms):****13.7.1: Table Of Contents For Final Report****13.8 Statement at Completion and Certification****A. Background:**

Sub-Clause 14.10 requires the Contractor, within 84 days of receiving the Taking Over Certificate (for the whole of the Works or for the final Section), to submit the Contractor's "Statement on Completion".

**Relevant General Conditions Sub-Clauses****Sub-Clause 14.10 Statement at Completion**

This Sub-Clause states that within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Employer six copies of a Statement at Completion with supporting documents showing: the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works, any further sums which the Contractor considers to be due, and an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

**B. Procedure:**

The Contractor must include with this statement:

- (a) the value of all work done up to the time of issue of the Taking Over Certificate
- (b) a further sums which the Contractor considers due
- (c) an estimate of any other amounts which the Contractor considers will become due. Items (b) and (c) will include all outstanding claims.

The Employer shall certify this Statement following the requirements for Interim Payment Certificate certification.

**C. Records/Templates:****13.8.1: Statement At Completion****13.9 The Final Statement, the Discharge and the Final Payment Certificate****A. Background:**

Within 56 days after the issue of the Performance Certificate the Contractor must submit its Final Statement.

**Relevant General Conditions Sub-Clauses****Sub-14.11 Application for Final Payment**

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Employer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Employer: (a) the value of all work done in accordance with the Contract, and

(b) any further sums which the Contractor considers to be due to him under the Contract or otherwise. If the Employer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Employer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Employer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

#### **B. Procedure:**

This Certificate must be prepared in accordance with the provision of Sub-Clause 14.11, in which all those payments to which considered due are listed. It shall however be noted that as this statement may contain sums which the Contractor may be claiming under unsettled claims, so that the Final Statement does not necessarily lead to a rapid final agreement of all sums due.

The Contractor must submit, with his Final Statement, a discharge stating that the sums included in the statement are considered to be full and final settlement of all monies due to the Contractor. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

If there are no outstanding issues in dispute then following receipt of the Contractor's Final Statement, and following careful verification of the sums claimed, the Employer can issue the Final Payment Certificate. If there are sums which are in dispute then the Employer shall issue a further Interim Certificate certifying such amounts as are not in dispute, and the issue of the Final Certificate will be delayed until the dispute is settled.

Any amounts remaining in dispute can be referred to the Dispute Adjudication Board, or can be the subject of Amicable Settlement.

#### **C. Records/Templates:**

##### **13.9.1: Final Certificate Template**

## **14. SMEC INTERNAL AUDITS**

### **14.1 Reason for Audit**

#### **A. Background:**

The audits described in this section relate to the audits of contract administration processes and not the Project audits as carried out by SMEC and described in the BMS.

The Employer and Employer's Representative will always appoint Assistants to undertake administration of construction. Notwithstanding, the Employer remains responsible to ensure that the duties of the Employer's Representative, as defined in the Sub-Clause and PC are thoroughly and fully implemented.

It would be impractical and undesirable for the Employer's Representative to monitor all day to day activities on Site. SMEC therefore adopts a different approach on all international construction contracts as follows:

1. the Employer's Representative will monitor a limited volume of site correspondence and reports, copied by the Resident Engineer to the Employer's Representative. This will permit the Employer's Representative to keep abreast of major events on site without becoming overwhelmed in day-to-day detail. The volume and scope of the correspondence to be copied to the Employer's Representative will be defined by him at the start of the contract.
2. the Employer's Representative ensures that systems and procedures are in place and are being implemented on site which will help ensure effective construction supervision. It is intended that this shall be done by site audits.

#### **B. Procedure:**

Each audit will consist of the identification, in advance of the audit visit, of a selection of functions which the Employer's Representative's site team is required to fulfil in the performance of their duties. An inspection will be undertaken to establish that appropriate systems are in place, that they are effective for the purpose intended, and that they are being properly implemented. A series of checklists shall be established for this purpose.

Audits can be formal or semi informal. Audits can be carried out by the Resident Engineer or nominated staff. Audits are generally carried out on a procedure and not a person. They are used to ascertain whether the team members understand a procedure and whether they are complying with it.

Emphasis is placed on the need for audits to pay particular attention to procedures intended to reduce the numbers of claims and to mitigate their costs.

The systems and procedures which are to be audited shall include items selected as appropriate to the progress of the Works from the following list:

