

The FIDIC Contracts Guide

CONDITIONS OF CONTRACT FOR CONSTRUCTION
CONDITIONS OF CONTRACT FOR PLANT AND DESIGN-BUILD
CONDITIONS OF CONTRACT FOR FOR EPC/TURNKEY PROJECTS

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FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS
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About the Principal Drafter

Peter L Booen FICE FCI Arb is a civil engineer who started his career with a contractor (1965-72) before joining Sir Alexander Gibb & Partners (later GIBB Ltd) consulting engineers, UK. He has written and administered many engineering and construction contracts, both nationally and internationally, including those involving financial institutions. He has acted as adjudicator, conciliator, expert witness, and on dispute boards. He has been actively involved in FIDIC since 1993, as principal drafter of the Orange Book and its Guide, and the three major 1999 Books (Construction, Plant and Design-Build and EPC/Turnkey). He is a member of FIDIC's Contracts Committee and Chair of FIDIC's Assessment Panel for Adjudicators.

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Foreword and Abbreviations

In 1999, Fédération Internationale des Ingénieurs-Conseils ("FIDIC") published the following four forms of contract, the first three of which are covered by this Guide and referred to as "CONS", "P&DB" and "EPCT":

"CONS": Conditions of Contract for Construction,

which are recommended for building or engineering works designed by the Employer or by his representative, the Engineer. Under the usual arrangements for this type of contract, the Contractor constructs the works in accordance with a design provided by the Employer. However, the works may include some elements of Contractor-designed civil, mechanical, electrical and/or construction works.

"P&DB": Conditions of Contract for Plant and Design-Build,

which are recommended for the provision of electrical and/or mechanical plant, and for the design and execution of building or engineering works. Under the usual arrangements for this type of contract, the Contractor designs and provides, in accordance with the Employer's requirements, plant and/or other works; which may include any combination of civil, mechanical, electrical and/or construction works.

"EPCT": Conditions of Contract for EPC/Turnkey Projects,

which are recommended for the provision on a turnkey basis of a process or power plant, and which may also be used where one entity takes total responsibility for the design and execution of a privately financed infrastructure project which involves little or no work underground. Under the usual arrangements for this type of contract, the entity carries out all the Engineering, Procurement and Construction ("EPC"): providing a fully-equipped facility, ready for operation (at the "turn of the key").

Short Form of Contract,

which is recommended for relatively simple or repetitive work, or for work of short duration or of small capital value. **The Short Form of Contract is not covered by this Guide.**

In this Guide to the use of CONS, P&DB and EPCT, the word "**Books**" (with capital letter) is used when referring to the three publications: CONS, P&DB and EPCT. These Books were initially published as Test Editions in 1998, and the many reactions to them were reviewed before the First Editions were published in 1999.

These three Books were prepared by FIDIC's Update Task Group comprising: Christopher Wade (Group Leader), SWECO-VBB, Sweden; Peter L Booen (Principal Drafter), GIBB Ltd, UK; Hermann Bayerlein, Fichtner, Germany; Christopher R Seppala (Legal Adviser), White & Case, France; and José F Speziale, IATASA, Argentina. These publications were prepared under the general direction of the Contracts Committee, which then comprised John B Bowcock, Consulting Engineer, UK; Michael Mortimer-Hawkins, SwedPower, Sweden; and Axel-Volkmar Jaeger, Schmidt Reuter Partner, Germany; together with K B (Tony) Norris as Special Adviser.

This Guide was written by Peter L Booen and reviewed by the Contracts Committee which now comprises Michael Mortimer-Hawkins (Chairman), Christopher Wade, Axel-Volkmar Jaeger and Peter L Booen; together with John B Bowcock as Special Adviser and Christopher R Seppala as Legal Adviser. The commentary on Clause 18 was also reviewed by Mark Griffiths, Griffiths & Armour, UK.

FIDIC wishes to record its appreciation of the time and effort devoted by all the above.

Each of the three Books is in three parts:

- General Conditions, the part which is intended to be incorporated (by reference) into each contract, and whose Sub-Clauses are often referred to in this Guide without the use of the word "Sub-Clause" (for example: "CONS 1.1");
- Guidance for the Preparation of the Particular Conditions, the part which is referred to in this Guide as "**GPPC**", which commences by proposing suitable wording to incorporate the appropriate General Conditions into a contract, and which concludes with annexed example forms of securities; and
- Forms of Letter of Tender, Contract Agreement and Dispute Adjudication Agreement, the part which is referred to in this Guide as "**the Example Form(s)**".

In this Guide, the texts in the Books are reproduced in a three-column layout. The texts should be identical to the corresponding texts in the Books, but the reader should refer to the Books in order to determine the necessary authentic wording in case of any discrepancy.

For the convenience of those who are familiar with the General Conditions of Contract contained in FIDIC's previous publications, the reference numbers of their sub-clauses which cover similar subject-matter are included within an insert box after these three-column texts reproduced from the Books, the sub-clause reference numbers being related to:

- "**RB**": Conditions of Contract for Works of Civil Engineering Construction 4th edition 1987 amended 1992 (which was commonly referred to as the Red Book)
- "**YB**": Conditions of Contract for Electrical and Mechanical Works 3rd edition 1987 amended 1988 (which was commonly referred to as the Yellow Book)
- "**OB**": Conditions of Contract for Design-Build and Turnkey 1st edition 1995 (which was commonly referred to as the Orange Book).

In each Contract, the Conditions of Contract governing the rights and obligations of the parties will comprise the appropriate General Conditions together with Particular Conditions. It will be necessary to prepare the Particular Conditions for each individual contract, taking account of the comments in this Guide and the appropriate GPPC. It is essential that all these drafting tasks, and the entire preparation of the tender documents, are entrusted to personnel with the relevant expertise, including the contractual, technical and procurement aspects.

Although this Guide may include useful material for the training of personnel in procurement, it is not intended to provide complete training material for the expertise required for the preparation of tender documents. The comments in this Guide are intended to assist users of the Books who have such expertise, such users being those who write or administer building and/or engineering contracts.

The comments in this Guide are not exhaustive and are only intended to provide general guidance. They should not be relied upon in a specific issue or situation. Expert legal advice should be obtained whenever appropriate, and particularly before entering into or terminating a contract. Neither FIDIC nor the persons named in this Guide accept any responsibility or liability arising from any use of this Guide or of any other publication named herein.

FIDIC receives requests from time to time to assist in the interpretation of individual contracts which are based upon conditions of contract incorporating FIDIC publications. However, as the international federation of consulting engineers, FIDIC cannot undertake to give legal advice. For this reason, and because the legal interpretation of a contract will depend upon such matters as the precise wording of the various documents comprising the particular contract, as well as upon the governing law, FIDIC cannot assist in the interpretation of individual contracts.

Comparison of the main features of the three Books

CONS: Conditions of Contract for Construction	P&DB: Conditions of Contract for Plant and Design-Build	EPCT: Conditions of Contract for EPC/Turnkey Projects
Recommended for building and engineering works if most (or all) of the works are to be designed by (or on behalf of) the Employer.	Recommended for the provision of electrical and/or mechanical plant and for building and engineering works if most (or all) of the works are to be designed by (or on behalf of) the Contractor.	Suitable for a process or power plant, a factory or similar facility, or an infrastructure project or other type of development, if (i) a higher degree of certainty of final price and time is required, and (ii) the Contractor takes total responsibility for the design and execution of the project.
The Contract typically becomes legally effective when the Employer issues the Letter of Acceptance to the Contractor.	The Contract typically becomes legally effective when the Employer issues the Letter of Acceptance to the Contractor.	The Contract typically becomes legally effective in accordance with the Contract Agreement.
Alternatively, there may be no such Letter, and the Contract becomes effective in accordance with the Contract Agreement.	Alternatively, there may be no such Letter, and the Contract becomes effective in accordance with the Contract Agreement.	The Letter of Tender may be worded so as to allow for the alternative of the Contract becoming effective when the Employer issues a Letter of Acceptance.
The Contract is administered by the Engineer who is appointed by the Employer. If disputes arise, they are referred to a DAB for its decisions.	The Contract is administered by the Engineer who is appointed by the Employer. If disputes arise, they are referred to a DAB for its decisions.	The Contract is administered by the Employer (unless he appoints an Employer's Representative) who endeavours to reach agreement with the Contractor on each claim.
Alternatively, Particular Conditions may specify Engineer's decisions on disputes, in lieu of a DAB.	Alternatively, Particular Conditions may specify Engineer's decisions on disputes, in lieu of a DAB.	If disputes arise, they are referred to a DAB for its decisions.
The Contractor designs (but only to the extent specified) and executes the works in accordance with the Contract (which includes the Specification and Drawings) and the Engineer's instructions.	The Contractor provides plant, and designs (except as specified) and executes the other works, all in accordance with the Contract, which includes his Proposal and the Employer's Requirements.	The Contractor provides plant, and designs and executes the other works, ready for operation in accordance with the Contract, which includes his Tender and the Employer's Requirements.
Interim and final payments are certified by the Engineer, typically determined by measurement of the actual quantities of the works and applying the rates and prices in the Bill of Quantities or other Schedules.	Interim and final payments are certified by the Engineer, typically determined by reference to a Schedule of Payments.	Interim and final payments are made without any certification: typically determined by reference to a Schedule of Payments.
Other valuation principles can be specified in Particular Conditions.	The alternative of measurement of the actual quantities of the works and applying the rates and prices in a Schedule of Prices can be specified in Particular Conditions.	The alternative of measurement of the actual quantities of the works and applying the rates and prices in a Schedule of Prices can be specified in Particular Conditions.
The General Conditions allocate the risks between the parties on a fair and equitable basis: taking account of such matters as insurability, sound principles of project management, and each party's ability to foresee, and mitigate the effect of, the circumstances relevant to each risk.	The General Conditions allocate the risks between the parties on a fair and equitable basis: taking account of such matters as insurability, sound principles of project management, and each party's ability to foresee, and mitigate the effect of, the circumstances relevant to each risk.	Disproportionately more risks are allocated to the Contractor under the General Conditions. Tenderers will require more data on hydrological, sub-surface and other conditions on the Site, to the extent that this data is relevant to the particular type of works, and more time to review the data and evaluate such risks.

Introduction

to the use of FIDIC's Conditions of Contract

Standardisation, both in technical and administrative matters, is desirable for the satisfactory execution of many types of commercial projects. Major projects, whether they are predominantly building, civil engineering, chemical engineering, electrical engineering, mechanical engineering, or any combination, are frequently complex. With the resulting increased complexity of contract conditions, it is becoming increasingly important for them to be based upon a standardised form of contract with which the contracting parties and financial institutions are familiar.

In the majority of cases, the contracting parties will react favourably to such a standardised form of contract, which should lessen the likelihood of unsatisfactory performance, increased costs and disputes. If the contract is to be based on standard conditions of contract, tenderers should not need to make financial provision for unfamiliar contract conditions. The widespread use of standard conditions also facilitates the training of personnel in contract management, reducing the need for them having to work with ever-changing contract conditions.

The object of this Guide is to assist personnel involved in contracts based upon any of FIDIC's three Books:

- Conditions of Contract for Construction, which are recommended for building or engineering works designed by the Employer or by his representative, the Engineer. However, the works may include some elements of Contractor-designed civil, mechanical, electrical and/or construction works.
- Conditions of Contract for Plant and Design-Build, which are recommended for the provision of electrical and/or mechanical plant, and for building or engineering works designed by the Contractor.
- Conditions of Contract for EPC/Turnkey Projects, which may be suitable, where (i) a higher degree of certainty of final price and time is required, and (ii) the Contractor takes total responsibility for the design and execution of the project, with little involvement of the Employer.

These Books were prepared as a "matching set", with each topic being covered in similarly-worded provisions in each Book except where otherwise necessary. However, adoption of similarly-worded provisions may occasionally be considered to have resulted in the inclusion of a provision which is only applicable in a few of the contracts for which the Book will be appropriate.

The Books are all intended to be flexible in use, recognising the wide variety of users' requirements. Where a sub-clause deals with a matter on which different contract terms are likely to be applicable for different contracts, the sub-clause was drafted in anticipation of alternative possibilities: including it not being required, or it being amended in Particular Conditions.

These aspects are clarified in the Guide for each Sub-Clause, so as to assist in the preparation of tender documents. When preparing the Conditions of Contract for issue to tenderers, users should review the GPPC (and, for CONS or P&DB, the Example Form of Appendix to Tender) and then review the General Conditions and this Guide in order to assess whether each provision is consistent with the requirements for the particular contract.

Selection of the appropriate Book is critical to the success of a project. Their main features are summarised in the Table above, from which it should be clear that the appropriate Book cannot be selected until certain decisions have been made on project procurement aspects. These decisions may be illustrated by the following general guidance on the selection of the appropriate Book.

A relatively small value contract, short construction time or involving simple or repetitive work

If the price for the contract is relatively small (say under US\$ 500 000) or the construction time is short (say less than 6 months), or the work involved is relatively simple or repetitive (dredging work might be a good example), then consider using the Short Form of Contract, irrespective of whether the design is provided by the Employer or the Contractor, and of whether the project involves construction, electrical, mechanical, or other engineering work.

Larger or more complex projects

1. Is the Employer (or the Engineer) going to do most of the design?

- As in traditional projects (e.g., infrastructure, buildings, hydropower, etc.), the Employer did nearly all the design (perhaps not construction details, reinforcement, etc.),
- and the Engineer administered the Contract, monitored the construction work and certified payment,
- and the Employer was kept fully informed, could make variations, etc.,
- and with payment according to bills of quantities or lump sums for approved work done.

If this is what is wanted - choose CONS.

2. Is the Contractor going to do most of the design?

- As in traditional projects (e.g., electrical and mechanical works, including erection on site), the Contractor did the majority of the design (e.g., the detail design of the plant or equipment), so that the plant met the outline or performance specification prepared by the Employer, and in design-build and turnkey-type projects, the Contractor also did the majority of the design (not only of plant projects, but also of various infrastructure and other types of projects), and the project was required to fulfil an outline or performance specification prepared by the Employer,
- and the Engineer (or Employer's representative) administered the Contract, monitored the manufacture and erection on site or construction work and certified payment,

- and with payment according to achieved milestones generally on a lump sum basis.

If this is what is wanted - choose P&DB.

3. Is it a Privately Financed (or Public/Private Financed) Project, of the Build-Operate-Transfer or similar type, where the Concessionaire takes total responsibility for the financing, construction and operation of the Project?

- Then the Concessionaire (the "Employer") probably requires to have a contract with the construction Contractor, i.e., an EPC (Engineer, Procure, Construct) Contract, where the Contractor takes total responsibility for the design and construction of the infrastructure or other facility, and where there is a higher degree of certainty that the agreed contract price and time will not be exceeded,
- and the Employer does not wish to be involved in the day-to-day progress of the work, provided the end result meets the performance criteria he has specified,
- and the parties concerned (e.g., sponsors, lenders and the Employer) are willing to see the Contractor paid more for the construction of the Project in return for the Contractor bearing the extra risks associated with enhanced certainty of final price and time.

If this is what is wanted - choose EPCT.

4. Is it a Process Plant or a Power Plant (or a factory or similar) where the Employer (who provides the finance) wishes to implement the Project on a Fixed-Price Turnkey Basis?

- Then the Employer wishes the Contractor to take total responsibility for the design and construction of the process or power facility and hand it over ready to operate "at the turn of a key",
- and the Employer wishes a higher degree of certainty that the agreed contract price and time will not be exceeded,
- and the Employer wishes the Project to be organised on a strictly two party approach, i.e., without an "Engineer" being involved,
- and the Employer does not wish to be involved in the day-to-day progress of the work, provided the end result meets the performance criteria he has specified,
- and the Employer is willing to pay more for the construction of his Project (than would be the case if P&DB were used) in return for the Contractor bearing the extra risks associated with enhanced certainty of final price and time.

If this is what is wanted - choose EPCT.

5. Is it an Infrastructure Project (e.g., road, rail link, bridge, water or sewage treatment plant, transmission line, even dam or hydropower plant) or similar where the Employer (who provides the finance) wishes to implement the Project on a Fixed-Price Turnkey Basis?

- Then the Employer wishes the Contractor to take total responsibility for design and construction,
- and the Employer wishes a higher degree of certainty that the agreed contract price and time will not be exceeded (except that, if underground works in uncertain or difficult ground conditions are likely, the risk of unforeseen ground conditions should be borne by the Employer and P&DB 4.12 would be appropriate),
- and the Employer wishes the Project to be organised on a strictly two party approach, i.e. without an "Engineer" being involved,
- and the Employer does not wish to be involved in the day-to-day progress of the work, provided the end result meets the performance criteria he has specified,
- and the Employer is willing to pay more for the construction of his Project (than would be the case if P&DB were used) in return for the Contractor bearing the extra risks associated with enhanced certainty of final price and time.

If this is what is wanted - choose EPCT.

6. Is it a Building Project where the Employer wishes to have his building(s) constructed on a Fixed-Price Turnkey Basis generally complete with all furniture, fittings and equipment?

- Then the Employer wishes the Contractor to take total responsibility for design and construction,
- and the Employer wishes a high degree of certainty that the agreed contract price and time will not be exceeded,
- and the Employer wishes the Project to be organised on a strictly two party approach, i.e. without an Employer's Engineer or Architect being involved,
- and the Employer does not wish to be involved in the day-to-day progress of the construction work, provided the end result meets the performance criteria he has specified,
- and the Employer is willing to pay more for the construction of his Project (than would be the case if P&DB were used) in return for the Contractor bearing the extra risks associated with enhanced certainty of final price and time.

If this is what is wanted - choose EPCT. In the case of a building, or of a building development project, the Employer or his architect may have done some or most of the design, but (with suitable modification regarding design responsibility) EPCT may be used.

Is it a reconstruction or refurbishment or other type of Project?

Check the above questions, as applicable, and make your choice accordingly.

Project Procurement

At the inception stage of a project, procurement options should be reviewed and a decision made as to the most appropriate option. This stage in the procurement of each project should include the determination of the appropriate procurement strategy, with decisions being reached on the following matters:

- the works to be executed under each contract (often called "contract packaging"); and, for each contract
- the extent of design to be provided to, or to be carried out by, the contractor, and
- lump-sum, measure-and-value, cost-plus or other basis for determining the final contract price.

For a large project, decisions on the number and scope of contracts may be critical to the eventual success of the project. Having a large number of contracts may give the Employer more control than under a single contract for the entire project, and may be more economic by maximising competitive pricing. However, these advantages may be offset by a greater extent of co-ordination risk borne by the Employer.

For each contract, the party responsible for the design will develop it during the detailed design stage. If the design is carried out by (or on behalf of) the Employer, he will have a greater control over the details. However, problems may on occasions arise from the division of responsibility between designer and constructor.

If the constructor (the Contractor) is responsible for the design, he will wish to develop it in his own interests, subject to any constraints in the Contract. The Employer will have less control over the design than he would have if he was responsible for providing it. Under Contractor-design, the contract price would typically have been tendered on a lump-sum basis, so any change in cost (increase or decrease) to the Contractor, resulting from design development, would not be passed on to the Employer.

Design by (or on behalf of) the Employer

Under CONS, design is the responsibility of the Employer, except to the extent that Contractor-design is specified in the Contract. The Specification must therefore clearly state which (if any) parts of the Works shall be designed by the Contractor, and should also specify the appropriate criteria with which these parts shall comply. If most of the Works are to be designed by the Contractor, CONS would usually be considered inappropriate.

CONS' Clause 12 sets out the measure-and-value basis for determining the contract price, providing a convenient mechanism for valuing the many variations typically instructed under Employer-design. CONS' GPPC includes example text for the alternative option of lump-sum pricing, but this arrangement typically necessitates completion of design before tenders are invited and may give rise to problems evaluating

variations. Alternatively, CONS may be used with Particular Conditions invoking a cost-plus basis for determining the contract price, for use when all cost risk is to be borne by the Employer (for urgent works or works of uncertain scope, for example).

Design by the Contractor (the constructor)

Under P&DB or EPCT, 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.

Under a contract for Contractor-design:

- variations should be instructed as varied requirements with which the Contractor's design must comply, and not as a varied design instructed by (or on behalf of) the Employer, and
- the costs and other consequences of variations should be agreed in advance, so as to minimise disputes.

In practice, these aspects can make Contractor-design appear somewhat inflexible. Contractor-design is typically less amenable to variations initiated by the Employer, compared with CONS' Employer-design where the designer is independent of the Contractor.

Although Contractor-design prevents the Employer from having a close involvement in the design process, it does enable him to have the benefits of (i) lump-sum pricing, (ii) the Contractor's undivided liability for the works (including design), and (iii) the potential savings (in cost and time) due to a degree of overlap of design and construction.

This overlap of design and construction may (or may not) lessen the total period between the commencement of the preparation of tender documents and the completion of construction, because the saving may be offset by the lack of continuity of the design processes during the pre-contract stages. Under CONS' Employer-design, design development should continue uninterrupted.

Procurement Decisions

As previously stated, procurement should commence with strategic decisions on contract packaging and, for each contract, on the allocation of design responsibility and on the basis for determining the contract price. It is only after these above matters have been considered and decisions reached, that a decision should be made on the appropriate General Conditions to be incorporated into the particular Contract. There remains a possibility that, in borderline cases, the selection of the appropriate Book at this stage may be provisional and may need to be reviewed subsequently. For example, if a contract was to require the Contractor to design two-thirds of the works, it might be difficult to decide whether to use CONS or P&DB. It might even be necessary to draft two alternative sets of Particular Conditions, one for CONS and the other for P&DB, and only then decide which set to adopt.

If the result of the above analysis is a decision to procure the works on the basis of Employer-design, CONS provides an internationally acceptable basis for the tender documents. CONS may be used for a wholly Employer-design contract, whether for a wholly civil engineering project or for the civil engineering part of a multi-contract project, although the latter type of project may give rise to significant co-ordination problems. CONS may be equally suitable for a multi-disciplinary contract, if most of the design is to be carried out by (or on behalf of) the Employer. CONS includes some of the provisions relating to Contractor-design, and other such provisions can readily be included in the Particular Conditions and/or the Specification.