<b>Start-Up Procedures To Be Audited</b>	<b>Procedures throughout the Construction Stage</b>	<b>Completion procedures</b>
<ul style="list-style-type: none"> <li>• appointment of the Employer's Representative (if not already included in the Contract)</li> <li>• appointment of the Resident Engineer</li> <li>• delegation to the Resident Engineer and Assistants</li> <li>• issue of the Notice of Commencement Date</li> <li>• submission of evidence of insurances (by the Contractor)</li> <li>• provision (by the Contractor) of performance bond</li> <li>• provision (by the Contractor) of advance payment security</li> <li>• process the certificate for advance payment (if required)</li> <li>• receipt and evaluation of the programme</li> <li>• prompt possession of and access to the Site</li> <li>• correct subcontracting procedures</li> <li>• issue of survey data</li> <li>• provision (by the Contractor) of Employer's Representative's facilities</li> </ul>	<ul style="list-style-type: none"> <li>• liaison with the Employer</li> <li>• control of design amendments and/or supplements</li> <li>• request for inspection</li> <li>• laboratory testing</li> <li>• survey checking</li> <li>• site inspections</li> <li>• records</li> <li>• correspondence, filing &amp; retrieval systems</li> <li>• record and data storage and retrieval</li> <li>• site diaries</li> <li>• setting out data</li> <li>• issue of drawings and other data</li> <li>• instructions, variations, provisional sum orders and Dayworks orders</li> <li>• materials test results</li> <li>• piling records</li> <li>• Contractor's labour and plant returns</li> <li>• minutes of meetings</li> <li>• progress photographs</li> <li>• reports</li> <li>• Contractor's claims</li> <li>• as-built drawings</li> <li>• consultation</li> <li>• claims records, processing and responses</li> <li>• monitoring progress of the works</li> <li>• laboratory testing reporting</li> <li>• interim measurement</li> <li>• monitoring of Contractor's responsibilities</li> <li>• cost control</li> <li>• dispute avoidance</li> <li>◊ monitor adverse circumstances on site</li> <li>◊ anticipate possible sources of conflict</li> <li>◊ formulate counter-measures</li> <li>◊ discuss options with the parties</li> <li>◊ agree mitigating actions</li> </ul>	<ul style="list-style-type: none"> <li>• clearing site</li> <li>• taking-over certificate</li> <li>• performance certificate</li> <li>• defects liability inspections</li> <li>• taking over inspections</li> <li>• statement at completion</li> <li>• final statement</li> <li>• discharge</li> <li>• payment certificate</li> <li>• as-built records</li> <li>• final reporting</li> </ul>

### **C. Records/Templates:**

14.1.1: Checklist For The Conduct Of Site Audits - Systems And Procedures To Be Audited

14.1.2: Notice Of Site Audit

14.1.3: Site Audit – Inspection Checklist

## **14.2 Conduct of the Audit**

### **A. Background:**

Site audit visits shall be well planned preferably well in advance of the audit.

### **B. Procedure:**

Site audits can be carried out by members of the Functional Manager's staff (external) with good relevant experience, but not involved with the day to day running of the contract. Where possible, the auditor shall be the same person throughout the duration of a contract.

The planning will include identifying the aspects to be audited. Site staff will be given adequate notice (one to two weeks) of the forthcoming visit, and of the aspects (systems and procedures) to be audited. A draft of a suitable letter of notification is issued together with given notification of the particular issues to be addressed. These forms can be found in the Book of Forms.

In general, it is intended that site audits shall take place at intervals of not more than six months, although they should be undertaken in the contract start-up period, the commencement of the major works and the contract completion period.

The objectives of the site audits are:

- identification of those aspects of contract supervision that shall be monitored by the Engineer's Assistants
- assessment of the effectiveness of systems initiated by site staff to address these aspects
- assessment of the effectiveness of the implementation of the systems
- identification and suggestion of possible improvements to the systems and their implementation
- undertaking repeat audits to ensure that any necessary improvements have been implemented.

Systems to be audited may vary from audit to audit, and will vary according to the relative advancement of the construction period. For general guidance, a list of procedures, which would normally be subject to audit on any Site, is included in The Book of Forms. Auditors shall however be aware of the particular requirements of a contract and shall add appropriately to the list. Training, if it is a requirement of the consultancy agreement<sup>i</sup>, shall be audited.

Audits should commence with a brief overview with the Project Manager, Employer's Representative and Resident Engineer. This meeting will confirm the audit details and programmed activities. This may include other senior members of site staff with the agreement of both the auditor and the Project Manager. At the entry interview, the auditor shall explain how the audit will be conducted. It is the responsibility of the auditor to ensure that his audit causes the minimum of disruption to the normal functioning of the Site. The Project Manager Employer's Representative, Resident Engineer and his staff are required to co-operate fully with the auditor.

During the audit, the auditor will be seeking to establish that, for each topic identified, an effective system has been established, and that the system is being properly implemented. Guidance on acceptable systems is described earlier in this Manual, although Site staff may substitute alternative systems provided they are equally effective.

For the purpose of conducting the audit, the auditor may need, and must be provided with, access to project personnel, to the project Site, to project buildings and to the project filing system, as well as transport.

The form that shall be used to identify both satisfactory systems and systems in need of improvement is found in the Book of Forms.

Audits visits shall end with an exit interview, which shall preferably be attended by the same people as attended the entry interview, and during which the auditor's findings and recommendations shall be discussed and further action agreed.

### **C. Records/Templates:**

14.2.1: Site Audit – Comments And Recommendations

14.2.2: Register Of Non Conformances

14.2.3: Audit Report Template

## **14.3 Audit Report**

### **A. Background:**

An audit report is necessary to record the findings of the audit for future reference.

### **B. Procedure:**

<sup>i</sup> Delete if not applicable.

The auditor shall prepare an audit report for the Project Manager. The report shall be a balanced and constructive assessment of the audit findings, report all nonconformities found (e.g. by use of CARs), and require that they should be corrected and report on any opportunities, or recommendations for improvement. The report shall preferably be completed before the end of the audit visit and which shall be the basis of the exit interview. The report shall include all the completed forms.

**C. Records/Templates:**

#### **14.4 Follow Up Audits**

**A. Background:**

While it is the intention that further audits shall address topics which are relevant to the current stage of the construction period, it is important that any systems identified for improvement are re-assessed in order to ensure that the appropriate additional measures have been implemented.

**B. Procedure:**

The Project Manager/delegate shall follow-up audits to verify that actions to correct deficiencies/nonconformities found by audits have been implemented satisfactorily. The follow up shall be at an appropriate time (eg. the next scheduled audit or sooner if necessary.) Records shall be maintained of the follow-up findings (eg. in audit reports or on CARs).

Any CARs raised, shall not be closed out until the nonconformity has been adequately corrected.

Where minor nonconformities or negative observations have not been adequately addressed, consideration will be given by the Auditor, to issuing a CAR to address the matter.

Recurring nonconformities and CARs which continue to remain open, shall be brought to the attention of the appropriate Manager for necessary action. When the appropriate Manager has confirmed resolution of the matter, the (Lead) Auditor shall initiate a follow-up audit.

**C. Records/Templates:**



## APPENDICES

## APPENDIX 1 – SURVEILLANCE SYSTEM USING A RESIDENT ENGINEER TO ADMINISTER SITE WORK

*(If the person assigned the role of site administration is not the Resident engineer, adjust this Sub-Clause accordingly.)*

The Resident Engineer and his delegates (hereinafter called “Resident Engineer” shall monitor, according to the specific requirements of the Contract, field sampling, field testing and site laboratory testing. The Resident Engineer shall ensure that all on site testing equipment is regularly calibrated and is generally kept in satisfactory condition. He shall ensure that the Contractor’s testing staff are competent to carry out the necessary testing and shall check regularly that the tests are being performed in accordance with the appropriate specified procedures.

Special attention shall be paid to the clear identification of samples, and to the laboratory induction, handling and reporting procedures adopted.

It is usually necessary, in the case of materials generated on Site, to distinguish between sampling and testing of materials, in advance, to assess their suitability for use for construction purposes, and the sampling and testing of these materials once incorporated in the Works. While testing materials in advance is good practice and is a specific requirement of the Contract, nevertheless, acceptance of materials is undertaken only on the basis of tests taken after the construction processing is complete.

Records of all materials testing shall be kept by the Resident Engineer and must be cross-referenced to the relevant locations where the materials, to which each test results refer, were incorporated in the Works. If the results of initial tests are unsatisfactory the relevant data sheets shall be cross-referenced to the subsequent remedial action and retesting. Where necessary, for the purposes of acceptance of testing, the Resident Engineer shall carry out regular statistical analyses of the variation in results obtained.

Drawings and/or schematic diagrams shall be prepared and kept by the Resident Engineer recording the location (in plan and level) where in-situ testing has been carried out and samples taken.

The Resident Engineer shall prepare monthly summaries of all test results including site test results, external laboratory results, items submitted for approval and decisions taken, together with any statistical analyses of results.

In order to undertake monitoring of the Contractor’s quality system, a surveillance system shall be implemented by the Resident Engineer.

### **Risk Management**

The first step in developing and implementing a surveillance system is to undertake a risk analysis of the project work.

Prior to commencing, the Resident Engineer shall:

- analyse the complexity and inherent failure risks of work processes to determine the level of field surveillance applicable to each work process
- provide adequate resources and balance out the competing needs for field surveillance (i.e., decide priorities)
- liaise with Senior Embankment/Senior Concrete Engineer/Site Engineers/Inspectors to determine the required level of field surveillance for each work process/activity.

### **Surveillance Plan**

The Resident Engineer shall organise the Site Engineers and Inspectors to:

- prepare a Surveillance Plan, showing: project process/activity, risk rating, frequency of surveillance, and the method of surveillance, eg.
  - continuous surveillance
  - product quality audits
  - analysis of records
  - precise level survey
  - parallel testing
- prepare individual surveillance plans for each processes to be surveilled and the intensity of the surveillance each month
- ensure that each process identified for field surveillance is surveilled in accordance with the surveillance plans and that checklists are completed regularly for the principal work processes

- considering the Contractors performance, evaluate the effectiveness of the level of surveillance provided and discuss any necessary changes with the Project Manager.

For planning purposes about 75% of the Site Engineer's available time shall be allocated to field surveillance, the balance being taken up by daily diaries, the hold point release process, etc.

The Resident Engineer in consultation with the Site Engineers and Inspectors shall review the Surveillance Plans, and update as considered necessary.

### **Surveillance Checklists**

All Site Engineers and Inspectors shall have access to current copies of, and be familiar with, the relevant parts of:

- the Contract Documents (Technical Specification and drawings)
- the Contractor's Work Method Statements, Inspection & Test Plans (ITPs), and other documents.

Site Engineers and Inspectors (and others conducting surveillance) shall produce Surveillance Checklists based on the Contract Document and Contractor's Work Method Statements, ITPs. Where discrepancies are perceived or clarification necessary they shall discuss these matters with the Resident Engineer.

### **Nonconformances**

The Site Engineers/Inspectors shall:

- i. identify any Contractor nonconformities and nonconforming product, using the Nonconformity Report form
- ii. present the completed NCR to the Contractor
- iii. provide a copy of the completed NCR to the Team Leader/Project Manager, for his information, and filing
- iv. register the NCR in the NCR Register.