If the result of the above analysis is a decision to procure the works on the basis of Contractor-design, either P&DB or EPCT may be used; whether for the procurement of individual items of plant, individual structures, and/or complete facilities including those under turnkey contracts. Turnkey contracts include most or all of the fixtures, fittings and equipment (f.f.e.) required for the provision of a fully-equipped-facility, ready for operation (at the "turn of the key"). It is possible to use either Book for a plant, design-build or turnkey contract. The particular features of the actual project may have a major effect on the choice of Book, and on the drafting of the Particular Conditions and the other tender documents. The choice of Book for Contractor-designed Works may depend upon the availability of (i) the more detailed data required for an EPCT contract, and/or (ii) the time necessary to acquire such data.

Tenderers Need Data to Assess Risks

Tenderers for a construction contract need to study hydrological and sub-surface data, to the extent that this data is relevant to the particular type of works, in order to plan and estimate the costs of the excavation and other works. Under CONS, this is the primary use of this data, which the Employer makes available under Sub-Clause 4.10.

Under a P&DB or EPCT contract, and also in the case of a CONS contract which includes a significant element of Contractor-design, tenderers will require additional data on hydrological, sub-surface and other conditions on the Site (again, to the extent that this data is relevant) in order to design and determine the details of the works for which costs are to be estimated. Tenderers for Contractor-design works require as much data as that required by the Employer's designer under CONS. They may require more data, because the Employer's designer would co-ordinate the pre-tender sub-surface investigations to suit his preferred location of each pier of a multi-span bridge, for example. In contrast, when the Employer arranges for pre-tender investigations in order to obtain the data needed by the tenderers' designers, he may find it difficult to anticipate their preferred locations.

Tenderers require considerable data for the preparation of tenders for an EPCT contract, under which the Contractor assumes much greater risks than under a CONS or P&DB contract. Since, for example, the risk of sub-surface conditions is allocated to the Contractor, each tenderer needs to assess how adverse the actual conditions may be, both in terms of working in these conditions and in terms of their effect on the design of the works. If the risk of sub-surface conditions is significant, taking account of the type of works, it may be in the Employer's interests for the contract to allocate this risk to the Employer, either by amending EPCT 4.12 or by using P&DB.

Similarly, if other EPCT-only risks are significant, the Employer should carefully consider the consequences of allocating them to the Contractor. FIDIC's publication of EPCT

does not constitute any indication of its suitability for a particular set of circumstances. P&DB's fairer allocation of risks may yield a better probability for success.

Conversely, less risk entails less need for pre-contract data. For example, under a contract for the supply of an item of plant, the supplier may not need data which has no effect on the item's design. He may need to have details of the environmental and other conditions in which the plant will be required to operate, but would not normally be interested in knowing the depth of bedrock around the site.

Conclusions

The above commentary indicates the importance of selecting the appropriate procurement strategy, and of then selecting the appropriate FIDIC Book, taking account of the need to ensure that tenderers are provided with the data necessary for tendering. Selection of the appropriate Book requires important decisions to be made on procurement strategy, and there are two Books for Contractor-design: P&DB and EPCT.

Although FIDIC cannot prevent EPCT being used in circumstances for which it is inappropriate, FIDIC considers that EPCT should not be used (and that P&DB may be preferable) in the following circumstances:

- If there is insufficient time, or insufficient information, for tenderers to scrutinise and check the Employer's Requirements or for them to carry out their designs, risk assessment studies and estimating. Tenderers need to take particular account of EPCT 4.12 (under which the Contractor is responsible for the consequences of encountering unforeseeable ground conditions) and EPCT 5.1 (under which the Contractor is responsible for certain aspects of the Employer's Requirements, such as the applicability of ISO standards). Therefore, tenderers need information on the matters related to such risks and they need time to assess it and to evaluate all risks.
- If construction will involve substantial work underground or work in other areas which tenderers cannot inspect. For these types of works, the risks of encountering unforeseen conditions may be so great that the lowest tender is the one submitted by the least knowledgeable tenderer or most reckless gambler, rather than the best tenderer.
- If the Employer intends to supervise closely or control the Contractor's work, or to review most of the construction drawings. With the greater extent of Contractor's risks, he needs to have greater freedom of action and less interference by the Employer.
- If the amount of each interim payment is to be determined by an official or other intermediary. EPCT does not provide for an "Engineer" to administer the Contract and determine the amount of each monthly (or other) interim payment. Therefore, payments should be pre-determined and defined in a Schedule of Payments.

Tender documents must be drafted with care, particularly in respect of quality, tests and performance criteria for Contractor-design contracts. If tender documents are deficient, the Employer may pay an exorbitant price for unacceptable works. He must therefore ensure that adequate resources are allocated to the skilled tasks of drafting the technical and commercial aspects of the tender documents, and of analysing the tenderers' proposals.

Recommended Procedures

The following diagrams illustrate FIDIC's recommended procedures for:

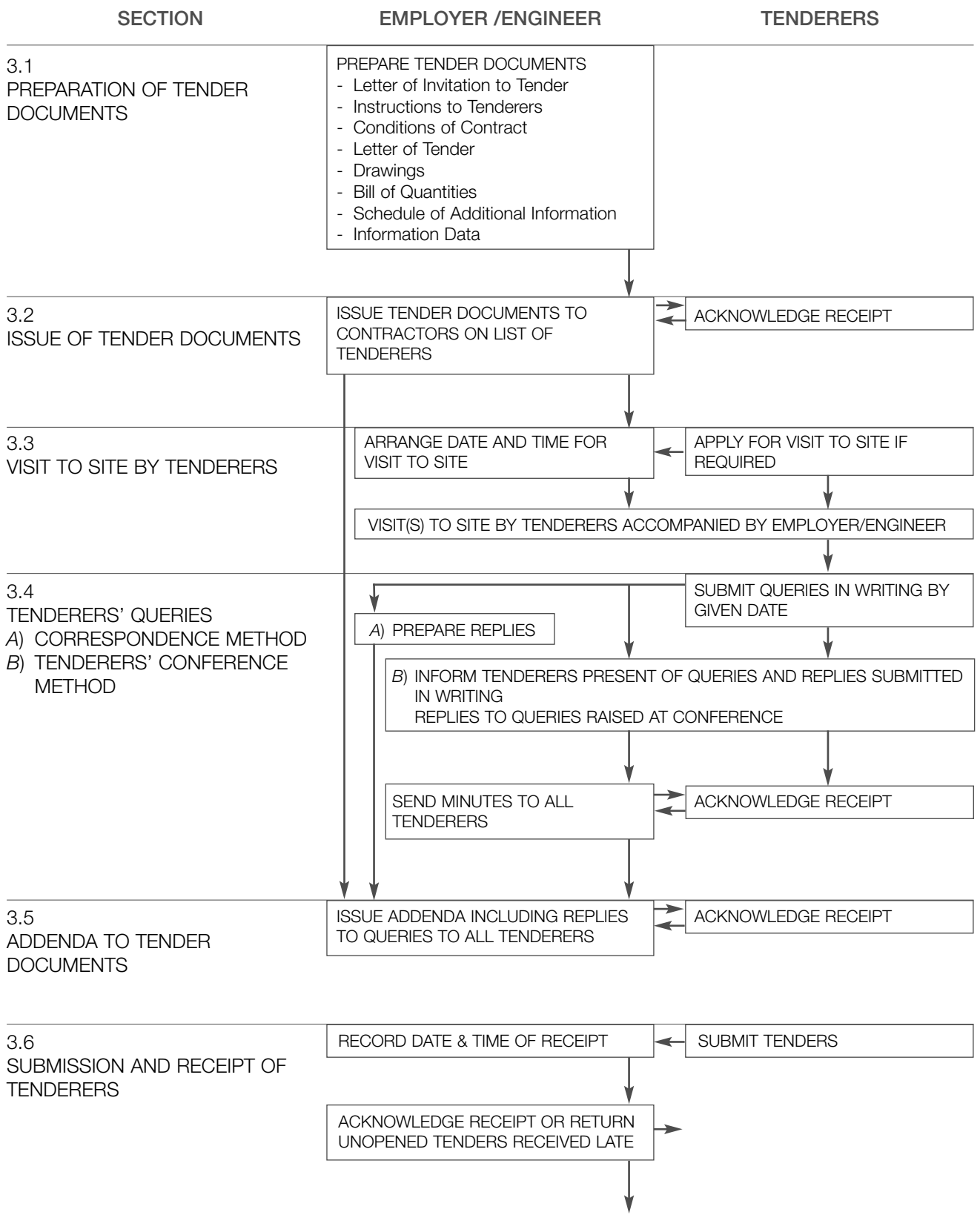
- prequalification, for which FIDIC has published "Standard prequalification forms for contractors",
- obtaining Tenders for a CONS Contract (taking account of its principles), and
- opening and evaluating such Tenders, and entering into the Contract.

Under P&DB or EPCT, the documents issued for the purposes of obtaining Tenders have different titles and purposes, compared with those required for a CONS Contract, and tendering procedures should take account of the greater extent of the Contractor's obligations and liabilities under a P&DB or EPCT Contract.

Recommended Procedure for the Prequalification of Tenderers

SECTION	EMPLOYER /ENGINEER	CONTRACTORS
1.0 ESTABLISHMENT OF PROJECT STRATEGY	ESTABLISH PROJECT STRATEGY COMPRISING. - procurement method - form of tendering - time schedules	
2.1 PREPARATION OF PREQUALIFICATION DOCUMENTS	PREPARE PREQUALIFICATION DOCUMENTS COMPRISING: - letter of invitation - information about prequalification procedure - project information - prequalification application	
2.2 INVITATION TO PREQUALIFY	PLACE PREQUALIFICATION ADVERTISEMENT IN PRESS, EMBASSIES ETC. AS APPROPRIATE STATING: - Employer & Engineer - outline of project (scope, location, programme, source of finance) - dates for issue of tender documents & submission of tenders - instructions for applying for prequalification - minimum requirements for prequalification - submission date for contractors' prequalification data	
2.3 ISSUE & SUBMISSION OF PREQUALIFICATION DOCUMENTS	ISSUE PREQUALIFICATION DOCUMENT & QUESTIONNAIRES REQUESTING FROM EACH COMPANY/JOINT VENTURE - organization and structure - experience in the type of intended work and in the region - resources - managerial - technical - labour - plant - financial statements - current contract commitments - litigation history - ACKNOWLEDGE RECEIPT	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">REQUEST PREQUALIFICATION DOCUMENTS</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">COMPLETE & SUBMIT PREQUALIFICATION DOCUMENTS & QUESTIONNAIRES</div>
2.4 ANALYSIS OF PREQUALIFICATION APPLICATIONS	ANALYSE PREQUALIFICATION DATA: - company/joint-venture structure - experience - resources - financial capability - general suitability	
2.5 SELECTION OF TENDERERS	PREPARE LIST OF TENDERERS	
2.6 NOTIFICATION OF APPLICANTS	NOTIFY ALL SELECTED TENDERERS	<div style="border: 1px solid black; padding: 5px;">ACKNOWLEDGE & CONFIRM INTENTION TO SUBMIT TENDER</div>

Recommended Procedure for Obtaining Tenders under CONS



Recommended Procedure for Opening and Evaluating Tenders



The above procedures for obtaining, opening and evaluating tenders relate to a CONS contract. Under P&DB and EPCT, tenderers submit details of the design proposals, to the extent described in the Instructions to Tenderers, and the adjudication of the tenders includes examination and assessment of these proposals.

Procurement Documentation

Prequalification Documentation

Experience has shown that, particularly for contracts which include Contractor-design, prequalification of tenderers is particularly desirable. It enables the Employer to establish the competence of a known number of companies and joint ventures who are subsequently invited to tender. Restricting tendering to a pre-determined number encourages the better qualified entities to tender in the knowledge that they have a reasonable chance of success.

Procedures for the prequalification of prospective tenderers may be imposed by the applicable laws, or by the requirements of the financial institutions who will be providing funds for the project. In particular, they may not permit any limit on the number of prequalified tenderers.

Typically, the Employer initiates the prequalification stage of the project, by publishing advertisements which either (i) contain all the necessary information on the project and on how applicants should apply for prequalification, or (ii) describe how to obtain a document which contains all this prequalification information and which should include:

- information on the prequalification procedure, including qualification criteria and any relevant policies which the Employer may have (on joint ventures, on the intended number of prequalified tenderers, and/or on preference for local firms, for example);
- instructions on the language and content of each application for prequalification (completion of FIDIC's "Standard prequalification forms for contractors", for example) and on the time and place for its submission; and
- information on the contract (and on the project of which it forms part, if any), including the names of the Employer and the Engineer or Employer's Representative, location of site, description of works, anticipated time programme, contract law and language, form of contract (i.e., name of FIDIC's Book), source of finance, currencies of payment, and any unusual features or constraints.

Other information on the contract may also be included, such as the Employer's intentions regarding securities and price escalation provisions. However, the Employer may not have reached decisions on these matters before inviting applications for prequalification. Primarily, prospective applicants need sufficient information to assess their interest in submitting tenders. They do not need to assess various other matters which only become relevant when they receive all the tender documents.

When invited to tender, each tenderer may be able to discover the number (and, possibly, abilities) of the competing tenderers. If so, he may compare the benefits of being awarded the contract with his estimated tendering costs and chance of success. These costs may be substantial for Contractor-designed Works, particularly if the Employer requests tenderers to submit extensive details of their designs.

The Employer should therefore, in his own interests and unless he is not permitted to do so, limit both the number of prequalified tenderers and the extent of the details which they are required to submit with their tenders. The prequalification information should ideally indicate the number of firms and joint ventures which are expected to be prequalified. This number should be determined carefully, taking account of the requirements of any financial institution providing funds for the project, and of the work required for the preparation of a compliant tender. Whereas six to eight tenderers might be appropriate for an uncomplicated CONS contract, four or five might be preferable for Contractor-designed works, and three might suffice for complex turnkey works.

Having analysed the applications, the Employer should notify each applicant whether it has been prequalified to tender for the Contract. Notice should be given as soon as the Employer has reached his decision on the applications, and should not await the completion or issue of the tender documents. If issue of the tender documents seems likely to be delayed, the prequalified prospective tenderers should be notified accordingly, so that they can plan the future activities of their estimating teams. Tenders should not be invited until the Employer has obtained the necessary financing, or has advised prospective tenderers of the financial situation so that they are aware of the outstanding financing arrangements.

Tender Documentation

When tender documents have been prepared and financing arrangements have been finalised, the Employer should write to each tenderer and invite him to submit a Tender. An example form for this Letter of Invitation is proposed below, based upon the assumptions that (i) each such Invitation would be issued direct by the Employer, (ii) he has previously notified the recipient of his prequalification, and (iii) the tender documents will soon be issued on the Employer's behalf. Amended wording would be required (for example) if (i) the Invitation is itself issued on the Employer's behalf, (ii) it constitutes the notification of prequalification, and/or (iii) the Employer requires other arrangements for the delivery or purchase of the tender documents.

The example form for the Letter of Invitation is only a suggestion, and must be wholly reviewed and amended so as to take account of the Employer's requirements and all other relevant circumstances. It includes information which may not be available when the tender documents were prepared, and which the example forms of Instructions therefore refer to as being specified in the Invitation. The example form of Invitation avoids repeating information contained in the tender documents, in order to avoid inconsistencies.

The other documents issued to prospective tenderers will normally include the following:

- (a) Instructions to Tenderers, including descriptions of the compliance criteria for tenders and of the procedures for submitting and evaluating them, which become irrelevant when the Employer accepts a Tender. Although (for convenience) the Instructions to Tenderers may be bound into the first volume of the Tender Documents, they should not form part of the final Contract, and should therefore not contain any text which remains relevant after award of the Contract. The Instructions specify the procedures to be followed until the Employer either enters into a Contract or advises tenderers that the Employer does not intend to do so. Such procedures include, for example, those for a joint site visit (if any) and for the preparation, submission, opening and evaluation of Tenders. The Instructions should define what will comprise a responsive Tender, requirements which are directed to the tenderers and are superseded by the

award of the Contract. The Instructions to Tenderers could be based upon FIDIC's example form in this Guide. This example form is only a suggestion, and must be wholly reviewed and amended so as to take account of the Employer's requirements and all other relevant circumstances.

- (b) Letter of Tender, which should be based upon the Example Form at the end of each Book. For CONS and P&DB, an Appendix to Tender, which should take account of the Book's GPPC and this Guide.
- (c) For CONS and P&DB: Schedules (for CONS, the Bill of Quantities may be the only Schedule).
- (d) Conditions of Contract: which should comprise the wording proposed in the Introduction of the appropriate GPPC, which incorporates (by reference) the chosen Book's General Conditions, and Particular Conditions. When writing the Particular Conditions for each contract, users should review the GPPC (and, for CONS or P&DB, the Example Form of Appendix to Tender) and then review the General Conditions and this Guide in order to assess whether each provision is applicable for the particular contract. Project financial institution(s) may have particular preferences and/or impose mandatory requirements. Where General Conditions need to be changed, the amendments and additions must be contained in Particular Conditions, not in amended and/or retyped General Conditions, so that tenderers can rapidly identify any changes and assess their effects. The wording proposed in the Introduction of each GPPC reads:

The Conditions of Contract comprise the "General Conditions", which form part of the "Conditions of Contract for ..." ... published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC), and the following "Particular Conditions", which include amendments and additions to such General Conditions.

- (e) For CONS: Specification; and Drawings. For P&DB and EPCT: Employer's Requirements, which may include some drawings.
- (f) Information and data on hydrological and sub-surface conditions at the Site, studies on environmental impact, and reports on any other investigations initiated by the Employer. These would normally not form part of the Contract, but must be provided to tenderers in accordance with Sub-Clause 4.10.

The documents mentioned in (b) to (e) will become parts of the Contract: see the comments in this Guide on Sub-Clause 1.1.1.

When preparing the documents mentioned in (d) and (e), the comments in the appropriate GPPC and in this Guide should be taken into account. As far as practicable, the Contractor's obligations should be stated in clear unambiguous terms, and not in such a way that the application of opinion or judgement is necessary. Vague phrases, which tenderers would find difficult to understand to the precision necessary for pricing (for example, specifying the use of "up-to-date technology"), should be avoided. If these subjective phrases are used, Tenders may include detailed clarifications, which tenderers will wish to ensure will be binding.

For Contractor-design, the Employer may wish to encourage the tenderer to propose solutions complying with requirements which the Employer can only describe in subjective terms. If the Employer wishes to include subjective requirements, they should only be stated in the Instructions to Tenderers. Each tenderer can then propose solutions

as part of his Tender. It is then these solutions in the Tender which (unlike the subjective requirement in the Instructions to Tenderers) will form part of the Contract.

Tendering Procedure

In order to manage tendering procedures effectively, it may be advisable for one person to be appointed (by the Employer, Engineer or Employer's Representative) as tendering co-ordinator, responsible for:

- despatching the tender documents to each prospective tenderer;
- ensuring that each tenderer has formally acknowledged receipt of the tender documents;
- managing the site inspection, having ensured that tenderers have received details of the arrangements: the tendering co-ordinator should prepare an agenda, appropriate supplementary briefing information for the visitors, and a record of the visit;
- receiving and responding to queries from prospective tenderers, as follows:
 - (i) a question which could have been asked by any tenderer (for example, seeking clarification of any aspect of the tender documents or of any arrangements on site, a clarification which will apply whoever is awarded the contract) should be answered as described in the Instructions, typically by the tendering co-ordinator issuing Lists of Tenderers' Questions (with the Employer's answers) to all tenderers;
 - (ii) a question which relates solely to the tenderer's particular proposals for carrying out the contract (for example, regarding the acceptability in principle of a possible alternative design) should be regarded as confidential and answered to the enquiring tenderer only, the other tenderers not being advised;
 - (iii) if amendments need to be made to the Tender Documents, the tendering co-ordinator should issue to prospective tenderers an Addendum to Tender Documents, and ensure that each tenderer has formally acknowledged receipt.

Unsuccessful tenderers will retain the copyright of their designs. The Employer must return their designs, without copies being retained and without releasing details to the successful tenderer, the Contractor.

Example Forms

for the Letter of Invitation and Instructions to Tenderers

Example forms for the Letter of Invitation and Instructions to Tenderers are reproduced hereafter, for use with any of the three Books. These example forms have been drafted as suggested models, from which users may prepare their own documents, copying text from the example forms as they consider appropriate. In particular, the example form of Letter of Invitation assumes that the example form of Instructions to Tenderers is being used.

However, many Employers, International Financial Institutions and other entities have standard forms of Invitations and Instructions to Tenderers. Their standard forms may be equally suitable for use with FIDIC's General Conditions, and may incorporate requirements which are specific to the entity promulgating its standard form. Many such entities mandate the use of their standard forms, in order to achieve compliance with their specific requirements.

The following example forms are offered as suggestions for those who do not have such standard forms, and for those who may wish to review and develop their own standard forms whilst incorporating their specific requirements.

Example Form of Letter of Invitation to Tender

This example form is suggested for use when the Employer first writes to each prospective tenderer, who may (or may not) have been prequalified, and (i) advises him that he will soon receive a set of tender documents, and (ii) invites him to submit a Tender. The example form lists the data which typically is unknown when the other tender documents were completed, consistent with Clause 1 of the example form of Instructions to Tenderers (see subsequent pages).

The example form below is therefore inappropriate if these assumptions do not apply, or if the example form of Instructions to Tenderers (see subsequent pages) is not to be used.

Letter of Invitation

We confirm having advised you that [OR: We are pleased to notify you that] you have been prequalified [OR: you have been selected as a prospective tenderer] for the above Contract.

The Government of ... has received [OR: has applied for] a loan from the ... towards the cost of the above project. Part of the proceeds of this loan shall be used for the payments to the Contractor under this Contract, the other parts being used to finance other contracts included in the project.