### **Response to Contractor's Proposed Rectification of Nonconformities / Nonconforming Product**

The Site Engineers/Inspectors shall:

- review the Contractor's proposed rectification of the nonconformity/nonconforming product
- discuss the Contractor's proposed rectification of the nonconformity/nonconforming product with the Team Leader/Project Manager as necessary
- return the NCR with rejection or acceptance of the Contractor's proposed rectification
- after acceptance of the Contractor's proposed rectification, check the implementation of the proposed rectification
- when satisfied with the rectification, then close out the NCR.

Sign the NCR and provide to the Secretary for filing, and updating of the NCR Register.

The Book of Forms contains forms that can be used to aid in the preparation of surveillance plan and checklists.

## **APPENDIX 2 – CONTRACTUAL CLAIMS ASSUMING POWERS DELEGATED TO EMPLOYER’S REPRESENTATIVE AND RESIDENT ENGINEER**

### **Contractor’s Claims**

The Contractor is under a permanent obligation to give notice of probable future events or circumstances which may adversely affect the work, increase the Contract price or delay the execution of the Works.

Claims can turn out to be a source of contention and time consuming, and the Resident Engineer should attempt in the first instance, where possible, to pursue an avoidance strategy. This can sometimes be achieved by anticipation of the circumstances likely to lead to a claim and by taking action to avert them, or by taking prompt action to avert them when the circumstances first arise. It is also not uncommon, when circumstances arise which do reasonably entitle a contractor to claim, for the issue to be settled amicably, between the parties, by using other mechanisms under the contract.

If a claim is submitted, the three main Sub-Clauses that refer to making a claim Sub-Clause 3.5, 8.4 and 20.1).

### **Sub-Clause 3.5 Determinations**

Whenever these Conditions provide that the Employer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Employer shall consult with the Contractor in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. The Employer shall give notice to the Contractor of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it. Either Party may then refer the dispute to the DAB in accordance with Sub-Clause 20.4 [ Obtaining Dispute Adjudication Board's Decision].

Where the Resident Engineer feels he is out of his depth on an issue, he should seek the guidance and opinion of experts in the interpretation of the Contract. SMEC has a Chief Technical Principal who can provide this advice.

### **Sub-Clause 8.4**

The Contractor shall be entitled subject to Sub- Clause 20.1 [ Contractor's Claims ] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [ Taking Over of the Works and Sections ] is or will be delayed by any of the following causes: a Variation (unless an adjustment to the Time for Completion has been agreed under Sub- Clause 13.3, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

This clause defines certain generalised circumstances under which claims for extension of time can be made, although it recognises that there are other Sub-Clauses that provide more specific grounds for claim as well. The clause does not provide grounds for claiming additional payment, and there is no corresponding generalised in respect of claims for additional payment. All claims for payment are addressed specifically in the relevant clauses.

### **Sub-Clause 20.1**

This clause does not provide grounds for the Contractor to make a Claim, but addresses the mechanisms by which he may make Claims.

This clause states that a Contractor may include, in the same submission, a claim for additional payment and for extension of time, it must always be borne in mind that claims for extension of time do not automatically lead to the right to additional payment. Nevertheless, the two are inevitably linked. The circumstances which may justify the granting of an extension of time, may also be appropriate to justify additional payment.

### **Employer’s Representative’s Role**

The Employer is required to make any determination of a Claim but will generally assign this role to the Employer’s Representative. The Contractor may be biased in his own favour when making a claim. It is therefore not unlikely that a Contractor’s own view of his entitlement to claim will be optimistic or even that he may raise claims under which he eventually turns out to have no entitlement at all.

### **Basis of Claims**

Claims are almost invariably based on the concept that circumstances encountered during the performance of a Contract were not as the Contractor could reasonably have perceived them to be at the time of the contract agreement. Unforeseen circumstance does not always lead to an automatic right to claim. The Contractor, as

well as the Employer, is usually required to carry some of the risks inherent in undertaking a contract. For the “Silver book” the Contractor accepts far more risk. The Sub-Clause sets out the apportionment of the recognised categories of risk to be carried during construction, and a contractor is only entitled to claim under a contract for the additional payment and/or extension of time associated with the occurrence of risk events for which the contractor is not required to be responsible for.

### **Extra-contractual Claims**

A Contractor may seek to raise claims which are outside the scope of the Contract. These are usually made under the law applicable to the Contract, which is, most usually, the law of the country in which the works are located. A Contractor may, for instance, allege breach of contract by the Employer and this can result in legal action. Claims for damages may be brought for breach of “implied” as well as “express” terms of the Contract. Other claims may arise as a result, for instance, of a Contractor performing work without prior agreement as to the method of payment. In such a situation the Contractor may be entitled, under the law applicable to the contract, to payment on a “*quantum meruit*” basis, i.e. to be paid a reasonable sum for the work done.

A Contractor who experiences problems, for which he admits that he carries the risk under the Contract, may nevertheless seek to claim an ex-gratia payment (i.e. a payment for which there is no contractual basis.) The Employer may choose to make such a payment out of good will and as an inducement to the Contractor to continue work.

In general, the Employer’s (through the Employer’s Representative’s) responsibilities are to administer the Contract which, by definition does not include extra-contractual matters. If a Contractor shall seek to raise such Claims then it will be the responsibility of the Employer’s Representative immediately to bring them to the attention of the Employer. In general, the Employer shall seek professional legal advice on extra-contractual issues although it may be preferable if circumstances permit, to pursue amicable settlement, in which case it is probable that the Employer’s Representative will be called upon to advise.

Within 42 days of becoming aware of the event (not within 42 days of having given notice), the contractor must submit to the Employer a fully detailed Claim with full supporting particulars.

### **Notice of Claim**

Sub-Clause 20.1 states that a Contractor must notify a claim as soon as practicable, and not later than 28 days after the Contractor shall have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Employer can reject the Claim and the Employer shall be discharged from all liability in connection with the claim. Thus non compliance with claim requirements leads to the lapse of the claim, even though the Employer is obviously aware of the fact that he has caused disruption and additional cost. One of the principle purposes of these provisions is to ensure that the Employer is aware of circumstances (is given notice) at an early stage so that, if possible, action can be taken to mitigate additional cost and/or delay. It follows that if the Contractor is aware of circumstances leading to additional cost and/or delay and has failed to alert the Employer to them, thus denying the Employer the opportunity to act to reduce their possible effects, then the Contractor’s entitlement under the claim shall reasonably be restricted.

The Notice shall meet the following requirements:

- it shall describe the event or circumstance in order to enable the Employer to put the issue on record and to take measures, but also in order to enable the Employer to investigate the matter while it is current
- it shall comply with Sub-Clause 1.3, i.e. in writing and properly delivered
- it shall be included in the progress reports – Sub-Clause 4.21(f) – the report must list notices given.

Examples of the format to be used by a Contractor include:

In the various Sub-Clauses, the Contractor’s entitlements to claim are expressed using similar wording, typically as follows:

“The Contractor has suffered delay and/or incurs Cost ..., the Contractor shall give notice ... and shall be entitled subject to Sub-Clause 20.1 to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4, and payment of any such Cost, which shall be added to the Contract Price.”

However, the notice need not state time or amount claimed or contractual basis of claim. There is no immediate response required from the Employer – but a simple acknowledgement is normal.

The following Sub-Clauses are where either the Contractor or Employer are entitled to claim under this contract.

<b>Sub-Clause</b>		<b>Contractor's Entitlement</b>	<b>Employer's Entitlement</b>
2.1	Right of Access to the Site *	Contractor may claim extension of time, Cost and reasonable profit if Employer fails to give right of access to Site within time stated in the Contract	
2.5	Employer's Claims *		Procedure with which Employer must comply when claiming payment from the Contractor and when claiming an extension to the Defects Notification Period
4.19	Electricity, Water and Gas *		Employer entitled to payment if Contractor uses power, water or other services provided by the Employer, if any, without prior notice under Sub-Clause 2.5
4.20	Employer's Equipment and Free-Issue Material *		Employer entitled to payment if Contractor uses the Employer's Equipment, if any, without prior notice under Sub-Clause 2.5
4.24	Fossils *	Contractor may claim extension of time and Cost attributable to an instruction to Contractor to deal with an encountered archaeological remains	
7.4	Testing *	Contractor may claim extension of time, Cost and reasonable profit if testing is delayed by (or on behalf of) the Employer	
8.5	Delays Caused by Authorities *	Contractor may claim extension of time if Country's public authority causes Unforeseeable delay	
8.6	Rate of Progress *		Employer may claim costs attributable to revised methods which Contractor adopts in order to overcome a delay for which no extension of time is due
8.7	Delay Damages *		Employer may claim prescribed delay damages if Contractor fails to achieve completion within Time for Completion
8.9	Consequences of Suspension *	Contractor may claim extension of time and Cost if Employer instructs a suspension of progress	
9.4	Failure to Pass Tests on Completion *		Employer may claim costs if Works or Section repeatedly fails Test on Completion



<b>Sub-Clause</b>		<b>Contractor's Entitlement</b>	<b>Employer's Entitlement</b>
10.2	Taking Over of Parts of the Works	Contractor may claim Cost and reasonable profit attributable to the taking over of a part of the Works	Employer's entitlement to prescribed delay damages is reduced by a proportion related to the contract value of the part taken over
10.3	Interference with Tests on Completion *	Contractor may claim extension of time, Cost and reasonable profit if Employer delays a Test on Completion	
11.3	Extension of Defects Notification Period *		Employer may claim extension of the Defects Notification Period if Works or Section or major Plant cannot be used for intended purpose because of any defect
11.8	Contractor to Search *	Contractor may claim Cost and reasonable profit if instructed to search for cause of a defect for which he is not responsible	
12.2	Delayed Tests *	Contractor may claim Cost and reasonable profit if Employer delays a Test after Completion	
12.3	Retesting *	Employer may claim costs attributable to repeated failures of tests after completion	
12.4	Failure to Pass Tests after Completion *	Contractor may claim Cost and reasonable profit if Employer delays access to the Works	Employer may claim prescribed non-performance damages in event of failure to pass Test after Completion
13.3	Variation Procedure *	The Contract Price shall be adjusted as a result of Variations	
13.7	Adjustments for Changes in Legislation *	Contractor may claim extension of time and Cost attributable to a change in the Laws of the Country	Employer may claim payment of reduction in Contractor's Cost attributable to a change in the Laws of the Country
14.4	Schedule of Payments *	If interim payment instalments were not defined by reference to actual progress, and actual progress is less than that on which the schedule of payments was originally based, these instalments may be revised	
14.8	Delayed Payment *	Contractor may claim financing charges if he does	
15.3	Valuation at Date of Termination *		Works, Goods and Contractor's Documents are valued after Employer has terminated Contract