We have appointed as the Engineer [EPCT: as the Employer's Representative]:

... ..

They will soon be issuing, on our behalf, the Tender Documents listed in Clause 1 of the Instructions to Tenderers.

We now invite you to submit a Tender in accordance with the Instructions to Tenderers which form the first part of these Tender Documents. In the Instructions, the following details are stated to be included in this Letter of Invitation:

- (a) Clause 2 refers to the eligibility of the above-named entity, to whom this letter is addressed;
- (b) Clause 3 refers to requests for clarification being sent to the Engineer [EPCT: the Employer's Representative] who is named above;
- (c) Clause 4 refers to a joint site visit by representatives of the tenderers, and we recommend that you send either one or two representatives to the site for this visit. It will commence at
- (d) Clause 6 refers to the submission of your Tender, which must be received at the address stated in the Clause not later than 10h00 on the Tender submission date of ...

(e) Clause 7 refers to the opening of Tenders in the presence of representatives of the tenderers, which will commence at 10h05 on the Tender submission date stated above.

Please confirm, within a week of receiving this letter, that you have received all the Tender Documents, and also advise us whether you will submit a Tender in accordance with the Instructions to Tenderers.

Example Form of Instructions to Tenderers

This example form has been drafted as a suggested model from which users may prepare their own Instructions, copying text as they consider appropriate. However, many Employers, International Financial Institutions and other entities have standard forms, which may be equally suitable for use with FIDIC's General Conditions, and may incorporate requirements which are specific to the entity promulgating its standard form. The following example clauses are offered as suggestions for those who do not have such standard forms, and for those who may wish to review and develop their own standard forms whilst incorporating their specific requirements.

The Instructions to Tenderers should not form part of the eventual Contract, and should not contain any text which remains relevant after award of the Contract.

The Instructions specify the procedures to be followed until the Employer either enters into a Contract or advises tenderers that the Employer does not intend to do so. In order to facilitate the preparation of the Instructions, any data which typically is unknown at this stage is referred to as being contained in a Letter of Invitation: see the example form on the previous page.

For some types of Contractor-designed works, a two-stage tendering procedure may be adopted. Under the first stage, tenderers submit unpriced technical proposals, on which the Employer may comment when he invites some or all of them to submit final priced offers under the second stage. Before amending these model Instructions, the Employer should consider carefully what he expects to achieve by the division into two stages, and how tenderers will respond thereto.

CONS	P&DB	EPCT
<p>1 <u>Introduction</u></p> <p>1.1 These Instructions to Tenderers ("these Instructions") relate to a Letter of Invitation ("the Invitation"), in which a prospective tenderer is invited to submit a Tender. The Invitation, which (in the case of any discrepancy) takes precedence over these Instructions, specifies:</p> <p>(a) the company or joint venture, who is considered to be eligible as described in Clause 2 of these Instructions and who is thus invited to submit a Tender;</p> <p>(b) the Engineer, to whom requests for clarification may be sent as described in Clause 3 of these Instructions;</p> <p>(c) details of how to participate in the site visit by tenderers (or how to obtain such details), if such a visit is being arranged under Clause 4 of these Instructions;</p>	<p>1 <u>Introduction</u></p> <p>1.1 These Instructions to Tenderers ("these Instructions") relate to a Letter of Invitation ("the Invitation"), in which a prospective tenderer is invited to submit a Tender. The Invitation, which (in the case of any discrepancy) takes precedence over these Instructions, specifies:</p> <p>(a) the company or joint venture, who is considered to be eligible as described in Clause 2 of these Instructions and who is thus invited to submit a Tender;</p> <p>(b) the Engineer, to whom requests for clarification may be sent as described in Clause 3 of these Instructions;</p> <p>(c) details of how to participate in the site visit by tenderers (or how to obtain such details), if such a visit is being arranged under Clause 4 of these Instructions;</p>	<p>1 <u>Introduction</u></p> <p>1.1 These Instructions to Tenderers ("these Instructions") relate to a Letter of Invitation ("the Invitation"), in which a prospective tenderer is invited to submit a Tender. The Invitation, which (in the case of any discrepancy) takes precedence over these Instructions, specifies:</p> <p>(a) the company or joint venture, who is considered to be eligible as described in Clause 2 of these Instructions and who is thus invited to submit a Tender;</p> <p>(b) the Employer's Representative, to whom requests for clarification may be sent as described in Clause 3 of these Instructions;</p> <p>(c) details of how to participate in the site visit by tenderers (or how to obtain such details), if such a visit is being arranged under Clause 4 of these Instructions;</p>

CONS

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EPCT

- (d) the time by which Tenders are to be submitted in accordance with Clause 6 of these Instructions (the "Tender submission date"); and
- (e) the time when Tenders are to be opened as described in Clause 7 of these Instructions.

1.2 The Tender Documents, as issued to each tenderer in accordance with the Invitation, comprise:

- (a) Volume I containing these Instructions, the Letter of Tender, the Bill of Quantities and other Schedules;
- (b) Volume II containing the Conditions of Contract, and the Specification;
- (c) Volume III containing the Drawings.

1.3 [The following documents have also been issued to each tenderer for information:

...]

These [documents and the] Instructions to Tenderers shall not form part of the tenderer's offer, nor part of the defined words "Tender" or "Contract". These Instructions prescribe the procedures to be followed until the Employer either enters into a Contract with the tenderer or advises him that the Employer does not intend to do so.

1.4 Words and expressions defined in Sub-Clause 1.1 of the Conditions of Contract shall have the same meanings where used in these Instructions.

1.5 The tenderer shall bear all costs incurred in the preparation and submission of the Tender, including visits and other actions mentioned or implied in these Instructions.

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- (a) Volume I containing these Instructions, the Letter of Tender, and the Schedules;
- (b) Volume II containing the Conditions of Contract, and the Employer's Requirements.

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- (a) these Instructions,
- (b) the form of Letter of Tender,
- (c) the Conditions of Contract, and
- (d) the Employer's Requirements.

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1.5 The tenderer shall bear all costs incurred in the preparation and submission of the Tender, including visits and other actions mentioned or implied in these Instructions.

1.6 The Employer will not be responsible or liable for such costs, regardless of the conduct or outcome of the tendering process. The Employer reserves the right to accept or reject any Tender, or to annul the tendering process and reject all Tenders, without incurring liability to any tenderer and without being obliged to inform any tenderer of the reasons for the Employer's action.

2 Eligibility of the Tenderer

2.1 The Invitation (i) names the company or joint venture whom the Employer considered to be eligible to submit a Tender, (ii) states whether the tenderer was prequalified or selected, and (iii) may state any particular conditions or reservations of the prequalification or selection. Nothing in these Instructions entitles any other entity, company or joint venture to submit a Tender.

2.2 [Each prequalified tenderer shall notify the Employer, as soon as practicable, of any change in the data submitted for the purpose of the prequalification. Any significant change in such data shall be deemed to invalidate the tenderer's previous prequalification, but the company or joint venture may request the Employer's permission to reapply for prequalification. If (at his sole discretion) the Employer grants such permission, the tenderer's application for prequalification must be received by the Employer not less than 28 days before the Tender submission date specified in Clause 6 of these Instructions.]

[Each tenderer shall, in order to be considered for eligibility, submit the information listed below with the Tender. In the case of a joint venture of two or more legal persons, the information shall be submitted in respect of each of these persons and in respect of the joint venture tenderer.

1.6 The Employer will not be responsible or liable for such costs, regardless of the conduct or outcome of the tendering process. The Employer reserves the right to accept or reject any Tender, or to annul the tendering process and reject all Tenders, without incurring liability to any tenderer and without being obliged to inform any tenderer of the reasons for the Employer's action.

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- (a) copies of original documents defining constitution and/or legal status, place of registration and principal place of business;
- (b) total annual turnover expressed as total volume of engineering work carried out in each of the last five years;
- (c) financial reports, including profit and loss statements, balance sheets and auditor's reports for the past five years, and an estimated financial projection for the subsequent year;
- (d) evidence of access to lines of credit, and availability of other financial resources;
- (e) name and address of banker(s) who will (and have been authorised to) provide references upon request by the Employer;
- (f) details of performance as prime/main contractor on works of a similar nature and volume over the last five years and on current works; and
- (g) a list of the major items of Contractor's Equipment proposed for carrying out the Contract including details of ownership.]

2.3 In these Instructions, the expression "joint venture" means any of the groupings described in Sub-Clause 1.14 of the Conditions of Contract. In order that such a joint venture of two or more legal persons is to be acceptable as eligible:

- (a) these persons shall have nominated a leader with authority to bind the joint venture and each of these persons; and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of any and all these persons;

- (a) copies of original documents defining constitution and/or legal status, place of registration and principal place of business;
- (b) total annual turnover expressed as total volume of engineering work carried out in each of the last five years;
- (c) financial reports, including profit and loss statements, balance sheets and auditor's reports for the past five years, and an estimated financial projection for the subsequent year;
- (d) evidence of access to lines of credit, and availability of other financial resources;
- (e) name and address of banker(s) who will (and have been authorised to) provide references upon request by the Employer;
- (f) details of performance as prime/main contractor on works of a similar nature and volume over the last five years and on current works; and
- (g) a list of the major items of Contractor's Equipment proposed for carrying out the Contract including details of ownership.]

2.3 In these Instructions, the expression "joint venture" means any of the groupings described in Sub-Clause 1.14 of the Conditions of Contract. In order that such a joint venture of two or more legal persons is to be acceptable as eligible:

- (a) these persons shall have nominated a leader with authority to bind the joint venture and each of these persons; and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of any and all these persons;

- (a) copies of original documents defining constitution and/or legal status, place of registration and principal place of business;
- (b) total annual turnover expressed as total volume of engineering work carried out in each of the last five years;
- (c) financial reports, including profit and loss statements, balance sheets and auditor's reports for the past five years, and an estimated financial projection for the subsequent year;
- (d) evidence of access to lines of credit, and availability of other financial resources;
- (e) name and address of banker(s) who will (and have been authorised to) provide references upon request by the Employer;
- (f) details of performance as prime/main contractor on works of a similar nature and volume over the last five years and on current works; and
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- (a) these persons shall have nominated a leader with authority to bind the joint venture and each of these persons; and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of any and all these persons;

- (b) evidence of this authorisation shall be submitted with the Tender in the form of a power of attorney signed by legally authorised signatories of all these persons;
- (c) the Letter of Tender, and (if it is accepted) the Contract Agreement, shall be signed so as to be legally binding on each of these persons; and
- (d) a copy of the agreement entered into by these persons shall be submitted with the Tender. This agreement shall state (i) each such person's percentage participation in the joint venture, and (ii) that these persons shall be jointly and severally liable to the Employer for the performance of the Contract.

2.4 No such person or sole tenderer shall participate in the preparation of another tenderer's Tender for the same Contract. If any entity is found to have participated in two or more Tenders, other than alternative Tenders from the same tenderer, all such Tenders will be rejected.

2.5 However, any entity may be proposed as a prospective subcontractor by more than one tenderer in addition to being either a sole tenderer or a participant in one joint venture tenderer.

3 The Tender Documents

3.1 The Tender shall be responsive to the complete set of Tender Documents which comprise the documents listed in Clause 1 above and any Addenda to Tender Documents which may be issued as described in this Clause 3. The tenderer shall scrutinize each document immediately upon receiving it and shall promptly give notice, to the party who issued the document, of any pages which appear to be missing.

- (b) evidence of this authorisation shall be submitted with the Tender in the form of a power of attorney signed by legally authorised signatories of all these persons;
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3.2 The tenderer must carefully examine all Tender Documents. Failure to comply with these Instructions or with any other tendering requirements will be at the tenderer's risk.

3.3 If the tenderer requires any clarification of the Tender Documents, he may give notice to the Engineer. The notice shall be written (which includes by facsimile transmission) in the language used in the Invitation, and shall be sent to the Engineer's address stated in the Invitation as soon as practicable.

3.4 The Engineer shall respond to the notice by issuing (i) the text of the question or request for clarification and (ii) the Employer's clarification. This response shall be in writing and shall give no indication of the identity of the tenderer who requested clarification. These requests for clarification and responses shall be sent to all prospective tenderers who received the Tender Documents, but shall not constitute amendments to the Tender Documents. However, if a notice is received less than 28 days before the Tender submission date, there may be no response.

3.5 If amendments are to be made to the Tender Documents, arising from a notice or otherwise, the Engineer shall issue an Addendum to Tender Documents on behalf of the Employer. Each Addendum to Tender Documents shall be sent to all prospective tenderers who received the Tender Documents, and shall be binding upon them. The tenderer shall promptly acknowledge receipt of each Addendum to Tender Documents by written notice to the Engineer, and shall also enter its reference number in the first sentence of the Letter of Tender.

3.6 At any time, the Engineer may similarly issue

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3.4 The Employer shall respond to the notice by issuing (i) the text of the question or request for clarification and (ii) the Employer's clarification. This response shall be in writing and shall give no indication of the identity of the tenderer who requested clarification. These requests for clarification and responses shall be sent to all prospective tenderers who received the Tender Documents, but shall not constitute amendments to the Tender Documents. However, if a notice is received less than 28 days before the Tender submission date, there may be no response.

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3.6 At any time, the Employer may similarly issue

an Addendum to Tender Documents which amends the Tender submission date. In this event, all rights and obligations of the Employer and the tenderers previously related to the original date shall thereafter be subject to the amended date.

4 Site Visit

4.1 The tenderer is advised to visit and examine the Site, its surroundings and other parts of the Country, and must obtain for himself on his own responsibility all information which may be necessary for preparing the Tender and entering into a Contract.

4.2 The tenderer and any of his personnel or agents will be granted conditional permission to enter upon the Site. The permission shall be deemed to have been based upon the tenderer, his personnel and agents indemnifying the Employer and his personnel and agents from and against all liability and upon the tenderer being responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses (however caused) which would not have arisen other than due to the exercise of such permission.

4.3 If a joint site visit is to be arranged for all tenderers, details are given in the Invitation.

4.4 Such a joint visit is intended to supplement, and not to replace, the individual inspections carried out by each tenderer. The Employer accepts no responsibility for providing any indication of relevant aspects, or access to appropriate areas, which a competent tenderer may consider necessary for the preparation of a Tender.

4.5 The Employer shall not be bound by any oral representations which may be made during a joint

an Addendum to Tender Documents which amends the Tender submission date. In this event, all rights and obligations of the Employer and the tenderers previously related to the original date shall thereafter be subject to the amended date.

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4.5 The Employer shall not be bound by any oral representations which may be made during a joint

site visit, whether by the Engineer's personnel or by others; and whether during a formal meeting or otherwise. In order to minimize the possibility of misunderstanding, tenderers should present any requests for clarification in writing. In accordance with Clause 3 of these Instructions, any record of the formal meeting, requests, clarifications and/or Addendum to Tender Documents shall be sent to all prospective tenderers who received the Tender Documents.

5 Preparation of the Tender

5.1 The Tender and all communications between the tenderer and the Employer or the Engineer shall be typed or written in indelible ink in the language used in the Invitation. Supporting documentation submitted by the tenderer may be in another language if he also submits an appropriate translation of all its relevant passages into this ruling language.

5.2 The Tender Documents to be submitted by each tenderer shall comprise the Volume I described in Clause 1 of these Instructions.

5.3 The Tender Documents issued to the tenderer, including any amendments instructed in an Addendum to Tender Documents, shall be used without further amendment.

5.4 The tenderer shall submit, with his Tender, a tender security in the form annexed to these Instructions. The tender security shall be issued by an entity acceptable to the Employer, and shall be valid for not less than 35 days after the date on which the validity of the Tender expires. The Employer will return the tender security upon the occurrence of the first of the following events:

site visit, whether by the Engineer's personnel or by others; and whether during a formal meeting or otherwise. In order to minimize the possibility of misunderstanding, tenderers should present any requests for clarification in writing. In accordance with Clause 3 of these Instructions, any record of the formal meeting, requests, clarifications and/or Addendum to Tender Documents shall be sent to all prospective tenderers who received the Tender Documents.

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5.2 The Tender Documents to be submitted by each tenderer shall comprise the Volume I described in Clause 1 of these Instructions, and a Proposal prepared in accordance with this Clause 5.

5.3 The Tender Documents issued to the tenderer, including any amendments instructed in an Addendum to Tender Documents, shall be used without further amendment.

5.4 The tenderer shall submit, with his Tender, a tender security in the form annexed to these Instructions. The tender security shall be issued by an entity acceptable to the Employer, and shall be valid for not less than 35 days after the date on which the validity of the Tender expires. The Employer will return the tender security upon the occurrence of the first of the following events:

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5.1 The Tender and all communications between the tenderer and the Employer shall be typed or written in indelible ink in the language used in the Invitation. Supporting documentation submitted by the tenderer may be in another language if he also submits an appropriate translation of all its relevant passages into this ruling language.

5.2 The Tender to be submitted by each tenderer shall include the documents in accordance with this Clause 5 and the Tender Documents described in Clause 1 of these Instructions.

5.3 The Tender Documents issued to the tenderer, including any amendments instructed in an Addendum to Tender Documents, shall be used without further amendment.

5.4 The tenderer shall submit, with his Tender, a tender security in the form annexed to these Instructions. The tender security shall be issued by an entity acceptable to the Employer, and shall be valid for not less than 35 days after the date on which the validity of the Tender expires. The Employer will return the tender security upon the occurrence of the first of the following events:

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- (a) the Employer receives the Performance Security from the successful tenderer;
- (b) the Employer abandons his intention to appoint a Contractor; or
- (c) the validity of all tender securities for the contract expires.

5.5 The tenderer shall price the whole of the Works, and submit a Tender, in accordance with the Tender Documents. A Tender which excludes part of the Works may be rejected as unresponsive.

5.6 Each of the Schedules shall be completed as appropriate to the particular Schedule. The Bill of Quantities shall be fully priced, with a rate entered for each item. Each amount shall be carried forward to the Summary, the total of which shall be carried forward to the Letter of Tender. All rates and prices shall be entered in the same currency as that which is named in the Letter of Tender. If any item is not priced, there shall be no payment for the work described in the item, which shall be deemed covered by other rates and/or prices.

5.7 The tenderer shall also submit the following supplementary information accompanying, but not forming part of, his Tender:

P&DB

- (a) the Employer receives the Performance Security from the successful tenderer;
- (b) the Employer abandons his intention to appoint a Contractor; or
- (c) the validity of all tender securities for the contract expires.

5.5 The tenderer shall complete each Schedule as appropriate to the particular Schedule, and submit a Tender for the whole of the Works in accordance with the Tender Documents. A Tender which excludes part of the Works may be rejected as unresponsive.

5.6 The tenderer's Proposal, which must form part of the Tender, shall include:

- (a) a detailed description of the proposed Works;
- (b) drawings, including plans, elevations and typical cross-sections; these may be A1 size and/or bound A3 volumes, at 1:1000 to 1:100 scales;
- (c) commentary on the Employer's Requirements, detailing how the layout and other critical requirements will be achieved;
- (d) manufacturers' brochures and/or other details of the main items of Plant including spares;
- (e) details of any exceptions to the statements in the Letter of Tender which otherwise state that the Employer's Requirements contain no errors and that the Works will conform therewith.

5.7 The tenderer shall also submit the following supplementary information accompanying, but not forming part of, his Tender:

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- (b) the Employer abandons his intention to appoint a Contractor; or
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5.5 The tenderer shall submit a Tender for the whole of the Works in accordance with the Tender Documents. A Tender which excludes part of the Works may be rejected as unresponsive.

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- (a) a detailed description of the proposed Works;
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- (d) manufacturers' brochures and/or other details of the main items of Plant including spares;
- (e) proposals for training; and
- (f) proposals for post-contract technical support and supply of spare parts.

5.7 The tenderer shall also submit the following supplementary information accompanying, but not forming part of, his Tender:

	CONS	P&DB	EPCT
(a)	the information listed in Clause 2 of these Instructions, if applicable to the tenderer;	(a) the information listed in Clause 2 of these Instructions, if applicable to the tenderer;	(a) the information listed in Clause 2 of these Instructions, if applicable to the tenderer;
(b)	name and address of the bank or other entity which will provide the Performance Security and the advance payment guarantee; and a letter from such entity acknowledging having received the Annexes to the Particular Conditions of Contract and undertaking to provide these security documents in accordance with the exact wording of these Annexes (if the entity prefers to make minor changes, they must be specified exactly);	(b) name and address of the bank or other entity which will provide the Performance Security and the advance payment guarantee; and a letter from such entity acknowledging having received the Annexes to the Particular Conditions of Contract and undertaking to provide these security documents in accordance with the exact wording of these Annexes (if the entity prefers to make minor changes, they must be specified exactly);	(b) name and address of the bank or other entity which will provide the Performance Security and the advance payment guarantee; and a letter from such entity acknowledging having received the Annexes to the Particular Conditions of Contract and undertaking to provide these security documents in accordance with the exact wording of these Annexes (if the entity prefers to make minor changes, they must be specified exactly);
(c)	name and address of the insurers and their principal terms for the insurances required by Clause 18 of the Conditions of Contract, including proposed deductibles and exclusions;	(c) name and address of the insurers and their principal terms for the insurances required by Clause 18 of the Conditions of Contract, including proposed deductibles and exclusions;	(c) name and address of the insurers and their principal terms for the insurances required by Clause 18 of the Conditions of Contract, including proposed deductibles and exclusions;
(d)	details of the arrangements and methods which the tenderer proposes to adopt for the execution of the Works, in sufficient detail to demonstrate their adequacy to achieve the requirements of the Contract including completion within the Time for Completion;	(d) details of the arrangements and methods which the tenderer proposes to adopt for the execution of the Works, in sufficient detail to demonstrate their adequacy to achieve the requirements of the Contract including completion within the Time for Completion;	(d) details of the arrangements and methods which the tenderer proposes to adopt for the execution of the Works, in sufficient detail to demonstrate their adequacy to achieve the requirements of the Contract including completion within the Time for Completion;
(e)	any proposals for subcontracting the execution of parts of the Works, excluding each subcontract which will be less than ten percent of the Tender sum (this exclusion does not apply to the details required in the Schedules, which must be completed without exclusions);	(e) any proposals for subcontracting the execution of parts of the Works on the Site, excluding each subcontractor named in the Schedules;	(e) any proposals for subcontracting the execution of parts of the Works on the Site, excluding each subcontract which will be less than ten percent of the Tender sum;
(f)	the names, qualifications and experience of key personnel proposed for the management of the Contract and the execution of the Works, both on and off site, including curriculum vitae of the senior personnel.	(f) the names, qualifications and experience of key personnel proposed for the management of the Contract and the execution of the Works, both on and off site, including curriculum vitae of the senior personnel;	(f) the names, qualifications and experience of key personnel proposed for the management of the Contract and the execution of the Works, both on and off site, including curriculum vitae of the senior personnel;
		(g) names and particulars of each proposed designer and design subcontractor.	(g) names and particulars of design subcontractors.