<b>Sub-Clause</b>		<b>Contractor's Entitlement</b>	<b>Employer's Entitlement</b>
15.4	Payment after Termination *		Employer may claim losses and damages after
16.1	Contractor's Entitlement to Suspend Work *	Contractor may claim extension of time, Cost and reasonable profit if Employer fails to certify or if Employer fails to pay amount certified or fails to evidence his financial arrangements, and Contractor suspends work	
16.4	Payment on Termination *	Contractor may claim losses and damages after terminating Contract	
17.1	Indemnities *	Contractor may claim cost attributable to a matter against which he is indemnified by Employer	Employer may claim cost attributable to a matter against which he is indemnified by Contractor
17.4	Consequences of Employer's Risks *	Contractor may claim extension of time, Cost and (in some cases) reasonable profit if Works, Goods or Contractor's Documents are damaged by an Employer's risk as listed in Sub-Clause 17.3	
18.1	General Requirements for Insurances *	Contractor may claim cost of premiums if Employer fails to effect insurance for which he is the "insuring Party"	Employer may claim cost of premiums if Contractor fails to effect insurance for which he is the "insured Party"
18.2	Insurance for Works and Contractor's Equipment (last paragraph) *		Employer may claim payment of reduction in cost of premiums if the Contractor's insurance of an Employer's risk becomes unavailable at commercially reasonable terms
19.4	Consequences of Force Majeure *	Contractor may claim extension of time and (in some cases) Cost if Force Majeure prevents him from performing obligations	
19.6	Optional Payment, Termination and Release *	Contractor's work and other Costs are valued after progress is prevented by a prolonged period of Force Majeure and either Party then gives notice of termination	
20.1	Contractor's Claims *	Procedure with which the Contractor must comply when claiming an extension of time and/or additional payment	

### **Resolution of Claim**

Contractors will invariably wish to be awarded any extension of time to which they may be entitled as soon as possible. Frequently however they do not have the same sense of urgency about submitting details of, and agreeing, claims for additional payment. The reason for this, in many instances, is that the Contractor wishes, before agreeing any settlements, to establish his actual costs and his entitlement to certificated payment, in order to gauge the amount that he needs to make from the claims in order to cover any shortfall. Clearly this can only be achieved at or near the end of the Contract.

This approach implies, of course, that the amount to be awarded under a claim is not necessarily solely governed by entitlement, but includes an element of bartering. While the process laid down in the Sub-Clause for the settlement of claims, makes no allowance for this, nevertheless, in practice, claims are very often finally

resolved at meetings between the Employer and the Contractor, or even between their legal representatives, during which a form of bargaining does take place.

### **Processing Contractor's Claims - Receipt of Claims and their Assessment**

Once the Contractor gives notice of a claim in accordance with Sub-Clause 20.1), the Contractor is required to:

- maintain contemporary records of all the circumstances relevant to the Claim
- make all such records available to the Employer (and his Personnel) for inspection
- maintain such further records as the Employer and his staff may direct.

When in receipt of a Claim, the Employer or his Site staff, shall:

- consider the circumstances leading to the Claim and instruct action, if any, necessary to mitigate those circumstances
- agree with the Contractor a suitable Claims reference number and title, in order clearly to distinguish between claims
- ensure that all parties, including the Employer's Personnel aware of the notice of Claim and are in receipt of details
- review the Contractor's records and consider whether it is necessary to supplement them either by instructing the Contractor to keep further records or by instituting records of his own
- within 42 days of receipt of the Contractor's submission, the Employer must provide a response.

The Contract requires the Employer, when proper justification has been provided by the Contractor, to award extensions of the time for completion, and/or to certify additional payment in response to unforeseen events and/or disruptions which the Contractor could not reasonably have foreseen at the time of tender, and for which the Contractor is not responsible under the provisions of the Contract. Whenever possible, the Employer and the Contractor shall agree, within the provisions of the Contract, any additional payment or extension of time due. If this cannot be achieved, then the Employer is required to make a determination under the provisions of Sub-Clause 3.5).

In the event of Claims, the Resident Engineer may carry out the detailed discussions with the Contractor and may draft any Claims evaluation reports, but the final decision is retained by the Employer.

In the event that the Contractor disagrees sufficiently strongly with a determination of the Employer, he may refer the matter to dispute, under the provisions of Sub-Clause 20). The parties must first attempt amicable settlement after which the matter will be referred to a Dispute Adjudication Board appointed under the Contract or even, in the final event, to Arbitration.

### **Processing Contractor's Claims - Claims Evaluation**

Claims evaluation is essentially similar whether the Claims are for extension of the time, additional payment, or both. The approach advocated is outlined below.