A Tender which is not accompanied by this information may be rejected as unresponsive.

5.8 The completed Tender shall not have any alterations or erasures, except any which may be specified in an Addendum to Tender Documents issued under Clause 3 of these Instructions. However, if alterations are necessary to correct errors made by the tenderer, these corrections shall be endorsed with the signature of the person signing the Letter of Tender.

5.9 Only one Tender may be submitted by each tenderer, except for any alternative offers. In addition to a compliant Tender, the tenderer may offer technical or other alternatives to the requirements of the Tender Documents, which may include reasonable deviations or other proposals. Each alternative Tender shall include all information necessary for its complete evaluation by the Employer, including any relevant calculations, specifications, construction methods, timing implications, breakdowns of prices, and other relevant details. The Employer reserves the right to reject alternative offers.

6 Submission of the Tender

6.1 The Tenderer shall prepare one original set and three photocopy sets of the documents comprising the Tender and supplementary information, as described in Clause 5 of these Instructions. Each such set shall be submitted in an inner envelope within an outer envelope, with each document and each envelope being clearly marked "ORIGINAL" or "COPY" as appropriate. If there is any discrepancy between them, the ORIGINAL shall prevail.

6.2 The original and copies of the Tender shall be signed by a person or persons duly authorised to

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6.2 The original and copies of the Tender shall be signed by a person or persons duly authorised to

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bind the tenderer. Proof of authorisation, in the form of a written power of attorney, shall be annexed to the Letter of Tender. All pages of the Appendix to Tender and Schedules where entries or amendments have been made shall be initialled by the person(s) signing the Letter of Tender.

6.3 The inner and outer envelopes shall be addressed to:

....

and shall bear the following identification:

....

6.4 The inner envelopes shall indicate the name and address of the tenderer to enable the Tender to be returned unopened if it is declared "late". The outer envelopes shall give no indication of the tenderer.

6.5 If a Tender is misplaced or opened prematurely because an envelope was not sealed and marked as instructed above, the Employer shall not be responsible and the Tender may be rejected.

6.6 The original and copies of the Tender must be delivered to the address specified above no later than the time, on the Tender submission date, stated in the Invitation. Tenders received by the Employer thereafter will be returned unopened.

6.7 The tenderer may modify or withdraw his Tender after submitting it, if the modification or notice of withdrawal is received in writing before such prescribed time for submission of Tenders but not thereafter. The tenderer's modification or notice of withdrawal shall be prepared, sealed, marked and delivered in accordance with the provisions of this Clause 6, with the inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL", as

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6.4 The inner envelopes shall indicate the name and address of the tenderer to enable the Tender to be returned unopened if it is declared "late". The outer envelopes shall give no indication of the tenderer.

6.5 If a Tender is misplaced or opened prematurely because an envelope was not sealed and marked as instructed above, the Employer shall not be responsible and the Tender may be rejected.

6.6 The original and copies of the Tender must be delivered to the address specified above no later than the time, on the Tender submission date, stated in the Invitation. Tenders received by the Employer thereafter will be returned unopened.

6.7 The tenderer may modify or withdraw his Tender after submitting it, if the modification or notice of withdrawal is received in writing before such prescribed time for submission of Tenders but not thereafter. The tenderer's modification or notice of withdrawal shall be prepared, sealed, marked and delivered in accordance with the provisions of this Clause 6, with the inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL", as

appropriate. In particular, the modification or notice of withdrawal shall be signed by a person or persons duly authorised to bind the tenderer, and proof of authorisation shall be annexed.

6.8 A Tender submitted other than as described in this Clause 6 may be rejected by the Employer and returned to the tenderer.

6.9 The Tender shall remain valid and open for acceptance for the period of 140 days from the Tender submission date. The tenderer shall calculate the date on which validity expires and insert this expiry date in the Letter of Tender. Prior to this expiry date, the Employer may by written notice request the tenderer to extend the validity period. The tenderer may refuse the request, but shall not modify his Tender other than by extending its validity.

7 Tender Opening

7.1 Tenders and other submissions, which are in accordance with Clause 6 of these Instructions, will be opened at the date and time stated in the Invitation in the presence of tenderers' representatives who choose to attend at the address for delivery of Tenders specified in Clause 6.

7.2 Tenderers' representatives at this opening shall sign an attendance register.

7.3 Tenders for which the Employer has received a valid notice of withdrawal in accordance with Clause 6 of these Instructions shall not be opened.

7.4 The Employer will examine Tenders to determine whether they appear to be complete, properly signed, and generally in order. For each Tender, the Employer or the Engineer will announce the name of the tenderer, the sum offered in the

appropriate. In particular, the modification or notice of withdrawal shall be signed by a person or persons duly authorised to bind the tenderer, and proof of authorisation shall be annexed.

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7.3 Tenders for which the Employer has received a valid notice of withdrawal in accordance with Clause 6 of these Instructions shall not be opened.

7.4 The Employer will briefly examine Tenders to determine whether they appear to be complete, properly signed, and generally in order. For each Tender, the Employer will announce the name of the tenderer, the sum offered in the Letter of Tender,

Letter of Tender, and such other details as the Employer may consider appropriate.

7.5 After this Tender opening, information relating to the processes of examination, clarification, evaluation and comparison of Tenders and the award of a contract shall not be disclosed, other than to those officially concerned with such processes. Any effort by a tenderer to influence the Employer or the Engineer in these processes may result in the rejection of the tenderer's Tender.

8 Tender Evaluation

8.1 Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender is substantially responsive to the requirements of the Tender Documents.

For the purpose of these processes, a substantially responsive Tender is one which conforms to all the terms, conditions and requirements of the Tender Documents without material deviation or reservation.

8.2 A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the Works, or which limits in any substantial way (inconsistent with the Tender Documents) the Employer's rights or the Contractor's obligations under the Contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other tenderers presenting substantially responsive Tenders.

8.3 If a Tender is not substantially responsive to the requirements of the Tender Documents, it will be rejected by the Employer. The Tender shall not be made responsive by the tenderer correcting or

Letter of Tender, and such other details as the Employer may consider appropriate.

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8.3 If a Tender is not substantially responsive to the requirements of the Tender Documents, it will be rejected by the Employer. The Tender shall not be made responsive by the tenderer correcting or

withdrawing the non-conforming deviation or reservation.

8.4 The Employer will only evaluate and compare the Tenders which have been determined to be substantially responsive to the requirements of the Tender Documents. Responsive Tenders will first be checked by the Employer for any arithmetic errors in computation and summation, and any errors will be corrected as follows:

- (a) The amount entered in the Letter of Tender (as announced when Tenders were opened) may be considered acceptable as the Contract Amount without any of the corrections and adjustments described in these sub-paragraphs. If there is any discrepancy between amounts in figures and in words, the amount in words will take precedence.
- (b) If there is any discrepancy between this amount and the equivalent sum computed on the basis of the Bill of Quantities or other Schedules, the Employer may make corrections and/or adjustments (applying the principles described in these sub-paragraphs) and give notice to the tenderer, specifying each error, correction and adjustment. If the tenderer does not accept these notified corrections and adjustments, his Tender may be rejected.
- (c) If there is a substantial discrepancy between a stated amount and the correct amount calculated by multiplying the stated unit rate by the quantity, and the rate seems to have been stated in error (inconsistent with the tenderer's likely intentions), the stated unit rate shall be amended and the stated amount will be binding.

withdrawing the non-conforming deviation or reservation.

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- (b) If there is any discrepancy between this amount and the equivalent sum computed on the basis of the Schedules, the Employer may make corrections and/or adjustments (applying the principles described in these sub-paragraphs) and give notice to the tenderer, specifying each error, correction and adjustment. If the tenderer does not accept these notified corrections and adjustments, his Tender may be rejected.
- (c) If there is a substantial discrepancy between a stated amount and the correct amount calculated by multiplying the stated unit rate by the quantity, and the rate seems to have been stated in error (inconsistent with the tenderer's likely intentions), the stated unit rate shall be amended and the stated amount will be binding.

withdrawing the non-conforming deviation or reservation.

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- (a) The amount entered in the Letter of Tender (as announced when Tenders were opened) may be considered acceptable as the Contract Price without any of the corrections and adjustments described in these sub-paragraphs.
- (b) If there is any discrepancy between amounts in figures and in words, the amount in words will take precedence.
- (c) If there is any discrepancy between an amount in the Letter of Tender and the equivalent sum computed on the basis of the details in the Tender, the Employer may make corrections and/or adjustments (applying the principles described in these sub-paragraphs) and give notice to the tenderer, specifying each error, correction and adjustment.

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(d) If there is any discrepancy between a stated amount and the correct amount calculated by multiplying the stated unit rate by the quantity, and either the discrepancy is not substantial or it is reasonable to assume that the stated rate is consistent with the tenderer's intentions, the stated unit rate will be binding and the stated amount shall be amended.

8.5 For the purpose of evaluating Tenders, the Employer will determine for each Tender the Evaluated Tender Amount as follows:

- (a) making any correction for errors as described above;
- (b) making an appropriate adjustment for any acceptable variations, deviations, discounts or other alternative offers not reflected in the submitted amount or these corrections; [and
- (c) making an allowance for any acceptable varied times for completion offered in alternative Tenders, the allowance being calculated at the same rate as the rate for delay damages for the Works which is stated in the Appendix to Tender.]

8.6 To assist in the examination, evaluation and comparison of Tenders, the Employer may ask any tenderer for clarification of his Tender, including break-downs of unit rates and lump sum prices. The request for clarification and the response shall be in writing. No change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer during the evaluation of the Tenders.

9 Award of the Contract

9.1 The Employer intends (i) to award the

(d) If there is any discrepancy between a stated amount and the correct amount calculated by multiplying the stated unit rate by the quantity, and either the discrepancy is not substantial or it is reasonable to assume that the stated rate is consistent with the tenderer's intentions, the stated unit rate will be binding and the stated amount shall be amended.

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- (a) making any correction for errors as described above;
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- (c) making an allowance for any acceptable varied times for completion offered in alternative Tenders, the allowance being calculated at the same rate as the rate for delay damages for the Works which is stated in the Appendix to Tender.]

8.6 The evaluation of the Tenders shall be based upon the principles outlined in the performance evaluation criteria annexed to these Instructions. Unless specifically stated, no criterion will take precedence over any other criteria, and Tender evaluation shall be based on an overall consideration.

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- (a) making any correction for errors as described above;
- (b) making an appropriate adjustment for any acceptable variations, deviations, discounts or other alternative offers not reflected in the submitted amount or these corrections; [and
- (c) making an allowance for any acceptable varied times for completion offered in alternative Tenders, the allowance being calculated at the same rate as the rate for delay damages for the Works which is stated in the Particular Conditions of Contract.]

8.6 The evaluation of the Tenders shall be based upon the principles outlined in the performance evaluation criteria annexed to these Instructions. Unless specifically stated, no criterion will take precedence over any other criteria, and Tender evaluation shall be based on an overall consideration.

9 Award of the Contract

9.1 The Employer intends (i) to award the

Contract to the tenderer who appears to have the capability and resources to carry out the Contract effectively, whose Tender has been determined to be responsive to the Tender Documents and who has offered (all taken into consideration) the most favourable Tender; or (ii) to reject compliant Tenders and accept an alternative Tender. The Employer reserves the right to reject any or all Tenders.

9.2 [During the evaluation of Tenders, the Employer may give the preferred tenderer(s) a list of the names of suitable professionals who are acceptable to the Employer to act as DAB (sole adjudicator) under Clause 20 of the Conditions of Contract. The Employer does not intend to contact such persons, and they should not be contacted by tenderers. If, in very special circumstances, the Employer exchanged correspondence with any of these listed persons, copies of such correspondence will be forwarded to the tenderer.] [OR: During the evaluation of Tenders, the Employer may give the preferred tenderer the name of the person whom the Employer nominates as a member of the DAB under Clause 20 of the Conditions of Contract; and the tenderer may likewise give the Employer the name of the person whom the tenderer nominates.]

9.3 After receiving the Employer's Letter of Acceptance, the successful tenderer shall submit a Performance Security in accordance with Sub-Clause 4.2, and an advance payment guarantee in accordance with Sub-Clause 14.2, of the Conditions of Contract.

9.4 After receiving the Performance Security from the successful tenderer, the Employer will notify the other tenderers that their Tenders have been unsuccessful.

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9.2 The preferred tenderer(s) may be invited to participate in negotiation meeting(s) with the Employer, who may then issue a Memorandum of Understanding recording the outcome of their joint discussions of the Tender, which may include proposed arrangements for the appointment of the DAB under Clause 20 of the Conditions of Contract. This Memorandum of Understanding will constitute the agreed basis upon which a contract could be concluded, and/or may include clarification of any alternative proposals which the tenderer may have submitted. The Memorandum of Understanding (i) shall be binding on the tenderer as an acceptable clarification or amendment of his Tender until its validity expires, (ii) shall be wholly subject to a subsequent contract agreement, and (iii) shall not bind the Employer nor commit him to entering into any contract under any terms.

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9.3 After the Employer and the successful tenderer have entered into the Contract Agreement in accordance with Sub-Clause 1.6 of the Conditions of Contract, the Contractor shall submit a Performance Security in accordance with Sub-Clause 4.2, and an advance payment guarantee in accordance with Sub-Clause 14.2, of the Conditions of Contract.

9.4 After receiving the Performance Security from the successful tenderer, the Employer will notify the other tenderers that their Tenders have been unsuccessful.

Clause 1 General Provisions

1.1 Definitions

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<p>In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.</p>	<p>In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.</p>	<p>In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.</p>	
<p>RB 1.1 & 1.3; YB 1.1 & 1.3; OB 1.1 & 1.3</p>			

The Conditions of Contract are stated to comprise the General Conditions and Particular Conditions. In each Book, the General Conditions are followed by guidance for the preparation of Particular Conditions ("GPPC"). Each GPPC's Introduction proposes the wording which is required in order to define the appropriate General Conditions:

The Conditions of Contract comprise the "General Conditions", which form part of the "Conditions of Contract for ..." ... published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC), and the following "Particular Conditions", which include amendments and additions to such General Conditions.

In each Book, only those words and expressions which are used many times are defined in this Sub-Clause. With the exception of the words "day" and "year", these defined words and expressions are identifiable by the use of Capital Initial Letters. Therefore, the Particular Conditions should use capital initial letters for words and expressions which are intended to have these defined meanings.

A glossary of commonly used words and phrases is included at the end of this Guide. This glossary lists words and phrases which are used in the fields of building, consultancy, engineering and associated activities, but must not be used to amplify or replace the definitions in this Clause.

The first sentence of Sub-Clause 1.1 (quoted above) states that the definitions

only apply to "these Conditions". If similar words and expressions are used in other contract documents, the words and expressions have capital initial letters, and no other meanings are defined, it will generally be inferred that they have the meanings stated in this Sub-Clause. Throughout the Contract, the use of words and expressions without capital initial letters may (depending upon the context) indicate that they are to have their natural meaning, and not the meaning defined in this Sub-Clause. For example, the General Conditions contain references to "cost" and to other "contractors".

Unless inconsistent with the context, the word "person", and other words normally taken as indicating a person or persons, may refer to an individual or to a firm, corporation, joint venture or other entity having legal capacity.

The defined words and expressions are divided into six groups, 1.1.1 to 1.1.6, in order to facilitate comparison between the definitions of similar expressions. For example, the reader may observe that time-related expressions are defined in Sub-Clause 1.1.3, and will be able to note the similarity between the definitions of "Time for Completion" and "Defects Notification Period". Readers who wish to locate a definition without needing to consider the group in which it should be defined may prefer to consult the page opposite the beginning of Clause 1, which provides a list of the defined words and expressions in alphabetical order.

The following list is a compilation of these lists of defined words and expressions in all the Books:

CONS	P&DB	EPCT	Word/expression	CONS	P&DB	EPCT	Word/expression
1.1.4.1	1.1.4.1	N/A	Accepted Contract Amount	1.1.4.7	1.1.4.7	N/A	Interim Payment Certificate
1.1.1.9	1.1.1.9	N/A	Appendix to Tender	1.1.6.5	1.1.6.5	1.1.6.5	Laws
1.1.3.1	1.1.3.1	1.1.3.1	Base Date	1.1.1.3	1.1.1.3	N/A	Letter of Acceptance
1.1.1.10	N/A	N/A	Bill of Quantities	1.1.1.4	1.1.1.4	N/A	Letter of Tender
1.1.3.2	1.1.3.2	1.1.3.2	Commencement Date	1.1.4.8	1.1.4.8	1.1.4.5	Local Currency
1.1.1.1	1.1.1.1	1.1.1.1	Contract	1.1.5.3	1.1.5.3	1.1.5.3	Materials
1.1.1.2	1.1.1.2	1.1.1.2	Contract Agreement	1.1.2.1	1.1.2.1	1.1.2.1	Party
1.1.4.2	1.1.4.2	1.1.4.1	Contract Price	1.1.4.9	1.1.4.9	N/A	Payment Certificate
1.1.2.3	1.1.2.3	1.1.2.3	Contractor	1.1.3.8	1.1.3.8	1.1.3.8	Performance Certificate
1.1.6.1	1.1.6.1	1.1.6.1	Contractor's Documents	N/A	N/A	1.1.1.5	Performance Guarantees
1.1.5.1	1.1.5.1	1.1.5.1	Contractor's Equipment	1.1.6.6	1.1.6.6	1.1.6.6	Performance Security
1.1.2.7	1.1.2.7	1.1.2.7	Contractor's Personnel	1.1.5.4	1.1.5.4	1.1.5.4	Permanent Works
N/A	1.1.1.7	N/A	Contractor's Proposal	1.1.5.5	1.1.5.5	1.1.5.5	Plant
1.1.2.5	1.1.2.5	1.1.2.5	Contractor's Representative	1.1.4.10	1.1.4.10	1.1.4.6	Provisional Sum
1.1.4.3	1.1.4.3	1.1.4.2	Cost	1.1.4.11	1.1.4.11	1.1.4.7	Retention Money
1.1.6.2	1.1.6.2	1.1.6.2	Country	1.1.1.7	1.1.1.6	N/A	Schedules
1.1.2.9	1.1.2.9	1.1.2.9	DAB	N/A	1.1.1.10	N/A	Schedule of Guarantees
1.1.3.9	1.1.3.9	1.1.3.9	day	N/A	1.1.1.10	1.1.1.5	Schedule of Payments
1.1.1.10	N/A	N/A	Daywork Schedule	1.1.5.6	1.1.5.6	1.1.5.6	Section
1.1.3.7	1.1.3.7	1.1.3.7	Defects Notification Period	1.1.6.7	1.1.6.7	1.1.6.7	Site
1.1.1.6	N/A	N/A	Drawings	1.1.1.5	N/A	N/A	Specification
1.1.2.2	1.1.2.2	1.1.2.2	Employer	1.1.4.12	1.1.4.12	1.1.4.8	Statement
1.1.6.3	1.1.6.3	1.1.6.3	Employer's Equipment	1.1.2.8	1.1.2.8	1.1.2.8	Subcontractor
1.1.2.6	1.1.2.6	1.1.2.6	Employer's Personnel	1.1.3.5	1.1.3.5	1.1.3.5	Taking-Over Certificate
N/A	N/A	1.1.2.4	Employer's Representative	1.1.5.7	1.1.5.7	1.1.5.7	Temporary Works
N/A	1.1.1.5	1.1.1.3	Employer's Requirements	1.1.1.8	1.1.1.8	1.1.1.4	Tender
1.1.2.4	1.1.2.4	N/A	Engineer	1.1.3.6	1.1.3.6	1.1.3.6	Tests after Completion
1.1.2.10	1.1.2.10	1.1.2.10	FIDIC	1.1.3.4	1.1.3.4	1.1.3.4	Tests on Completion
1.1.4.4	1.1.4.4	N/A	Final Payment Certificate	1.1.3.3	1.1.3.3	1.1.3.3	Time for Completion
1.1.4.5	1.1.4.5	1.1.4.3	Final Statement	1.1.6.8	1.1.6.8	N/A	Unforeseeable
1.1.6.4	1.1.6.4	1.1.6.4	Force Majeure	1.1.6.9	1.1.6.9	1.1.6.8	Variation
1.1.4.6	1.1.4.6	1.1.4.4	Foreign Currency	1.1.5.8	1.1.5.8	1.1.5.8	Works
1.1.5.2	1.1.5.2	1.1.5.2	Goods	1.1.3.9	1.1.3.9	1.1.3.9	year

"N/A" indicates Not Applicable, where the Book contains no such defined word or expression.

1.1.1 The Contract

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1.1.1.1 “**Contract**” means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Specification, the Drawings, the Schedules, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.

1.1.1.2 “**Contract Agreement**” means the contract agreement (if any) referred to in Sub-Clause 1.6 [*Contract Agreement*].