1. Make the Contractor aware of the methodology to be adopted in the hope that he will adopt a compatible presentation for his Claims submission. Failure by the Contractor to address all the issues listed could well result in rejection of the Claim, either temporarily until the shortfalls are rectified, or even permanently, so it is clearly in the Contractor's best interests to comply.
2. Under the provisions of Sub-Clause 20.1), the Contractor must, within 42 days of first having become aware of the circumstances giving rise to the Claim provide a fully detailed, argued submission of his Claim.
3. The Contract recognises however that in the event of a prolonged disruption, the Contractor may not be able to submit the final details of his Claim until the disruptive event is over, in which case he is required to make an interim submission presenting the facts known up to that time.
4. In evaluating the Contractor's Claim the Employer and his Personnel staff must address the following issues:
  - are the facts, as reported by the Contractor, of the events giving rise to the Claim, accurate? What further facts, if any, are relevant to the Employer's evaluation?
  - have the events thus established necessarily resulted in a delay to the Contractor's completion of the Works (note that it is not sufficient for a delay to have occurred to an isolated operation, it must have adversely affected Completion (i.e. have delayed operations on the overall critical path to completion)), and/or to additional cost?
  - are the nature of the events are such as to entitle the Contractor to an extension of time, and/or to additional payment, under the Contract (the Contractor, in his submission, must quote specific clauses of the Sub-Clause and show his clear entitlement under them)

- has the Contractor complied with the requirements of the Contract for submission of Claims, including having made his submissions within the time limits stated or otherwise agreed
  - the establishment of the quantum of the extension and/or additional payment to which the Contractor is entitled (if any) (evaluation of extension of time will frequently require the reprogramming of the works, using the original programme logic applied to the changed circumstances).
5. Before making his determination the Employer must consult the Contractor. In practice, the Employer will morally rely on the Employer's Representative or the Resident Engineer to carry out these consultations on his behalf. It is strongly recommended that the Resident Engineer shall ensure that there is adequate evidence of such consultations having taken place, in the form of correspondence or minutes of meetings.
  6. The Employer may assess the Claim only on the basis of the validity of the submission put forward by the Contractor and, within reasonable limits, of the arguments put forward by him. He is not entitled to substitute unrelated arguments of his own which he may consider more valid. To make the Contractor's claim for him would be a violation of the Resident engineer's loyalties.
  7. In the event of prolonged disruption, the Sub-Clause make provision for the Employer to make an interim award of extension of time. It shall however be noted that once awarded such an interim extension may not be reduced, so that caution is advised to ensure that any interim award is not overestimated.

Different clauses entitle the Contractor to apply for an extension of time for completion, claim additional cost, or claim additional cost plus profit. The clauses under which the Contractor may claim are listed below.

Sub-Clause	Reason for Claim	Time	Cost	Cost & Profit
2.1 - Right of Access to the Site	Employer fails to give right of access to & possession of Site within time (or times) stated in Contract	✓		✓
4.12 - Unforeseeable Physical Conditions	The Contractor encounters physical conditions which are Unforeseeable	✓	✓	
4.24 - Fossils	Instruction to the Contractor necessitated by the encountering an archaeological discovery	✓	✓	
7.4 - Testing	The Contractor may claim extension of the Time for Completion, Cost and reasonable profit if testing is delayed by (or at the responsibility of) the Employer	✓		✓
8.4 - Extension of Time for Completion	The Contractor is or will be delayed by one or more of the listed causes	✓		
8.5 - Delays Caused by Authorities	Country's public authorities causes unforeseeable delay	✓		
8.9 - Consequences of Suspension	Employer's Representative instructs a suspension of progress	✓	✓	
10.2 - Taking Over of Parts of the Works	Additional costs attributable to the Taking Over, or use by the Employer of part of the Works.			✓
10.3 - Interference with Tests on Completion	Employer delays a Test on Completion	✓		✓
11.8 - Contractor to Search	Instructed to search for cause of a defect for which he is not found to be responsible			✓
13.2 - Value Engineering	Half of the saving in contract value of his redesigned post-contract alternative proposal, which was approved without prior agreement of such contract value and of how saving would be shared		✓	
13.7 - Adjustments for Changes in Legislation	Change in the Laws of the Country	✓	✓	
14.8 - Delayed Payment	The Contractor does not receive payment in accordance with the provisions of Sub-Clause 14.7		✓	
16.1-Contractor's Entitlement to Suspend Work	Employer fails to certify or if Employer fails to pay amount certified or fails to evidence his financial arrangements, and Contractor suspends work	✓		✓
17.4 - Consequences of Employer's Risks	Goods or Contractor's Documents are damaged by the occurrence of an Employer's risk event as listed in Sub-Clause 17.3	✓		✓

Sub-Clause	Reason for Claim	Time	Cost	Cost & Profit
18.1 - General Requirements for Insurances	Cost of premiums if Employer fails to effect insurance for which he is the "Insuring Party"		✓	
19.4 - Consequences of Force Majeure	Force Majeure event prevents him from fulfilling his obligations	✓	✓	

### Claims from Employer's Claims

Sub-Clause 2.5 establishes the rules and procedures under which the Employer may Claim, payment from the Contractor, and/or extensions of the Defects Notification Period. Payment to the Employer may be made under various clauses of the Sub-Clause and extensions to the Defects Notification can be made under the provisions of Sub-Clause 11.3.