1.1.1.3 “**Letter of Acceptance**” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.1.4 “**Letter of Tender**” means the document entitled letter of tender, which was completed by the Contractor and includes the signed offer to the Employer for the Works.

1.1.1.5 “**Specification**” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

1.1.1.6 “**Drawings**” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.1.7 “**Schedules**” means the document(s)

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1.1.1.1 “**Contract**” means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Employer's Requirements, the Schedules, the Contractor's Proposal, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.

1.1.1.2 “**Contract Agreement**” means the contract agreement (if any) referred to in Sub-Clause 1.6 [*Contract Agreement*].

1.1.1.3 “**Letter of Acceptance**” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.1.4 “**Letter of Tender**” means the document entitled letter of tender, which was completed by the Contractor and includes the signed offer to the Employer for the Works.

1.1.1.5 “**Employer's Requirements**” means 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.

1.1.1.6 “**Schedules**” means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include data, lists and schedules of payments and/or prices.

EPCT

1.1.1.1 “**Contract**” means the Contract Agreement, these Conditions, the Employer's Requirements, the Tender, and the further documents (if any) which are listed in the Contract Agreement.

1.1.1.2 “**Contract Agreement**” means the contract agreement referred to in Sub-Clause 1.6 [*Contract Agreement*], including any annexed memoranda.

1.1.1.3 “**Employer's Requirements**” means 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.

entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.

1.1.1.8 **“Tender”** means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.1.9 **“Appendix to Tender”** means the completed pages entitled appendix to tender which are appended to and form part of the Letter of Tender.

1.1.1.10 **“Bill of Quantities”** and **“Daywork Schedule”** mean the documents so named (if any) which are comprised in the Schedules.

1.1.1.7 **“Contractor's Proposal”** means the document entitled proposal, which the Contractor submitted with the Letter of Tender, as included in the Contract. Such document may include the Contractor's preliminary design.

1.1.1.8 **“Tender”** means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.1.9 **“Appendix to Tender”** means the completed pages entitled appendix to tender which are appended to and form part of the Letter of Tender.

1.1.1.10 **“Schedule of Guarantees”** and **“Schedule of Payments”** mean the documents so named (if any) which are comprised in the Schedules.

1.1.1.4 **“Tender”** means the Contractor's signed offer for the Works and all other documents which the Contractor submitted therewith (other than these Conditions and the Employer's Requirements, if so submitted), as included in the Contract.

1.1.1.5 **“Performance Guarantees”** and **“Schedule of Payments”** mean the documents so named (if any), as included in the Contract.

Sub-Clause 1.1.1 commences by listing the documents which together comprise the Contract in the same sequence as the order of precedence specified in Sub-Clause 1.5. Sub-Clause 1.1.1 then defines the contract documents in the same sequence. Note that any indication of their expected contents may have little practical effect. When the Contract comes into force, the Contract consists of the actual documents, and it is their contents which are relevant, not the contents indicated in these definitions. Also, any Letter of Acceptance and/or Contract Agreement will typically contain a list of documents which comprise the Contract, and any such list has priority over Sub-Clause 1.1.1.1: see Sub-Clause 1.5.

Many of the contract documents are defined in terms of "the document entitled ...", so the appropriate title must be included on each document. Otherwise, there may be dispute as to whether a document is a contract document and, if so, as to whether the references in these Conditions actually refer to such contract document.

Many of the contract documents are defined in terms of "as included in the Contract", recognising the possibility that a Letter of Acceptance and/or Contract Agreement may include annexed memoranda amending the documents. Prior to accepting the Tender and entering into the Contract, the Employer should

consider whether there is any inconsistency between any tender documents; if so, it should be resolved. Although any inconsistency between two tender documents may be covered under Sub-Clause 1.5, it is preferable for the inconsistency to be resolved by an agreed amendment.

The second definition refers to the Contract Agreement: see the comments on Sub-Clause 1.6 in this Guide and in each GPPC, and the Example Form at the end of each Book.

EPCT 1.6 states that the Contract comes into effect on the date stated in the Contract Agreement. EPCT therefore makes no reference to a Letter of Acceptance, except for the comments on EPCT 1.6 in its GPPC which anticipates the possibility of the Employer preferring to issue a Letter of Acceptance.

CONS 1.6 and P&DB 1.6 require the Parties (unless they agree otherwise) to enter into the Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, which is the document which would typically have brought the Contract into effect. Even if the applicable law does not necessitate a Contract Agreement, the latter is often considered advisable, in order to record what constitutes the Contract under CONS or P&DB. A hasty award may, for example,

give rise to problems (if a dispute arises) over the meaning and inter-relationship of post-tender pre-award communications.

Under CONS or P&DB, the Contract typically becomes legally binding when the Contractor receives the Letter of Acceptance. This Letter must define the Accepted Contract Amount (see 1.1.4.1) and may be in the following form:

For and on behalf of ..., we accept the offer contained in your Letter of Tender dated ... to [design,] execute and complete the above-named Works and remedy any defects therein, for the Accepted Contract Amount of ... Unless and until a formal Agreement is prepared and executed, the Contract shall comprise the following documents:

[*list of documents, with appropriate references/dates*]

The Letter of Acceptance may also include, possibly within annexed memoranda:

- a breakdown of the Accepted Contract Amount, which may differ from the sum stated in the Letter of Tender by reason of arithmetic errors and/or so as to define which alternative option is being accepted; and/or
- the outcome of any post-tender negotiations and/or clarifications of the Tender, although it would be unfair to have asked or permitted the tenderer to change the substance or value of the Tender.

However, CONS and P&DB allow for the possibility that there may be no such Letter of Acceptance. For example, the Parties may sign a Contract Agreement which (as a matter of law) brings the Contract into effect, but without a "Letter of Acceptance". In this event, the references to the Letter of Acceptance in Sub-Clauses 4.2, 8.1, 14.7 and 18.1 will relate to this signing date, and the Accepted Contract Amount must be defined in the Contract Agreement in accordance with Sub-Clauses 1.1.1.3 and 1.1.4.1.

The Letter of Tender, and the Appendix to Tender under CONS or P&DB, should be based on the Example Form at the end of each Book. In the Letter of Tender, the tenderer offers to enter into a legally-binding contract. It is called a "Letter of" Tender so as to differentiate it from the overall package of documents called the "Tender". This Letter is not a lengthy document, but is important under CONS or P&DB because, when the Letter of Tender is accepted in the Letter of Acceptance, these two Letters will typically create a legally-binding Contract.

The Letter of Tender starts by identifying the tender documents (including any Addenda thereto) and the offered price, for which the written words may (under

applicable law) prevail over the amount expressed in figures. The second paragraph refers to the appointment of the DAB: see the commentary on Sub-Clause 20.2. The third paragraph states the date up to which the Tender is valid for acceptance. The Instructions to Tenderers may require tenderers to write this validity date into this third paragraph, in accordance with a specified validity period calculated from the Tender submission date (this date being defined in the Instructions or in the Letter of Invitation, unless subsequently amended in an Addendum to Tender Documents). This validity period should be assessed carefully by the Employer, taking account of his procedures and the time necessary for evaluation of tenders, including studying Contractor-design proposals. The Instructions to Tenderers may require each tenderer to submit a tender security, which may be called if the tenderer fails to abide by the Tender until this validity date. An example form of tender security is shown in Annex B of each GPPC, based upon Uniform Rules for Demand Guarantees which are considered further in this Guide's comments on Sub-Clause 4.2.

CONS' Specification and Drawings are the documents where the Employer specifies all matters not covered by the Conditions of Contract, including the location of the Site, the scope of the Works, the details listed on GPPC's page 3, details of how each part of the Works is required to be constructed, and (possibly) a programme of work. For example, if the Works include work on an existing facility, the Contractor might be required to phase the work in a particular way in order to minimise the disruption to the continuing operation of the facility.

P&DB's and EPCT's Employer's Requirements is the document where the Employer states his precise requirements for the completed Works, including all matters not covered by the Conditions of Contract. The Employer's Requirements is the base document which includes: the definition of the location of the Site, the definition and purpose of the Works, quality and performance criteria, the details listed on GPPC's page 3, and special obligations (such as the training of operating personnel, for example). These matters should not be specified in the Instructions to Tenderers, because they would not then be contractually binding.

P&DB's and EPCT's Employer's Requirements should include all relevant criteria, including quality, performance and testing, but need not specify any matters which would be imposed on the Works by the applicable law. 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 Engineer or Employer's Representative, which tenderers may consider impossible to forecast. The Employer's Requirements may include

drawings, 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.

CONS' and P&DB's Schedules are prepared by the Employer, issued with the tender documents and completed by the tenderer. The form of the Schedules will depend on the information and data which the Employer requires, both for the tender evaluation and for inclusion in the Contract. If the Contract includes Schedules which define any matter consistent with the other Contract documents, the matter becomes an obligation and either Party can enforce it, subject to the provisions of the Contract, such as Sub-Clause 1.5. For example, if the tenderer specifies the quality of an item of Materials in a Schedule and such quality is consistent with other provisions in the Contract:

- the Employer does not have to accept an inferior quality, but may do so after agreeing a reduced price under Sub-Clause 13.2, and
- the Contractor does not have to provide a superior quality, unless and until he is instructed to do so as a Variation under Clause 13.

CONS' Schedules will typically comprise a Bill of Quantities and a Daywork Schedule, for the purposes of Clause 12 and Sub-Clause 13.6 respectively. If there is any Contractor-design, other Schedules may be required, as appropriate for the type of Contractor-design included in the Contract.

P&DB's Schedules should reflect the type of Contractor-design included in the Contract. These Schedules may include a questionnaire, tables and/or lists, setting out the information required from the tenderer. When preparing the Schedules, the Employer should consider carefully the extent of information required, taking account of the work being imposed on the tenderers and on his personnel, who will be carrying out the detailed evaluation and comparison of Tenders.

P&DB's Contractor's Proposal is the document containing the tenderer's preliminary design, which he prepared and submitted with his Tender. The General Conditions do not indicate whether the preliminary design is only a small-scale outline, or includes fully detailed working drawings, because such a pre-contract obligation cannot be enforced by the General Conditions. For that reason, the Employer cannot insist on receiving detailed working drawings with each Tender, but he may define (in the Instructions to Tenderers) what will be regarded as a

responsive tender. Either Party might, on the one hand, prefer an outline, in order to minimise the costs of tendering and/or of the evaluation and comparison of tenders. However, either Party might prefer detailed drawings, in order to reach agreement on the details. Although the Employer can specify what will constitute a responsive tender, tenderers will be reluctant to carry out a costly detailed design if they consider that they have little chance of recovering their costs through being awarded the contract.

In his Proposal, the tenderer should identify any aspects where he proposes not to comply with any particular aspect of the Employer's Requirements, so that these deviations can be resolved before the Tender is accepted. If deviations are not identified, and thus are not clarified in the Contract, the Employer's Requirements take precedence: see Sub-Clause 1.5. However, if the Contractor's Proposal includes elaboration of any matter (for example, quality assurance details) which is consistent with the other Contract documents, the matter becomes an obligation and either Party can enforce it.

EPCT makes no reference to a "Contractor's Proposal" so as to provide greater flexibility in the use of this Book. The tenderer includes the details of his proposals in the "Tender" which is defined in EPCT 1.1.1.4 as the tenderer's submission excluding the Conditions of Contract and the Employer's Requirements. These exclusions, which refer to the documents wholly written by (or on behalf of) the Employer, are required so that each document may be allocated its priority in EPCT 1.5.

CONS' and P&DB's definition of "Tender" does not exclude the Employer's documents, because (unlike in EPCT) the word "Tender" is not related to the authorship or priority of documentation.

CONS' and P&DB's Appendix to Tender is referred to in the many Sub-Clauses which require specific data in order for them to become effective, such as the Parties' names and various amounts and percentages, for example. The Appendix to Tender should be based on the Example Form at the end of each Book. There is no indication whether data is to be provided by the Employer, prior to issuing the tender documents, or by the tenderer.

When preparing the Appendix to Tender for CONS or P&DB tender documents, the Employer should review the Example Form, decide what items to complete, and decide on the relevant data, taking account of the comments in the Book and this Guide. Although the Employer may complete all items (other than 1.1.2.3, usually), he might prefer to require tenderers to complete various items, but he

would typically include data for Sub-Clauses 1.1.2.2, 1.1.2.4, 1.3, 1.4, 2.1, 4.2, 8.7, 18.2 and 18.3 as a minimum. Although each of Sub-Clauses 4.2, 13.8, 14.2, 14.5, 18.2(d) and 18.3 states that it does not apply if the required data is not included in the Appendix to Tender, it is preferable to avoid ambiguity by including the phrase "not applicable" opposite the number of each of these Sub-Clauses in the Appendix to Tender which are to be inapplicable.

EPCT makes no reference to an "Appendix to Tender" so as to provide greater flexibility in the use of this Book. Many Sub-Clauses require data to be included in the Particular Conditions, as listed in the GPPC's Introduction. In each of these cases, the provision in the Particular Conditions may (i) include the required data, (ii) state a different document where the data is to be found, or (iii) state that the particular Sub-Clause is deleted.

1.1.2 Parties and Persons

CONS	P&DB	EPCT
1.1.2.1 "Party" means the Employer or the Contractor, as the context requires.	1.1.2.1 "Party" means the Employer or the Contractor, as the context requires.	1.1.2.1 "Party" means the Employer or the Contractor, as the context requires.
1.1.2.2 "Employer" means the person named as employer in the Appendix to Tender and the legal successors in title to this person.	1.1.2.2 "Employer" means the person named as employer in the Appendix to Tender and the legal successors in title to this person.	1.1.2.2 "Employer" means the person named as employer in the Contract Agreement and the legal successors in title to this person.
1.1.2.3 "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).	1.1.2.3 "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).	1.1.2.3 "Contractor" means the person(s) named as contractor in the Contract Agreement and the legal successors in title to this person(s).
1.1.2.4 "Engineer" means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [<i>Replacement of the Engineer</i>].	1.1.2.4 "Engineer" means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [<i>Replacement of the Engineer</i>].	1.1.2.4 "Employer's Representative" means the person named by the Employer in the Contract or appointed from time to time by the Employer under Sub-Clause 3.1 [<i>The Employer's Representative</i>], who acts on behalf of the Employer.
1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [<i>Contractor's Representative</i>], who acts on behalf of the Contractor.	1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [<i>Contractor's Representative</i>], who acts on behalf of the Contractor.	1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [<i>Contractor's Representative</i>], who acts on behalf of the Contractor.
1.1.2.6 "Employer's Personnel" means the Engineer, the assistants referred to in Sub-Clause 3.2 [<i>Delegation by the Engineer</i>] and all	1.1.2.6 "Employer's Personnel" means the Engineer, the assistants referred to in Sub-Clause 3.2 [<i>Delegation by the Engineer</i>] and all	1.1.2.6 "Employer's Personnel" means the Employer's Representative, the assistants referred to in Sub-Clause 3.2 [<i>Other Employer's Personnel</i>]

other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer's Personnel.

1.1.2.7 "**Contractor's Personnel**" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 "**Subcontractor**" means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.2.9 "**DAB**" means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [*Appointment of the Dispute Adjudication Board*] or Sub-Clause 20.3 [*Failure to Agree Dispute Adjudication Board*]

1.1.2.10 "**FIDIC**" means the Fédération Internationale des Ingénieurs-Conseils, the international federation of consulting engineers.

other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer's Personnel.

1.1.2.7 "**Contractor's Personnel**" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 "**Subcontractor**" means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.2.9 "**DAB**" means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [*Appointment of the Dispute Adjudication Board*] or Sub-Clause 20.3 [*Failure to Agree Dispute Adjudication Board*].

1.1.2.10 "**FIDIC**" means the Fédération Internationale des Ingénieurs-Conseils, the international federation of consulting engineers.

and all other staff, labour and other employees of the Employer and of the Employer's Representative; and any other personnel notified to the Contractor, by the Employer or the Employer's Representative, as Employer's Personnel.

1.1.2.7 "**Contractor's Personnel**" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 "**Subcontractor**" means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

1.1.2.9 "**DAB**" means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [*Appointment of the Dispute Adjudication Board*] or Sub-Clause 20.3 [*Failure to Agree Dispute Adjudication Board*].

1.1.2.10 "**FIDIC**" means the Fédération Internationale des Ingénieurs-Conseils, the international federation of consulting engineers.

Sub-Clause 1.1.2 defines legal persons, who could be firms, corporations or other legal entities under the second sentence of Sub-Clause 1.1. In particular, CONS' and P&DB's Engineer and EPCT's Employer's Representative may be a firm of independent consulting engineers. If the Contractor is a joint venture, Sub-Clause 1.14 will apply.

The Parties to the Contract are the Employer and the Contractor, and not any

assignee to which the other Party has not agreed under Sub-Clause 1.7. It is advisable to take legal advice before seeking or agreeing to an assignment.

Under CONS or P&DB, the Engineer is the legal person named in the Appendix to Tender, unless and until replaced under Sub-Clause 3.4. The Engineer's role is covered in Clause 3.

Under EPCT, the Employer' Representative may be named in the Employer's

Requirements or may be appointed and notified under Sub-Clause 3.1, but EPCT does not require the Employer to appoint such a person. EPCT does not require there to be any intermediary in the role given to the Engineer in the other Books.

In all Books, the Contractor is required by Sub-Clause 4.3 to seek consent to the proposed Contractor's Representative, unless he/she was named in the Contract: typically in CONS' Schedule, or in P&DB's Proposal or Schedule, or in EPCT's Tender.

If the Contractor's Representative is to be named in the Tender and thus in the Contract, tenderers may wish to name alternates, in case a preferred representative becomes unavailable during the period of validity of the Tender.

The General Conditions use the phrases "Employer's Personnel" and "Contractor's Personnel" when referring to people for whom each such Party is responsible. In particular, the Employer's Personnel would include those involved in inspection and testing (see Sub-Clause 7.3), who should be "notified to the Contractor" under Sub-Clause 1.1.2.6, but would typically not include all the Employer's other contractors on the Site (see Sub-Clause 2.3). By contrast, the Contractor's Personnel include all Subcontractor's employees on the Site, and others assisting the Contractor's execution of the Works. The logic of these definitions should not be reversed, in the sense that there is no intention to imply that CONS' or P&DB's Engineer and his "assistants" (under Sub-Clause 3.2) are

expected to be people whom the Employer would regard as his own personnel, namely the Employer's employees.

It is not envisaged that the Contract will necessarily identify every Subcontractor, but some may need to be recorded at the Tender stage, before the Parties enter into the Contract. Sub-contracting is covered in more detail in Sub-Clauses 4.4 and 4.5. CONS 5 contains provisions for the Engineer's nomination of Subcontractors. P&DB 4.5 and EPCT 4.5 constrain the Contractor's obligation to comply with such nomination instructions, because of the problems associated with design responsibility and the perceived inconsistency between this nomination procedure and Contractor-design.

The DAB is required to adjudicate disputes under Clause 20. The DAB comprises one or three persons jointly appointed by the Parties, unless under CONS or P&DB the Particular Conditions include the GPPC's example sub-clause for pre-arbitral decisions by the Engineer. Sub-Clause 20.2 requires each tripartite agreement between the Parties and a member of the DAB to incorporate (by reference) the Appendix to the General Conditions. At the end of each Book, Example Forms are published for each tripartite agreement, incorporating such Appendix accordingly. See the commentary in this Guide on Sub-Clause 20.2 and thereafter.

FIDIC is also defined, to take account of the possibility that the Contract may refer to it. For example, the President of FIDIC may be named as the person resolving any disagreement under Sub-Clause 20.3: see GPPC 20.2.

1.1.3 Dates, Tests, Periods and Completion

CONS	P&DB	EPCT
1.1.3.1 " Base Date " means the date 28 days prior to the latest date for submission of the Tender.	1.1.3.1 " Base Date " means the date 28 days prior to the latest date for submission of the Tender.	1.1.3.1 " Base Date " means the date 28 days prior to the latest date for submission of the Tender.
1.1.3.2 " Commencement Date " means the date notified under Sub-Clause 8.1 [<i>Commencement of Works</i>].	1.1.3.2 " Commencement Date " means the date notified under Sub-Clause 8.1 [<i>Commencement of Works</i>].	1.1.3.2 " Commencement Date " means the date notified under Sub-Clause 8.1 [<i>Commencement of Works</i>], unless otherwise defined in the Contract Agreement.
1.1.3.3 " Time for Completion " means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [<i>Time for</i>	1.1.3.3 " Time for Completion " means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [<i>Time for</i>	1.1.3.3 " Time for Completion " means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [<i>Time for</i>

Completion], as stated in the Appendix to Tender (with any extension under Sub-Clause 8.4 [*Extension of Time for Completion*]), calculated from the Commencement Date.

1.1.3.4 “**Tests on Completion**” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [*Tests on Completion*] before the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.5 “**Taking-Over Certificate**” means a certificate issued under Clause 10 [*Employer’s Taking Over*].

1.1.3.6 “**Tests after Completion**” means the tests (if any) which are specified in the Contract and which are carried out in accordance with the provisions of the Particular Conditions after the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.7 “**Defects Notification Period**” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [*Completion of Outstanding Work and Remedying Defects*], as stated in the Appendix to Tender (with any extension under Sub-Clause 11.3 [*Extension of Defects Notification Period*], 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*].

1.1.3.8 “**Performance Certificate**” means the certificate issued under Sub-Clause 11.9 [*Performance Certificate*].

1.1.3.9 “**day**” means a calendar day and “**year**” means 365 days.

Completion], as stated in the Appendix to Tender (with any extension under Sub-Clause 8.4 [*Extension of Time for Completion*]), calculated from the Commencement Date.

1.1.3.4 “**Tests on Completion**” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [*Tests on Completion*] before the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.5 “**Taking-Over Certificate**” means a certificate issued under Clause 10 [*Employer’s Taking Over*].

1.1.3.6 “**Tests after Completion**” means the tests (if any) which are specified in the Contract and which are carried out under Clause 12 [*Tests after Completion*] after the Works or a Section (as the case may be) are taken over by the Employer.