Notice of intent to Claim must be given to the Contractor, either by the Employer, or by the Employer's Representative on behalf of the Employer, together with particulars of the amounts/extension claimed. It should be noted, in particular, that there is a requirement for such notice to be given as soon as practicable after the Employer became aware of the event or circumstances, although there is no specific penalty on the Employer for failing to do so.

The Sub-Clause provides two exceptions from the requirement to provide notice, in respect of Sub-Clause 4.19 and 4.20

The implication of these exceptions is clearly that for other payments, notably including deduction of Delay Damages under the provisions of Sub-Clause 8.7, notice is required.

After giving notice, the Employer must then provide detailed substantiation of his Claim in a manner synonymous to that required from the Contractor for his Claims. It is suggested that an approach similar to that used for Contractor's claims be followed.

The table below, outlines the clauses of the Sub-Clause under which the Employer may claim, and briefly outlining the Employer's entitlement to payment, or to extension of the Defects Notification Period (DNP), under each clause.

The provisions of Sub-Clause 2.5 set out the procedures which must be followed by the Employer in order to register and make Claims for payment from the Contractor and when claiming extension to the DNP.

Sub-Clause Clause	Entitlements of Employer	DNP Extension	Reimburse /Costs
4.19 Electricity, Water and Gas	Payment if the Contractor uses power, water or other services, if any, provided by the Employer, without prior notice under Sub-Clause 2.5		✓
4.20 Employer's Equipment and Free-Issue Material	Payment for use, by the Contractor, of Employer's Equipment, if any, at scheduled rates or prices, without prior notice under Sub-Clause 2.5		✓
7.5 Rejection	To claim costs incurred in of re-testing of defective Plant, Materials or workmanship if that Plant Materials or workmanship remains rejected		✓
7.6 Remedial Work	To claim costs of having remedial work undertaken by others, in the event that the Contractor was liable to carry out that remedial work and failed to do so		✓
8.6 Rate of Progress	To claim costs attributable to revised methods which the Contractor adopts in order to overcome a delay for which no extension of time is due		✓
8.7 Delay Damages	To claim prescribed delay damages if the Contractor fails to achieve completion within the Time for Completion		✓
9.4 Failure to Pass Tests on Completion	To claim reduced Contract Price if the Works or a Section of the Works repeatedly fails Test on Completion		✓
11.3 Extension of DNP	To claim extension of the DNP if Works or Section or major Plant cannot be used for intended purpose because of any defect	✓	
11.4 Failure to Remedy Defects	To claim costs if the Contractor fails to remedy a defect for which Contractor is responsible		✓
13.7 Adjustments for Changes in Legislation	To claim payment of reduction in the Contractor's cost attributable to a change in the Laws of the Country		±

## KARNAPHULI TUNNEL PROJECT - CONTRACT ADMINISTRATION MANUAL

Sub-Clause Clause	Entitlements of Employer	DNP Extension	Reimburse /Costs
14.4 Schedule of Payments	To claim, if interim payment instalments were not defined by reference to actual progress, and actual progress is less than that on which the schedule of payments was originally based, then such instalments may be revised		*
15.4 Payment after Termination	To claim losses and damages after terminating Contract		✓
18.1 General Requirements for Insurances	To claim cost of any premiums paid in the event that the Contractor fails to effect insurance for which he is the "Insuring Party"		✓
18.2 Insurance for Works and Contractor's Equipment	To claim payment of reduction in cost of premiums if the Contractor's insurance of an Employer's risk becomes unavailable at commercially reasonable terms		✓
<b>Key</b> ✓ This case applies. ± In these cases the Conditions make allowance for decreases as well as increases in the Contract Price. * This Sub-Clause does not result in any reduction in the overall sums paid, only in a rescheduling of payments.			



## APPENDIX 3 – LIST OF PUBLICATIONS THAT SHOULD BE CONSIDERED FOR PURCHASE FOR CONTRACT MANAGEMENT

	<u>Author</u>	<u>Title</u>	<u>Publisher</u>
1	Dr. Götz-Sebastian Hök and Axel-Volkmar Jaeger	FIDIC - A Guide for Practitioners	Springer, 2010
2	V. Powell-Smith & D. Stephenson	Civil Engineering Claims	Blackwell Scientific Publications
3	Ben Mellors, Ellis Baker, Anthony Lavers, and Scott Chalmers	The FIDIC Contracts - Law and Practice	Informa Law, 2010.
4	Thomas Telford (2007), Gwyn Owen and Brian Totterdill	Dispute Boards - Procedures and Practice	Thomas Telford (2007
5	I. N. Duncan Wallace	Hudson Building & Civil Engineering Contracts (latest Edition)	Sweet & Maxwell
6	FIDIC	The FIDIC Contracts Guide Conditions of Contract for Construction Conditions of Contract for Plant and Design-Build Conditions of Contract for EPC/Turnkey Projects	FIDIC
7	B W Totterdill	FIDIC User's Guide – A Practical Guide to the 1999 Red and Yellow Books	Thomas Telford