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1.1.3.8 “**Performance Certificate**” means the certificate issued under Sub-Clause 11.9 [*Performance Certificate*].

1.1.3.9 “**day**” means a calendar day and “**year**” means 365 days.

Completion], as stated in the Particular Conditions (with any extension under Sub-Clause 8.4 [*Extension of Time for Completion*]), calculated from the Commencement Date.

1.1.3.4 “**Tests on Completion**” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [*Tests on Completion*] before the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.5 “**Taking-Over Certificate**” means a certificate issued under Clause 10 [*Employer’s Taking Over*].

1.1.3.6 “**Tests after Completion**” means the tests (if any) which are specified in the Contract and which are carried out under Clause 12 [*Tests after Completion*] after the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.7 “**Defects Notification Period**” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [*Completion of Outstanding Work and Remedying Defects*], as stated in the Particular Conditions (with any extension under Sub-Clause 11.3 [*Extension of Defects Notification Period*]), 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*]. If no such period is stated in the Particular Conditions, the period shall be one year.

1.1.3.8 “**Performance Certificate**” means the certificate issued under Sub-Clause 11.9 [*Performance Certificate*].

1.1.3.9 “**day**” means a calendar day and “**year**” means 365 days.

Sub-Clause 1.1.3 defines the time-related words and expressions, generally in chronological order.

The Base Date is used as the reference date for the information available to the tenderer in respect of Sub-Clauses 4.10, EPCT 5.1, P&DB/EPCT 5.4, 13.7, 13.8, 14.15(e), 17.5(b)(ii), and 18.2 (final paragraph). The Commencement Date is the reference date for the Time for Completion and the Contractor's completion obligations under Clause 8. Administration of the Contract may be facilitated by redefining the Base Date and Commencement Date as particular calendar dates, in the Contract Agreement, which has priority under Sub-Clause 1.5.

If the Employer requires to take over the Works in stages, each stage having its own Time for Completion, delay damages, and (possibly) Tests on Completion, Sections should be defined in the tender documents (see 1.1.5.6).

Tests on Completion are subject to Clause 9. Procedures for Taking-Over Certificates are specified in Clause 10; and those for Tests after Completion are specified in Clause 12 of P&DB and EPCT only. Although CONS includes a definition of Tests after Completion (for consistency with P&DB), these tests are seldom required for Employer-designed Works.

For Contractor-design, P&DB's and EPCT's Employer's Requirements should describe the Tests on Completion, and any Tests after Completion, which are considered necessary to demonstrate that the Plant and other Works satisfy the prescribed criteria. The extent of these Tests should be considered carefully by the Employer when writing the Employer's Requirements, taking account of the principle that the Works or a Section are taken over when tests specified as Tests on Completion have been passed. The general sequence of events is as follows:

- the Contractor completes the Section or Works;
- the Contractor carries out the tests defined as the Tests on Completion;
- the Employer takes over the Section or Works; and
- the Tests after Completion are carried out, if any.

Put another way, it is necessary to decide on the details and timing of each test, before deciding whether it is to be one of the Tests on Completion or one of the Tests after Completion. If there are to be any Tests after Completion, the tender

documents must specify the Party which will carry them out. In order to provide wording for either alternative, P&DB 12.1 was drafted on the basis of the Employer carrying out the Tests after Completion, and EPCT 12.1 was drafted on the basis of the Contractor carrying out the Tests after Completion.

Under any of the Books, it may be necessary, when specifying Tests on Completion or Tests after Completion, to consider the likely effect of any relevant factors at the time of testing: when adjacent parts of the Works may be incomplete, or when conditions (such as river flows) are below the design criteria, for example.

The expression "Defects Notification Period" recognises the most significant aspect of this period, namely the notifying of defects under Sub-Clause 11.1(b). In some other published forms of contract, it is referred to as a defects liability or maintenance period, an expression which could mislead.

Assuming (for the purposes of illustration) that the Defects Notification Period is 365 days, it should be noted that, if a part of the Works is taken over under CONS 10.2 or P&DB 10.2, the part's defects notification period will effectively exceed 365 days. The definition in 1.1.3.7 states (in order to avoid unduly complicating administration of the Contract) that the 365 days commences on the completion date of the Section (if any) which includes this part; or, if there is no such Section, on the completion date of the Works. In contrast, EPCT 10.2 states that parts shall not be taken over, except as may be stated in the Contract or as may be agreed by both Parties.

The Defects Notification Period for the Works and for each of the Sections is subject to extension under Sub-Clause 11.3. It is therefore possible that the extension in respect of one Section may result in its Defects Liability Period expiring after the period calculated from the date on which the Works are taken over. Therefore, Sub-Clauses 11.9 and 14.9 refer to "the latest of the expiry dates of the Defects Notification Periods".

Since "day" means any (working or non-working) calendar day from midnight to midnight, time periods specified in days commence on the beginning of the day following the date of the act which constitutes the starting-point. However, a "year" is any period of 365 days, not the calendar year from 1st January to 31st December. Time periods specified in years therefore commence on the beginning of the day following the date of the act which constitutes the starting-point.

1.1.4 Money and Payments

CONS

1.1.4.1 “**Accepted Contract Amount**” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

1.1.4.2 “**Contract Price**” means the price defined in Sub-Clause 14.1 [*The Contract Price*], and includes adjustments in accordance with the Contract.

1.1.4.3 “**Cost**” means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

1.1.4.4 “**Final Payment Certificate**” means the payment certificate issued under Sub-Clause 14.13 [*Issue of Final Payment Certificate*].

1.1.4.5 “**Final Statement**” means the statement defined in Sub-Clause 14.11 [*Application for Final Payment Certificate*].

1.1.4.6 “**Foreign Currency**” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

1.1.4.7 “**Interim Payment Certificate**” means a payment certificate issued under Clause 14 [*Contract Price and Payment*], other than the Final Payment Certificate.

1.1.4.8 “**Local Currency**” means the currency of the Country.

1.1.4.9 “**Payment Certificate**” means a payment certificate issued under Clause 14 [*Contract Price and Payment*].

P&DB

1.1.4.1 “**Accepted Contract Amount**” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

1.1.4.2 “**Contract Price**” means the price defined in Sub-Clause 14.1 [*The Contract Price*], and includes adjustments in accordance with the Contract.

1.1.4.3 “**Cost**” means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

1.1.4.4 “**Final Payment Certificate**” means the payment certificate issued under Sub-Clause 14.13 [*Issue of Final Payment Certificate*].

1.1.4.5 “**Final Statement**” means the statement defined in Sub-Clause 14.11 [*Application for Final Payment Certificate*].

1.1.4.6 “**Foreign Currency**” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

1.1.4.7 “**Interim Payment Certificate**” means a payment certificate issued under Clause 14 [*Contract Price and Payment*], other than the Final Payment Certificate.

1.1.4.8 “**Local Currency**” means the currency of the Country.

1.1.4.9 “**Payment Certificate**” means a payment certificate issued under Clause 14 [*Contract Price and Payment*].

EPCT

1.1.4.1 “**Contract Price**” means 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.

1.1.4.2 “**Cost**” means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

1.1.4.3 “**Final Statement**” means the statement defined in Sub-Clause 14.11 [*Application for Final Payment*].

1.1.4.4 “**Foreign Currency**” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

1.1.4.5 “**Local Currency**” means the currency of the Country.

CONS

1.1.4.10 "**Provisional Sum**" means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [*Provisional Sums*].

1.1.4.11 "**Retention Money**" means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [*Application for Interim Payment Certificates*] and pays under Sub-Clause 14.9 [*Payment of Retention Money*].

1.1.4.12 "**Statement**" means a statement submitted by the Contractor as part of an application, under Clause 14 [*Contract Price and Payment*], for a payment certificate.

P&DB

1.1.4.10 "**Provisional Sum**" means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [*Provisional Sums*].

1.1.4.11 "**Retention Money**" means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [*Application for Interim Payment Certificates*] and pays under Sub-Clause 14.9 [*Payment of Retention Money*].

1.1.4.12 "**Statement**" means a statement submitted by the Contractor as part of an application, under Clause 14 [*Contract Price and Payment*], for a payment certificate.

EPCT

1.1.4.6 "**Provisional Sum**" means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [*Provisional Sums*].

1.1.4.7 "**Retention Money**" means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [*Application for Interim Payments*] and pays under Sub-Clause 14.9 [*Payment of Retention Money*].

1.1.4.8 "**Statement**" means a statement submitted by the Contractor as part of an application for payment under Clause 14 [*Contract Price and Payment*].

Sub-Clause 1.1.4 defines the money-related words and expressions, in alphabetical order. The first definition is the agreed amount which should be stated in the document which brings the Contract into legal effect: namely a CONS' or P&DB's Letter of Acceptance, or (under any Book) the Contract Agreement.

Under CONS or P&DB, if the Accepted Contract Amount is not named in the Letter of Acceptance, there may be an implication that the amount is that which is stated in the accepted Letter of Tender. The Accepted Contract Amount is a fixed amount, which is referred to in the Appendix to Tender for the calculation of the amount of Performance Security, advance payment, limit of Retention Money, and the minimum amount of Interim Payment Certificates. In order to provide a phrase for the adjustable amounts due to the Contractor, CONS and P&DB define the Contract Price, and refer to Sub-Clause 14.1 and adjustments prescribed in the Contract.

Under EPCT, the Contract Price must be stated in the Contract Agreement. In the General Conditions, it is largely referred to as being fixed, at least to a greater extent than under P&DB. Because, in practice, EPCT's Contract Price may be adjusted (under Clause 13, for example):

- the definition of Contract Price refers to the subsequent "adjustments in accordance with the Contract", and

- the Particular Conditions should define the amount of Performance Security, advance payment, and limit of Retention Money as percentages of the "Contract Price stated in the Contract Agreement".

If payments under the Contract are to be made in more than one currency, a decision has to be made when writing the tender documents as to whether the Accepted Contract Amount and Contract Price are each to comprise:

- the sum of amounts in two or more currencies of payment, without them being combined into one amount using rates of currency exchange, or
- one amount expressed in a "currency of account", in which case a decision has also to be made whether all payments will be made in such currency.

This aspect, which is considered further in the comments on Sub-Clause 14.15, affects the way in which the above amounts are defined, as percentages of the Accepted Contract Amount or of the Contract Price.

"Cost" is defined as including overhead charges, but profit is excluded. Overhead charges may include reasonable financing costs incurred by reason of payment being received after expenditure. In some countries, financing costs might be included within "Cost", even though funds were not borrowed because

the Contractor had sufficient funds at his disposal. Generally, profit is included in the Contractor's entitlement to compensation in circumstances where the Employer is typically blameworthy (e.g. 2.1) but not in circumstances which are not the fault of either Party (e.g. CONS/P&DB 4.12). The amount of profit due may depend upon the circumstances but, if it is to be specified in the Contract, the following sentence may be included in Sub-Clause 1.2 of the Particular Conditions:

In these Conditions, provisions including the expression "Cost plus reasonable profit" require this profit to be one-twentieth (5%) of this Cost.

The Final Statement is defined as the agreed final statement, and not as the Contractor's draft final statement, which is only a "Statement". Under CONS or P&DB, each Statement represents the Contractor's request for a Payment Certificate. Under EPCT, each Statement represents the Contractor's request for payment, there being no Payment Certificates.

1.1.5 Works and Goods

CONS	P&DB	EPCT
<p>1.1.5.1 "Contractor's Equipment" means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.</p> <p>1.1.5.2 "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.</p> <p>1.1.5.3 "Materials" means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.</p> <p>1.1.5.4 "Permanent Works" means the permanent works to be executed by the Contractor under the Contract.</p> <p>1.1.5.5 "Plant" means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.</p> <p>1.1.5.6 "Section" means a part of the Works specified in the Appendix to Tender as a Section (if any).</p>	<p>1.1.5.1 "Contractor's Equipment" means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.</p> <p>1.1.5.2 "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.</p> <p>1.1.5.3 "Materials" means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.</p> <p>1.1.5.4 "Permanent Works" means the permanent works to be executed by the Contractor under the Contract.</p> <p>1.1.5.5 "Plant" means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.</p> <p>1.1.5.6 "Section" means a part of the Works specified in the Appendix to Tender as a Section (if any).</p>	<p>1.1.5.1 "Contractor's Equipment" means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.</p> <p>1.1.5.2 "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.</p> <p>1.1.5.3 "Materials" means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.</p> <p>1.1.5.4 "Permanent Works" means the permanent works to be designed and executed by the Contractor under the Contract.</p> <p>1.1.5.5 "Plant" means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.</p> <p>1.1.5.6 "Section" means a part of the Works specified in the Particular Conditions as a Section (if any).</p>

CONS	P&DB	EPCT
<p>1.1.5.7 “Temporary Works” means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.</p>	<p>1.1.5.7 “Temporary Works” means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.</p>	<p>1.1.5.7 “Temporary Works” means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.</p>
<p>1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.</p>	<p>1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.</p>	<p>1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.</p>

Sub-Clause 1.1.5 defines the words and expressions relating to the Works and Goods, in alphabetical order. The word "Goods" includes the Contractor's Equipment and Temporary Works which revert to the Contractor, and the Materials and Plant which are to form part of the Permanent Works. The tender documents must use these definitions, and should not mention undefined phrases such as "Permanent Equipment" or "Constructional Plant".

Contractor's Equipment comprises the mechanical equipment required for the Works, including items owned and/or used by Subcontractors.

If the Employer requires to take over the Works in stages, they should be defined as Sections: in CONS' or P&DB's Appendix to Tender, or in EPCT's Particular Conditions. Precise geographical definitions of Sections are advisable, so that the

extent of the Parties' responsibilities after taking over are clear.

If no Sections are specified, the General Conditions' references to Sections will be of no effect.

It is usually preferable for the definitions of the Sections to be such that they do not together constitute the whole of the Works. Otherwise, if the Works are divided wholly into Sections but with every part of the Works being part of one or other Section, it is possible (but bad practice) for there to be no certificate entitled "Taking-Over Certificate for the Works". In this event, which is wholly avoidable, there will still be a certificate which comprises the Taking-Over Certificate for the Works, even if it does not so state.

1.1.6 Other Definitions

CONS	P&DB	EPCT
<p>1.1.6.1 “Contractor's Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.</p>	<p>1.1.6.1 “Contractor's Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract; as described in Sub-Clause 5.2 [<i>Contractor's Documents</i>].</p>	<p>1.1.6.1 “Contractor's Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature supplied by the Contractor under the Contract; as described in Sub-Clause 5.2 [<i>Contractor's Documents</i>].</p>
<p>1.1.6.2 “Country” means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.</p>	<p>1.1.6.2 “Country” means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.</p>	<p>1.1.6.2 “Country” means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.</p>

1.1.6.3 “**Employer’s Equipment**” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Employer.

1.1.6.4 “**Force Majeure**” is defined in Clause 19 [*Force Majeure*].

1.1.6.5 “**Laws**” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.6.6 “**Performance Security**” means the security (or securities, if any) under Sub-Clause 4.2 [*Performance Security*].

1.1.6.7 “**Site**” means the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

1.1.6.8 “**Unforeseeable**” means not reasonably foreseeable by an experienced contractor by the date for submission of the Tender.

1.1.6.9 “**Variation**” means any change to the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*].

1.1.6.3 “**Employer’s Equipment**” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Employer’s Requirements; but does not include Plant which has not been taken over by the Employer.

1.1.6.4 “**Force Majeure**” is defined in Clause 19 [*Force Majeure*].

1.1.6.5 “**Laws**” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.6.6 “**Performance Security**” means the security (or securities, if any) under Sub-Clause 4.2 [*Performance Security*].

1.1.6.7 “**Site**” means the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

1.1.6.8 “**Unforeseeable**” means not reasonably foreseeable by an experienced contractor by the date for submission of the Tender.

1.1.6.9 “**Variation**” means any change to the Employer’s Requirements or the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*].

1.1.6.3 “**Employer’s Equipment**” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Employer’s Requirements; but does not include Plant which has not been taken over by the Employer.

1.1.6.4 “**Force Majeure**” is defined in Clause 19 [*Force Majeure*].

1.1.6.5 “**Laws**” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.6.6 “**Performance Security**” means the security (or securities, if any) under Sub-Clause 4.2 [*Performance Security*].

1.1.6.7 “**Site**” means the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

1.1.6.8 “**Variation**” means any change to the Employer’s Requirements or the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*].

Sub-Clause 1.1.6 defines the remaining (unclassified) words and expressions, in alphabetical order.

The Contractor’s Documents are defined as all drawings, etc. which are to be

supplied by the Contractor; and which may include documents on paper and electronic media. The General Conditions do not specify which design documents are to be supplied, under the second paragraph of Sub-Clause 4.1, and do not imply that the Contractor submits all design documents. On the

contrary, Sub-Clause 1.10 and P&DB/EPCT 5.2 (second paragraph) refer to some of his design documents as not being "Contractor's Documents" because the Contract does not require him to supply them to the Employer or Engineer.

Therefore, a more detailed description of the documents (if any) which are to be supplied by the Contractor must be included in the Contract: in CONS' Specification, in P&DB's Proposal or Employer's Requirements, or in EPCT's Tender or Employer's Requirements. Under P&DB or EPCT, this description must specify:

- which documents are to be supplied by the Contractor, namely the "Contractor's Documents", possibly elaborating on Sub-Clauses 5.6 and 5.7, and
- which (if any) of such Contractor's Documents are to be submitted for review under Sub-Clause 5.2 (and under P&DB, whether for approval) and other necessary information: for example, the extent of detail required for the submissions, and procedures and periods for the reviews.

The Employer's use of Contractor's Documents is constrained by Sub-Clause 1.10.

Employer's Equipment is defined as the specified equipment made available by the Employer: see Sub-Clause 4.20. The General Conditions do not specify which equipment will be made available, and do not imply that the Employer makes any equipment available. If he is to do so, Employer's Equipment must be described in the Contract: in CONS' Specification, or in P&DB's or EPCT's Employer's Requirements.

Laws are defined in general terms, including national and local legislation, without reference to a particular jurisdiction. Unless the context indicates otherwise, the word "Laws" may refer to the laws of any relevant jurisdiction. Although the

Contract is governed by the law of the jurisdiction referred to in the first paragraph of Sub-Clause 1.4, the actions and obligations of the Parties are typically also subject to the law of other jurisdictions.

The Site is defined in terms which are consistent with the Employer's obligations under Sub-Clause 2.1. Under the first sentence of Sub-Clause 4.23, the Contractor may (subject to consent) obtain other working areas. They are not stated as becoming part of the Site, because such a provision would be inconsistent with the Employer's obligations in respect of the Site.

Under CONS or P&DB, the adjective "Unforeseeable" is defined in terms which refer to "an experienced contractor". Although the Contractor should have the relevant experience, the definition does not refer to what he (as, arguably, an experienced contractor) claims to have foreseen, or to what anyone foresaw. It refers to what was "reasonably foreseeable". In practice, he may not (for whatever reason) have foreseen what was not "Unforeseeable"; or he may encounter an unusual phenomenon which was Unforeseeable (i.e., by experienced contractors) despite it being foreseeable by the world's expert in such matters.

Under EPCT, the risk of many types of unforeseeable situations is retained by the Contractor, so no such adjective needs to be defined.

Under P&DB or EPCT, a Variation is defined as any change to the Employer's Requirements or Works, the change having been instructed or approved under Clause 13. Therefore, the General Conditions do not contain provisions empowering the Engineer or Employer's Representative to change matters which are to be specified in the Employer's Requirements: tests, for example. Clause 13 specifies the procedures for amending anything specified in the Employer's Requirements. It is advisable to seek prior agreement of the consequences of each Variation, especially if it affects the scope or purpose of the Works.

1.2 Interpretation

	CONS	P&DB	EPCT
In the Contract, except where the context requires otherwise:	In the Contract, except where the context requires otherwise:	In the Contract, except where the context requires otherwise:	In the Contract, except where the context requires otherwise:
(a) words indicating one gender include all genders;	(a) words indicating one gender include all genders;	(a) words indicating one gender include all genders;	(a) words indicating one gender include all genders;

	CONS	P&DB	EPCT
(b)	words indicating the singular also include the plural and words indicating the plural also include the singular;	(b) words indicating the singular also include the plural and words indicating the plural also include the singular;	(b) words indicating the singular also include the plural and words indicating the plural also include the singular;
(c)	provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing, and	(c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing, and	(c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing, and
(d)	“written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record.	(d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record.	(d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
	The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.	The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions	The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

RB 1.2 & 1.4; YB 1.2-1.4; OB 1.2, 1.3 & 1.8

These principles of interpretation apply to each part of the contract documents.

- (a) The first sub-paragraph refers to the genders (masculine, feminine, neuter), and takes account of grammatical variations between some of the various languages which may be used as contract languages.
- (b) Where a reference is intended to relate to either singular or plural (but not both), the references have to be expressed clearly. For example, the word

"both" indicates that only the plural applies.

- (c) An "agreement" must be written, but it does not need to be subject to Sub-Clause 1.3.
- (d) All “written” communications, including those covered by Sub-Clause 1.3(a), must result in a permanent record.

The headings and marginal sub-headings are inserted for the convenience of the reader, and are not intended to affect the meaning of the text.

1.3 Communications

	CONS	P&DB	EPCT
	Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:	Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:	Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:
(a)	in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems	(a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems	(a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems

CONS

P&DB

EPCT

of electronic transmission as stated in the Appendix to Tender; and

(b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Appendix to Tender. 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.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

of electronic transmission as stated in the Appendix to Tender; and

(b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Appendix to Tender. 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.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

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.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed.

RB 1.5 & 68; YB 1.5 & 49; OB 1.8

Sub-paragraph (a) requires the six types of formal communications to be "in writing" as described in Sub-Clause 1.2(d). If electronic transmission is acceptable for these communications, the agreed system(s) is/are to be stated. A possible procedure would be for the Employer to state his preferred system in the tender documents, in CONS' or P&DB's Appendix to Tender or EPCT's Particular Conditions, so that each tenderer knows the system which will be used, unless the Parties agree otherwise. This sub-paragraph (a) allows the party issuing a communication to decide upon the method of transmission, namely by hand, mail, courier or electronic.

Sub-paragraph (b) specifies where the six types of formal communications are to be delivered, sent or transmitted, with two exceptions:

- a particular type of communication, and/or those from a particular author, may be required to be sent to a particular recipient (for example,

communications are typically exchanged directly between resident staff on the Site); and

- irrespective of the normal address for an approval or consent, these types of communication will be binding if they are sent directly to the person or office which requested the approval or consent, because of the likelihood that these types of communications will typically be sent to such person or office.

The requirement in the final paragraph, for certain communications not to be unreasonably withheld or delayed, is not repeated in the many provisions which refer to these types of communication. The importance of this requirement, and the serious consequences of non-compliance, should not be under-estimated.

The effectiveness (or otherwise) of a formal communication, which is sent to an

address (or by a method of transmission) other than as required under Sub-Clause 1.3, may depend upon such matters as the recipient's subsequent

actions, the consequences of the communication, and the law governing the Contract.

1.4 Law and Language

CONS	P&DB	EPCT
<p>The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Appendix to Tender.</p>	<p>The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Appendix to Tender.</p>	<p>The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Particular Conditions.</p>
<p>If there are versions of any part of the Contract which are written in more than one language, the version which is in the ruling language stated in the Appendix to Tender shall prevail.</p>	<p>If there are versions of any part of the Contract which are written in more than one language, the version which is in the ruling language stated in the Appendix to Tender shall prevail.</p>	<p>If there are versions of any part of the Contract which are written in more than one language, the version which is in the ruling language stated in the Particular Conditions shall prevail.</p>
<p>The language for communications shall be that stated in the Appendix to Tender. If no language is stated there, the language for communications shall be the language in which the Contract (or most of it) is written.</p>	<p>The language for communications shall be that stated in the Appendix to Tender. If no language is stated there, the language for communications shall be the language in which the Contract (or most of it) is written.</p>	<p>The language for communications shall be that stated in the Particular Conditions. If no language is stated there, the language for communications shall be the language in which the Contract (or most of it) is written.</p>

RB 5.1; YB 5.1, 5.2 & 51.1; OB 1.4

The law governing the Contract must be stated. The law typically will affect the interpretation of these Conditions, such that some provisions may have different consequences in different jurisdictions. The reference to "other jurisdiction" takes account of the situation in countries with federal systems of government, where a contract may be governed by the law of a state or other part of the country: USA, for example.

The ruling language only relates to a part of the Contract for which different versions have been written in different languages. If any part of the Contract is

written in a language which is not the same as that in which another part is written, but there is only one language version for each part, there is no need to designate a "ruling language". However, this situation is not recommended, because of the need for people who are fluent in all relevant languages.

The language for communications, including for those mentioned in Sub-Clause 1.3, should be stated, particularly if the effect of the last sentence of Sub-Clause 1.4 either is unacceptable, or is unclear because the Contract comprises equally-sized parts in each language (which could result in disputes).

1.5 Priority of Documents

	CONS	P&DB	EPCT
<p>The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ul style="list-style-type: none"> (a) the Contract Agreement (if any), (b) the Letter of Acceptance, (c) the Letter of Tender, (d) the Particular Conditions, (e) these General Conditions, (f) the Specification, (g) the Drawings, and (h) the Schedules and any other documents forming part of the Contract. <p>If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.</p>	<p>The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ul style="list-style-type: none"> (a) the Contract Agreement (if any), (b) the Letter of Acceptance, (c) the Letter of Tender, (d) the Particular Conditions, (e) these General Conditions, (f) the Employer's Requirements, (g) the Schedules, and (h) the Contractor's Proposal and any other documents forming part of the Contract. <p>If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.</p>	<p>The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ul style="list-style-type: none"> (a) the Contract Agreement, (b) the Particular Conditions, (c) these General Conditions, (d) the Employer's Requirements, (e) the Tender and any other documents forming part of the Contract. 	

RB 5.2; YB 5.3 & 5.4: OB 1.6

In order to resolve apparent inconsistencies or contradictions, in cases where the same subject-matter is covered several times in different parts of the Contract, this Sub-Clause provides an order of precedence of the documents. The Sub-Clause states that the listed priority applies for the purposes of interpretation. Words such as "ambiguity" or "discrepancy" are not mentioned as pre-conditions for the applicability of the list. It therefore applies whenever necessary for the purposes of interpretation.

The Contract Agreement has the highest priority, so it should include the clarification (and hence the removal) of any ambiguity or discrepancy which has

already been found in the documents comprising the Contract.

The Particular Conditions have priority over (and typically amend) the provisions in FIDIC's General Conditions. Although this priority has the effect of making words such as "unless otherwise stated in the Particular Conditions" legally unnecessary, these words are included in the General Conditions in order to assist users in the identification of circumstances in which some provisions in the General Conditions may need to be reviewed when writing the Particular Conditions.

The priority of the documents listed below the Conditions of Contract is based on

the principle that the Employer's documents should have priority over the Contractor's documents. Tenderers should be aware of the effects of this latter principle, and should emphasise any non-compliance. For example, if a tenderer provides details which are inconsistent with the requirements specified in a document having a higher priority, it is these latter specified requirements which will have priority and thus be binding on the Contractor.

It might seem unfair or incorrect for the Employer to thus be able to impose his requirements in circumstances where the tenderer provided details of his conflicting proposals, for the Employer to verify. However, giving priority to tenderer's proposals would have exposed the Employer to the possibility that the non-compliance was difficult to detect prior to award of the Contract. By giving priority to the Employer's documents, Sub-Clause 1.5 puts tenderers on notice that Employer's requirements are obligations, except to the extent that a non-compliance is mentioned in the Letter of Tender and thus brought to the Employer's attention. In this case, the Employer may regard this non-compliance as being part of a non-responsive and thus unacceptable Tender; or he may consider the non-compliance acceptable and incorporate it into the Contract by mentioning it in CONS' or P&DB's Letter of Acceptance or in the Contract Agreement.

Under P&DB or EPCT, the Contractor takes the financial risk arising from the lump-sum pricing of the works which he designs. The Contractor may therefore wish to include many details in his Tender proposals. If any of these details do not comply with the Employer's Requirements, Sub-Clause 1.5 resolves the problem in favour of the Employer, as described above. However, if the Employer's

Requirements contain an imprecise requirement, a tenderer may be able to avoid the potential problems (which could otherwise arise due to differing interpretations of such a requirement) by detailing precisely how he has interpreted the imprecise requirement. In this case, the greater priority given to the imprecise requirement may be offset by the precision of the Tender proposal which would form part of the Contract. However, it is preferable to avoid this type of potential disagreement, by ensuring that the Contract does not contain imprecise requirements. They may, of course, be included in Instructions to Tenderers as guidance which does not become part of the Contract.

Under CONS or P&DB, if there is an ambiguity or discrepancy within a particular contract document, Sub-Clauses 1.5 and 3.3 empower the Engineer to issue a clarification or instruction. No consequences are stated, because they depend upon the particular circumstances. If a Variation is instructed, Clause 13 applies.

EPCT 1.5 contains no equivalent power for the Employer to issue a clarification or instruction. If there is an ambiguity or discrepancy within one of the contract documents, the Parties should endeavour to reach agreement on how it should be resolved, which may result in an adjustment to the Contract Price.

Although the General Conditions are stated to have a higher priority than the documents listed thereafter, provisions in these latter documents have priority over an inconsistent provision in each of these General Conditions which says that it applies "unless otherwise stated in the Contract": for example, see Sub-Clause 1.8.

1.6 Contract Agreement

CONS	P&DB	EPCT
<p>The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless they agree otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.</p>	<p>The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless they agree otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.</p>	<p>The Contract shall come into full force and effect on the date stated in the Contract Agreement. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.</p>

RB 9; YB 9; OB 1.5

Under CONS or P&DB, the Contract will ordinarily come into effect when the Letter of Acceptance is issued. The Parties may then agree not to enter into a Contract Agreement. Even if the applicable law does not necessitate a Contract Agreement, the latter is often considered advisable, in order to record what constitutes the Contract. A hasty award may, for example, give rise to problems (if a dispute arises) over the meaning and inter-relationship of post-tender pre-award communications. Although neither Party can change the Contract, they should be able to agree how their previous communications may be consolidated into coherent documentation. However, CONS/P&DB 1.1.1.3 allows for the possibility that there may be no Letter of Acceptance, in which case the Parties must sign a Contract Agreement in order to establish a binding Contract.

Under EPCT, the Contract comes into effect on the date stated in the Contract Agreement. It defines the Contract, and is required to define the Contract Price in accordance with EPCT 1.1.4.1 and EPCT 14.15. The Contract Agreement must

state the name of each Party, the Contract Price, the currencies of payment, the amount due in each currency, and any pre-conditions which are to be satisfied before the Contract becomes effective.

The Contract Agreement is to be based upon the form annexed to the Particular Conditions, as issued to tenderers. When writing the tender documents, the Employer should take the Example Form at the end of each Book into account, together with any particular requirements of which he is then aware.

When the Contract Agreement is prepared, the form annexed to the Particular Conditions should be updated to reflect what the Parties actually agree. Any ambiguity or discrepancy within or between any contract document(s) should be resolved, typically in a memorandum annexed to the Contract Agreement. If lengthy tender negotiations were necessary, it may be considered advisable for the Contract Agreement to record the Base Date and/or Commencement Date.

1.7 Assignment

	CONS	P&DB	EPCT
Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:	Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:	Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:	Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:
(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and	(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and	(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and	(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and
(b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.	(b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.	(b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.	(b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.

RB 3; YB 3

Neither Party is allowed to transfer any or all of its obligations or rights under the Contract, except

- with the agreement of the other Party and at its sole discretion, and/or
- in respect of payments due to it, which may be assigned in favour of its source of finance.

The Employer will typically have taken account of the Contractor's reputation and experience when deciding to enter into the Contract, even if there was no prequalification procedure. Having done so, the Employer may well be reluctant to agree to any assignment under Sub-Clause 1.7. If he is persuaded to do so, the Employer may only be prepared to agree subject to certain conditions. In particular, the Employer will wish to ensure that the Performance Security and

other securities provided by the assigning Contractor will either be replaced or remain valid in respect of both the assigning Contractor's obligations and the new Contractor's obligations. It is advisable to take legal advice before seeking or agreeing to an assignment.

However, Sub-Clause 1.7 does not prevent the Contractor:

- subcontracting (not "assigning") the execution of parts of the Works,

although this right is subject to any limitations prescribed in Sub-Clause 4.4, and/or

- assigning to his insurers the Contractor's legal right to obtain relief against third parties, where the insurers have discharged the Contractor's loss or liability. Sub-Clause 1.7 only refers to benefits and interests in or under the Contract, and not to other legal rights.

1.8 Care and Supply of Documents

CONS	P&DB	EPCT
<p>The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.</p>		
<p>Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.</p>	<p>Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.</p>	<p>Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Employer six copies of each of the Contractor's Documents.</p>
<p>The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.</p>	<p>The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Employer's Requirements, the Contractor's Documents, and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.</p>	<p>The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Employer's Requirements, the Contractor's Documents, and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.</p>
<p>If a Party becomes aware of an error or defect of a technical nature in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.</p>	<p>If a Party becomes aware of an error or defect of a technical nature in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.</p>	<p>If a Party becomes aware of an error or defect of a technical nature in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.</p>

RB 6.1, 6.2 & 8.1; OB 1.7 & 1.9

The Contractor is responsible for the custody and care of each of the Contractor's Documents until it is taken over by the Employer. Typically, each of the Contractor's Documents will be "taken over" when issued by the Contractor to the Employer or (under CONS or P&DB) to the Engineer. Contractor's Documents are thus taken over on dates other than those which are to be stated in Taking-Over Certificates, issued under the procedure specified in Clause 10. It relates to the taking over of the Works, not to the taking over of Contractor's Documents.

The Contractor is required to supply six copies of each of the Contractor's Documents. Note that the General Conditions do not specify which design documents are to be supplied, so Sub-Clause 1.8 does not require the Contractor to supply any particular document. It merely requires the submission of documents (as specified elsewhere in the Contract) to be made in six copies;

unless otherwise stated in the Contract.

Whenever a Party becomes aware of a technical error or defect in a document, it is required to notify the other Party, and the law may also impose this duty. The document has to have been prepared for use in executing the Works, but it may have been prepared by (or on behalf of) the notifying Party, the Party being notified, or (possibly) another party. The General Conditions are not intended to impose, on the recipient of another Party's document, any duty of care owed to the Party in respect of the discovery of errors or defects, but such a duty may be implied under the applicable law.

Note that Sub-Clause 1.8 only refers to errors and defects of a technical nature, and not to those of a financial or other nature.

CONS 1.9 Delayed Drawings or Instructions

CONS

The Contractor shall give notice to the Engineer whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and details of the nature and amount of the delay or disruption likely to be suffered if it is late.

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Engineer to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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

CONS

- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

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

However, if and to the extent that the Engineer'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.

RB 6.3 - 6.5

The Engineer may be expected to administer the Contract so as to anticipate these requirements for a drawing or instruction, and issue them without awaiting notice under Sub-Clause 1.9. However, it recognises the possibility of a requirement which the Engineer has not anticipated or has been prevented from issuing, for whatever reason.

The Contractor is required to give the Engineer reasonable notice of the necessary drawing or instruction, and not demand all details at the Commencement Date. However, he may (for example) need to make early arrangements for the manufacture of certain items of Temporary Works, so as to have them available when required, and he may therefore need to have sufficient details of parts of the Permanent Works for these Temporary Works to be designed and manufactured well in advance of the time when these parts of the Permanent Works will be executed.

The notice must include the details specified in the second sentence of the Sub-Clause, to which the notice may specifically refer. In many cases, the notice may request a "drawing or instruction", so that the Engineer can consider which document is appropriate. Upon receiving a notice, the Engineer should

immediately acknowledge having received it, comment upon the extent (if any) to which it does not include the details specified in the second sentence of this Sub-Clause, and indicate the actions which he intends to take. Under Sub-Clause 1.3, the notice must be in writing and copied to the Employer.

If the Engineer fails to issue the notified drawing or instruction, the Contractor may give the further notice described in the second paragraph of Sub-Clause 1.9. The first sentence of Clause 20 requires this further notice to be given within 28 days after the event or circumstance giving rise to the claim, which may be the non-receipt of the drawing or instruction by the "time which is reasonable and is specified in the notice with supporting details", in accordance with the second paragraph of Sub-Clause 1.9. The Contractor is then entitled to an extension of time under Sub-Clause 8.4 and to payment of Cost and profit (because the Employer is responsible for the Engineer's failure).

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

If the Contractor suffers delay and/or incurs Cost as a result of an error in the Employer's Requirements, and an experienced contractor exercising due care would not have discovered the error when scrutinising the Employer's Requirements under Sub-Clause 5.1 [*General Design Obligations*], the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been so discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

YB 7.2 & 30.9

By signing the Letter of Tender proposed in P&DB's Example Form, the tenderer asserts that he has ascertained that the Employer's Requirements and other tender documents contain no errors or other defects. This assertion will be limited in effect, insofar as the tenderer has had limited time and cannot ensure that there are no such errors or defects. The third paragraph of Sub-Clause 5.1 therefore requires the Contractor to scrutinise the Employer's Requirements again, and notify the Engineer of any error, fault or other defect within the period stated in the Appendix to Tender. This period should be sufficient for the Contractor and his

designer(s) to carry out a thorough check.

Thereafter, there remains the possibility that the Employer's Requirements are found to contain an error which could not previously have been discovered by an experienced contractor exercising due care. In this event, the Contractor may give the notice described in Sub-Clause 1.9. The first sentence of Clause 20 requires this notice to be given within 28 days after the event or circumstance giving rise to the claim, which may be the discovery of the error. Under Sub-

Clause 1.3, the notice must be in writing and copied to the Employer. The Contractor is then entitled to an extension of time under Sub-Clause 8.4 and to payment of Cost and profit.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 & 20.1.

EPCT 1.9 Confidentiality

EPCT

Both Parties shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

The details of the Contract are required to be confidential, but Laws may require the release of some information to tax officials and other statutory authorities. EPCT 1.9 covers this confidentiality of the Contract documentation and prohibits the publication of any particulars of the Works, whereas EPCT 1.12 covers the

disclosure to the Employer of details which the Contractor may wish to keep confidential. The text of EPCT 1.9 is generally required for EPCT contracts, and may also be included in the Particular Conditions for many CONS or P&DB contracts.

1.10 Employer's Use of Contractor's Documents

CONS

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

P&DB

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

EPCT

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

	CONS	P&DB	EPCT
	<p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause</p>	<p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.</p>	<p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause</p>

YB 6.7; OB 1.10

Copyright is the intellectual property right of an originator to control the copying and use of his intellectual work. Generally, contracts which include the preparation of original designs should clarify the intellectual property rights (copyright) of the Parties, including the extent to which each Party may use the design which the contract requires the other Party to provide.

Sub-Clauses 1.10 and 1.11 set out the FIDIC policy, namely that designers should be able to retain the copyrights to their designs, and their clients should be able to use their designs for the purposes envisaged at the inception of the project. The phrase "as between the Parties" is inserted so that other parties

(such as Subcontractors) may themselves retain intellectual property rights in respect of their designs, under their respective design contracts.

Contractor's Documents include a variety of design documents (see 1.1.6.1), including computer software (programs), models, operation and maintenance manuals, and other manuals and information of a similar nature. When preparing the tender documents, the Employer may wish to consider the future uses of these documents. For example, certain projects may involve writing computer software which cannot be guaranteed free of errors, so specific warranties and/or access to source code may be appropriate.

The Sub-Clause only entitles the Employer to use the "Contractor's Documents", which are the documents which the Contract requires the Contractor to supply. Sub-Clause 1.10 does not entitle the Employer to use documents which are not the "Contractor's Documents", even though they may have been supplied by the Contractor. Although the first and final paragraphs of Sub-Clause 1.10 refer to the copyright and use of "other design documents", and the second paragraph of P&DB/EPCT 5.2 refers to "other documents necessary", the second paragraph of Sub-Clause 1.10 only refers to the Contractor's Documents.

The Employer is entitled to use the Contractor's Documents for the Works, but he is not entitled to use them for other purposes. Unless the Contractor consents, the Employer is not entitled to use the Contractor's Documents for the provision of similar works, on the Site or elsewhere. In particular, if a further stage or expansion of the Works is executed, the Contractor's Documents may be used as records of construction in order to determine the details of the existing facilities, but should not be used as working drawings for construction of identical facilities.

The Contractor's consent (mentioned in the final paragraph) must be given in writing, and is not to be unreasonably withheld or delayed, in accordance with Sub-Clause 1.3. It may be reasonable for the Contractor to withhold consent if the Employer declines to accept reasonable conditions in respect of secrecy and/or of restrictions on use.

Under P&DB or EPCT, amendments to the Sub-Clause may be required, taking account of the Country's law, if:

- the Employer will require more use of the Contractor's Documents than as permitted in this Sub-Clause: the Contractor should then be indemnified from liability which might arise from inappropriate use, namely for a purpose not envisaged by the designer;
- the Contractor's Documents will include computer software (programs) which the Employer will use other than as permitted in this Sub-Clause; or
- operation of the Works is subject to a process licence: see comments on Sub-Clause 17.5.

1.11 Contractor's Use of Employer's Documents

CONS	P&DB	EPCT
<p>As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.</p>	<p>As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Employer's Requirements and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.</p>	<p>As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Employer's Requirements and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.</p>

RB 6.1; YB 6.8; OB 1.11

Sub-Clause 1.11 mirrors 1.10. The Employer is given rights, in respect of the documents he provides to the Contractor, which are similar to those which the

Contractor receives in respect of the documents he provides. The phrase "as between the Parties" is inserted so that other parties (such as the Employer's

Personnel) may themselves retain intellectual property rights in respect of their designs, under their respective design contracts.

The Employer's consent must be given in writing, and is not to be unreasonably

withheld or delayed, in accordance with Sub-Clause 1.3. It may be reasonable for the Employer to withhold consent if the Contractor declines to accept reasonable conditions in respect of secrecy and/or of restrictions on use.

1.12 Confidential Details

CONS	P&DB	EPCT
The Contractor shall disclose all such confidential and other information as the Engineer may reasonably require in order to verify the Contractor's compliance with the Contract.	The Contractor shall disclose all such confidential and other information as the Engineer may reasonably require in order to verify the Contractor's compliance with the Contract.	The Contractor shall not be required to disclose, to the Employer, any information which the Contractor described in the Tender as being confidential. The Contractor shall disclose any other information which the Employer may reasonably require in order to verify the Contractor's compliance with the Contract.

YB 6.9; OB 1.12

Although the Employer might like to have all details of the Plant and other parts of the Works which are going to be supplied to him, the Contractor and Subcontractors will wish to keep confidential certain processes which they regard as trade secrets.

Under CONS or P&DB, the Contractor discloses information reasonably required

by the Engineer, except to the extent (if any) to which disclosure may be precluded under a part of the Contract having priority over these Conditions.

Under EPCT, the Contractor discloses information reasonably required by the Employer, except to the extent (if any) to which the tenderer has, in his Tender, classified specific types of information as being confidential.

1.13 Compliance with Statutes, Regulations and Laws

CONS	P&DB	EPCT
<p>The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Specification as having been (or being)</p>	<p>The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or</p>	<p>The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or</p>

obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

being) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

being) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

RB 26; YB 15, 17.4 & 48.1; OB 1.13

Under the Contract, the Employer has appointed the Contractor to execute the Works. Under this Sub-Clause, the Contractor must comply with applicable Laws: including (but not limited to) the Laws of the Country. Although the Employer might seem only to be directly concerned with compliance with the Country's Laws, this Sub-Clause makes the Contractor liable for the consequences of his breach of any applicable Laws, as defined in Sub-Clause 1.1.6.5.

If certain Laws specifically relate to the Works, the Employer might wish to consider drawing them to the attention of tenderers, and/or dealing with their effects in the Contract. For example, major works may require legislation before construction can begin, and/or may require various agreements with other affected parties and/or countries. This is not to suggest that the Employer needs to list out all relevant legislation for the convenience of tenderers or the Contractor. If the Employer only lists some of the relevant legislation, the limited extent of the list should be stated, for avoidance of doubt.

The sub-paragraphs contain general conditions which may or may not be applicable for a particular Contract. They cannot refer precisely to Country-specific requirements, which should be specified in the Particular Conditions. Also, these Conditions prescribe future obligations, and do not advise Parties on pre-contract procedures. Tenderers will need to know what permits and licenses have already been obtained by the Employer.

Like many Sub-Clauses in the General Conditions, the second sentence indicates

that the Particular Conditions may include exceptions to the general provisions contained in the sub-paragraphs. These exceptions would typically name the legal obligations, including permissions, notices, taxes and/or fees, required by (and using the authentic names as stated in) the applicable Laws, if these general provisions seem inapplicable. The Particular Conditions may therefore need to specify, in respect of each of these legal obligations imposed by the Country's Laws:

- (a) with which legal obligation has the Employer already complied (tenderers may need copies of documents evidencing the Employer's compliance),
- (b) which Party will be responsible for complying with each other legal obligation, and/or
- (c) what (if any) arrangements are to be made by the other Party, the one not responsible under (b).

In his own interests, the Employer should complete any procedures which can be completed prior to the Contract becoming effective, and include details in accordance with sub-paragraph (a). In order to encourage tenderers and also minimise delay to the project, the Employer should apply for all essential licences which can be procured prior to inviting tenders. Tenderers may be reluctant to incur expense in the preparation of their tenders if they are uncertain whether statutory requirements can be satisfied, and there may also be time-related constraints.

1.14 Joint and Several Liability

	CONS	P&DB	EPCT
	If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:	If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:	If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:
(a)	these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;	(a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;	(a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;
(b)	these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and	(b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and	(b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and
(c)	the Contractor shall not alter its composition or legal status without the prior consent of the Employer.	(c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.	(c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.

OB 1.14

Sub-Clause 1.14 provides the minimum appropriate provisions, requiring each of the members of the joint venture or consortium to be fully liable and to appoint and empower a leader, and giving the Employer some protection from changes in the status of the joint venture or consortium.

Under Sub-Clause 1.3, the Employer's consent to the joint venture's new composition or legal status must not be unreasonably withheld or delayed.

Clause 2 The Employer

2.1 Right of Access to the Site

CONS	P&DB	EPCT
<p>The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Appendix to Tender. 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 Specification. However, the Employer may withhold any such right or possession until the Performance Security has been received.</p>	<p>The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Appendix to Tender. 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.</p>	<p>The Employer shall give the Contractor right of access to, and possession of, all 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.</p>
<p>If no such time is stated in the Appendix to Tender, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as may be required to enable the Contractor to proceed in accordance with the programme submitted under Sub-Clause 8.3 [<i>Programme</i>].</p>	<p>If no such time is stated in the Appendix to Tender, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as may be required to enable the Contractor to proceed in accordance with the programme submitted under Sub-Clause 8.3 [<i>Programme</i>].</p>	<p>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.</p>
<p>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 Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	<p>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 Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	<p>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 [<i>Contractor's Claims</i>] to:</p>
<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p>	<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p>	<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.</p>
<p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>

CONS

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.

P&DB

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.

EPCT

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.

RB 42.1 & 42.2; YB 17.1 & 17.3; OB 2.2

The Employer is required to make the Site available to the Contractor within a prescribed time, which is to be stated in CONS' or P&DB's Appendix to Tender or in EPCT's Particular Conditions. Unless otherwise stated therein, the Contractor will be entitled to occupy all of the Site from the end of the prescribed period of time, but the second sentence of the Sub-Clause states that other parties may also have right of access to, and possession of, the Site. The work to be carried out by these other parties should be described in the tender documents, so that tenderers may anticipate the consequences.

Under CONS or P&DB, the second paragraph specifies that, if no such prescribed time is so stated, the Employer is required to make the Site available within the times required to enable the Contractor to proceed as shown in the programme submitted under Sub-Clause 8.3. This situation may arise if the Employer requires tenderers to insert the time, but the preferred tenderer failed to do so. Alternatively, the Employer may have omitted reference to this time, although the tenderers might have sought clarification of such an omission. The reference to the required times (in the plural) means that the Employer may make the various parts of the Site available at different times. Finally, it should be noted that, in the circumstances described in the second paragraph, the Contractor's entitlement to enter the Site is related to the programme under Sub-Clause 8.3, so he may wish to submit his programme sooner than is required under Sub-Clause 8.3.

Under EPCT, the second paragraph specifies that, if no such prescribed time is so stated, the Employer is required to make the Site available on the Commencement Date. This provision prevents the Employer's obligations being dependant upon a post-contract document.

Under P&DB or EPCT, it may be unnecessary for the Contractor to be given early access to the Site for the delivery of the Contractor's Equipment, but he may require early access in order to carry out surveys and other investigations.

The Employer is only required to grant the Contractor the "right" of access to the Site, it being assumed that there is a route along which access either is already physically practicable or can be constructed by the Contractor. Sub-Clause 2.1 does not entitle the Contractor to an access route suitable for his transport, except to the extent that a "means of access" under its third sentence may have been specified elsewhere in the Contract. Under Sub-Clause 4.15, the Contractor is deemed to have satisfied himself on this matter, subject to the same extent (if any) that a "means of access" is specified. In other words, the practical difficulties in getting to and from the Site are to be solved by the Contractor.

If the Site is totally surrounded by land owned by third parties, the Contract should clarify how the Contractor is to be granted right of access across their lands.

Non-availability of the Site constitutes a substantial failure and entitles the Contractor to terminate the Contract under CONS/P&DB 16.2 (d) or EPCT 16.2 (c).

Less serious failures to make the Site available to the Contractor as described in the Contract, including failures to make parts available in the manner mentioned in the third sentence of Sub-Clause 2.1, entitle the Contractor to compensation. In any of these events, the Contractor may give the notice described in the third paragraph of Sub-Clause 2.1. The first sentence of Clause 20 requires this notice to be given within 28 days after the event or circumstance giving rise to the claim, which may be the non-availability on the prescribed time. The Contractor is then entitled to an extension of time under Sub-Clause 8.4 and to payment of Cost and profit (profit being included because of the Employer's failure). CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 & 20.1.

The Contractor may also need to carry out work on the additional/working areas referred to in Sub-Clause 4.23. The Employer is not responsible for these areas, which do not become part of the Site. For example, the Contractor may need to arrange for

the provision of additional areas from which to obtain natural materials (see Sub-Clause 7.8(a)); or he may need to arrange for the provision of working areas on which to prefabricate parts of the Works before transporting them to the Site.

2.2 Permits, Licences or Approvals

CONS	P&DB	EPCT
<p>The Employer shall (where he is in a position to do so) provide reasonable assistance to the Contractor at the request of the Contractor:</p> <p>(a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and</p> <p>(b) for the Contractor's applications for any permits, licences or approvals required by the Laws of the Country:</p> <p>(i) which the Contractor is required to obtain under Sub-Clause 1.13 [<i>Compliance with Laws</i>],</p> <p>(ii) for the delivery of Goods, including clearance through customs, and</p> <p>(iii) for the export of Contractor's Equipment when it is removed from the Site.</p>	<p>The Employer shall (where he is in a position to do so) provide reasonable assistance to the Contractor at the request of the Contractor:</p> <p>(a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and</p> <p>(b) for the Contractor's applications for any permits, licences or approvals required by the Laws of the Country:</p> <p>(i) which the Contractor is required to obtain under Sub-Clause 1.13 [<i>Compliance with Laws</i>],</p> <p>(ii) for the delivery of Goods, including clearance through customs, and</p> <p>(iii) for the export of Contractor's Equipment when it is removed from the Site.</p>	<p>The Employer shall (where he is in a position to do so) provide reasonable assistance to the Contractor at the request of the Contractor:</p> <p>(a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and</p> <p>(b) for the Contractor's applications for any permits, licences or approvals required by the Laws of the Country:</p> <p>(i) which the Contractor is required to obtain under Sub-Clause 1.13 [<i>Compliance with Laws</i>],</p> <p>(ii) for the delivery of Goods, including clearance through customs, and</p> <p>(iii) for the export of Contractor's Equipment when it is removed from the Site.</p>

RB 54.3 & 54.4; YB 17.2, 17.5 & 48.2; OB 2.3

Under the law of the Country, permits, licences or approvals may be required for the Works, such as for any Contractor's design, imports and exports. For some of these matters, the Contractor may need reasonable assistance from the Employer in the preparation and submission of his applications. This "reasonable assistance" may, for example, comprise authentication of the Contractor's application documentation, but it would not be reasonable for the Contractor to expect the Employer to do anything which the Contractor can do himself.

Sub-Clause 2.2 follows the general provisions contained in Sub-Clause 1.13(b), but Country-specific requirements may need to be specified in the Particular Conditions. In order to encourage tenderers and also minimise delay to the project, the Employer

should apply for any essential licences which can be procured prior to inviting tenders. Tenderers may be reluctant to incur expense in the preparation of their tenders if they are uncertain whether statutory requirements can be satisfied, and there may also be time-related constraints.

The Employer has no obligations under Sub-Clause 2.2 unless and until he receives the Contractor's request, which must be in writing in accordance with Sub-Clause 1.3. The Employer does not then become liable in any way for the success or otherwise of the applications. Sub-Clause 2.2 does not relieve the Contractor from his responsibilities under Sub-Clause 1.13 or otherwise, provided the Employer provides the reasonable assistance requested.

2.3 Employer's Personnel

CONS	P&DB	EPCT
<p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:</p> <p>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [<i>Co-operation</i>], and</p> <p>(b) take actions similar to those which the Contractor is required to take under subparagraphs (a), (b) and (c) of Sub-Clause 4.8 [<i>Safety Procedures</i>] and under Sub-Clause 4.18 [<i>Protection of the Environment</i>].</p>	<p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:</p> <p>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [<i>Co-operation</i>], and</p> <p>(b) take actions similar to those which the Contractor is required to take under subparagraphs (a), (b) and (c) of Sub-Clause 4.8 [<i>Safety Procedures</i>] and under Sub-Clause 4.18 [<i>Protection of the Environment</i>].</p>	<p>The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:</p> <p>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [<i>Co-operation</i>], and</p> <p>(b) take actions similar to those which the Contractor is required to take under subparagraphs (a), (b) and (c) of Sub-Clause 4.8 [<i>Safety Procedures</i>] and under Sub-Clause 4.18 [<i>Protection of the Environment</i>].</p>

RB 19.2

The Employer's Personnel includes CONS' and P&DB's Engineer or EPCT's Employer's Representative, and his staff. They and contractors are required to co-operate with the Contractor's co-ordination efforts, and to take certain actions in respect of safety procedures. The work to be carried out by these other contractors should be described in the tender documents, and aspects such as co-ordination and safety may need to be specified.

2.4 Employer's Financial Arrangements

CONS	P&DB	EPCT
<p>The Employer shall submit, within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price (as estimated at that time) in accordance with Clause 14 [<i>Contract Price and Payment</i>]. If the Employer intends to make any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.</p>	<p>The Employer shall submit, within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price (as estimated at that time) in accordance with Clause 14 [<i>Contract Price and Payment</i>]. If the Employer intends to make any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.</p>	<p>The Employer shall submit, within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price (as estimated at that time) in accordance with Clause 14 [<i>Contract Price and Payment</i>]. If the Employer intends to make any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.</p>

The Employer is required to provide evidence of his financial arrangements when requested, and may also benefit from providing it when inviting tenders.

The Employer has no obligation under Sub-Clause 2.4 unless and until he receives the Contractor's request, which must be in writing in accordance with Sub-Clause 1.3. Although no mention is made of the period between receiving the evidence and issuing the next request, the Contractor would not be able to rely upon the consequences of a further request being issued within an unreasonably short period. However, it would be reasonable to issue a request when the estimated final Contract Price had increased above the amount substantiated by the evidence which the Employer had submitted previously. Typically, a Variation would increase the estimated final Contract Price.

The evidence is required to demonstrate the Employer's ability to pay the Contract Price, which typically would be the estimated final Contract Price at the time of the request but excluding the effect of adjustments which have not yet become applicable. For example, it would usually be unreasonable to add a contingency to allow for the possibility of a future event resulting in an adjustment under Sub-Clause 13.7. Although future adjustments under Sub-Clause 13.8 could be assumed to continue at the same adjustment multiplier "Pn" as that for the current month, the Contractor may not be able to rely upon an alleged failure by the Employer if his evidence only failed to substantiate an amount calculated using adjustment multipliers which increase each month, due to inflation.

The evidence is required to demonstrate the Employer's ability to pay in accordance

with Clause 14, including the periods for payment under Sub-Clause 14.7.

The form of the evidence depends upon the sources of the Employer's finances, and may also (in due course) depend upon the extent to which payments may not have been made in accordance with Clause 14. If the Employer is a governmental authority, the evidence may be in the public domain, in which case the request under Sub-Clause 2.4 may be no more significant than a request under Sub-Clause 2.2. If an international financial institution is providing part of the Contract Price, as a loan or a grant, it should have no difficulty providing evidence of these financial arrangements, and it may be prepared to support the Contractor's request for evidence of the other financial arrangements which will enable the Employer to pay the other parts of the Contract Price.

If the Employer anticipates that (because of the Contract's duration, for example) he will not be able to submit evidence in respect of the whole Contract Price, he would presumably have limited his obligations by an appropriate amendment in the Particular Conditions. He may even consider it necessary to delete Sub-Clause 2.4, especially if he expects tenderers to make their own financial arrangements. Tenderers would be entitled to be concerned at such deletion of this Sub-Clause, especially if the Employer had been unable to replace it by some other form of assurance (GPPC's Annex G, for example).

Sub-Clause 16.1 entitles the Contractor (after 21 days' notice) to suspend work, or reduce the rate of work, if the Employer fails to submit the evidence requested under Sub-Clause 2.4. Termination under Sub-Clause 16.2 provides the ultimate remedy.

2.5 Employer's Claims

CONS	P&DB	EPCT
<p>If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], under Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], or</p>	<p>If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], under Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], or</p>	<p>If the Employer considers himself to be entitled to any payment under any 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. However, notice is not required for payments due under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], under Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], or</p>

for other services requested by the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the 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 Engineer shall then proceed in accordance with Sub-Clause 3.5 [*Determinations*] 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 in accordance with Sub-Clause 11.3 [*Extension of Defects Notification Period*].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

for other services requested by the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the 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 Engineer shall then proceed in accordance with Sub-Clause 3.5 [*Determinations*] 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 in accordance with Sub-Clause 11.3 [*Extension of Defects Notification Period*].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

for other services requested by the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the 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 proceed in accordance with Sub-Clause 3.5 [*Determinations*] 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 in accordance with Sub-Clause 11.3 [*Extension of Defects Notification Period*].

The Employer may deduct this amount from any moneys due, or to become due, to the Contractor. The Employer shall only be entitled to set off against or make any deduction from an amount due to the Contractor, or to otherwise claim against the Contractor, in accordance with this Sub-Clause or with sub-paragraph (a) and/or (b) of Sub-Clause 14.6 [*Interim Payments*].

This Sub-Clause prescribes the procedure to be followed by the Employer if he considers himself to be entitled to any payment under or in connection with the Contract; or he considers himself to be entitled to an extension of the Defects Notification Period under Sub-Clause 11.3. The Table in this Guide, at the end of the commentary on Clause 3, lists the most relevant Sub-Clauses in respect of each Party's claims against the other Party.

Notice is to be given as soon as practicable, except in respect of any services which the Contractor requested because he would then not need to be notified.

No time period is specified for notices relating to payment, but the applicable Laws may do so. A notice relating to an extension must be given before the relevant Defects Notification Period expires. If the Employer fails to give the notice before such Period expires, he cannot claim an extension under Sub-Clause 11.3 thereafter.

The notice shall be given in writing (Sub-Clause 1.3) and shall be listed in the progress report under Sub-Clause 4.21(f). CONS/P&DB 1.3 states that, when a notice is issued by the Engineer or the Employer, a copy shall be sent to the other.

The Contractor may not need to respond to the notice, other than to acknowledge

receipt under Sub-Clause 1.3(a). He should not regard the notice as an aggressive act which must be rebutted, but merely as an act which enables him to be aware of the Employer's intention to claim. Sub-Clause 4.21(f) requires progress reports to list all notices which have been given under Sub-Clauses 2.5 and 20.1. Although the Contractor should respond to the notice if he is aware of factual errors in the notice, the absence of any rebuttal should not be taken as any indication of agreement.

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 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 CONS 3.5 or P&DB 3.5, the Engineer endeavours to agree and settle the claim, failing which he is required to make a fair determination. If the claim included an extension to the Defects Notification Period, the extension then becomes binding for the purposes of Clause 11, subject to the procedures in Clause 20 for the resolution of any dispute. In the case of a payment having been claimed, the Engineer may include it as a deduction in Payment Certificates. Under Sub-Clause 14.7, the Employer is required to pay the amount certified (namely, incorporating this deduction), but is not entitled to make any further deduction. If the Employer considers himself to be entitled to any payment under or in connection with the Contract, he is thus required to follow the procedure prescribed in Sub-Clause 2.5, and is not entitled to withhold payment whilst awaiting the outcome of these procedures.

Under EPCT 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. Under EPCT 14.7, the Employer is required to pay the net amount actually due, and is not simply required to pay the amount which he considers to be due. The amount actually due may incorporate a deduction to which the Employer is entitled under the Contract, but not a deduction to which he was not so entitled.

In summary under EPCT, if the Contractor notifies dissatisfaction with a determination under EPCT 3.5, it is not binding, but the notice does not of itself prevent the Employer from proceeding in accordance with the determination.

Sub-Clause 2.5 imposes a claims procedure on the Employer, and prohibits him from making deductions from payments due to the Contractor until the claims procedure has been followed. Thereafter, the Employer may wish to make reference to his determination in the notice he gives under the second sentence of Sub-Clause 14.6.

Under EPCT 14.7(b), the Employer's obligation is stated as being to pay the amount which "is due", subject to Sub-Clause 2.5 but irrespective of the Employer's notice under EPCT 14.6 and irrespective of any non-binding determinations under EPCT 3.5. This amount due may incorporate reductions to which the Employer is entitled, having claimed compensation from the Contractor in accordance with Sub-Clause 2.5 and having received no notice of dissatisfaction. If the Contractor notifies dissatisfaction with the Employer's determination under the last paragraph of EPCT 3.5:

- the determination is of no effect, and the Employer cannot rely upon it as entitling him to recover such compensation,
- he must still pay the amount which "is due", irrespective of the Employer's own determination under Sub-Clause 3.5, and
- the answer to the question as to what amount "is due" may be determined by reference to the provisions on which the Employer based his claim, either by agreement or under the dispute resolution procedures described in Clause 20. For example, the DAB may decide the amount which was due, having been informed of the (lesser or greater) amount actually paid by the Employer. If the DAB decides that the Employer had paid less than the amount which was due under EPCT 14.7(b), the Contractor would be entitled to financing charges under EPCT 14.8.

In all the Books, Sub-Clause 2.5 requires the Employer to adhere to a claims procedure, which is specified with less precision than the procedure imposed on the Contractor (who may be more familiar with preparing claims than many Employers). It was considered that, if the Employer had to give notice within a specified period calculated from the date when the Employer was aware of the event or circumstance giving rise to his claim, such date might be regarded as being when observant Employer's Personnel should have been aware of a default by the Contractor, thus unfairly relieving the Contractor of liability. It was also considered unnecessary to impose time constraints on the giving of particulars, because it seemed unlikely that the Contractor would be disadvantaged by belated particulars.

Clause 3 CONS/P&DB The Engineer
EPCT The Employer's Administration

3.1 Engineer's Duties and Authority

CONS

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor.

However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

(a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;

(b) the Engineer has no authority to relieve either Party of any duties, obligations or

3.1 The Employer's Representative

P&DB

EPCT

The Employer may appoint an Employer's Representative to act on his behalf under the Contract. In this event, he shall give notice to the Contractor of the name, address, duties and authority of the Employer's Representative.

The Employer's Representative shall carry out the duties assigned to him, and shall exercise the authority delegated to him, by the Employer. 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 Clause 15 [*Termination by Employer*].

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.

(c) responsibilities under the Contract; and any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

(c) responsibilities under the Contract; and any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

See EPCT 3.3(a) below

RB 2.1, 7.3, 14.4 & 37.2; YB 2.1, 7.1, 8.2 & 20.2; OB 3.1 & 3.2

Under CONS or P&DB, the Employer is required to appoint the "Engineer", who is to be named in the Appendix to Tender. The Engineer does not represent the Employer for all purposes. The Engineer is not authorised to amend the Contract, but he is deemed to act for the Employer as stated in sub-paragraph (a). The role of the Engineer is thus not stated to be that of a wholly impartial intermediary, unless such a role is specified in the Particular Conditions.

If CONS/P&DB's Engineer is an independent consulting engineer who is to act impartially, the following may be included in the Particular Conditions:

At the end of the first paragraph of Sub-Clause 3.5, insert:

"The Engineer shall act impartially when making these determinations."

Brief summaries of the various Sub-Clauses which may result in determinations under Sub-Clause 3.5 are tabulated at the end of the commentary thereon.

The Engineer should carry out his duties and exercise his authority in a professional manner, utilising the "suitably qualified engineers and other professionals". When examining the tender documents and considering the role of the Engineer, tenderers may take account of such matters as:

- the Engineer's technical competence and reputation, particularly in relation to reviewing Contractor's Documents,
- the degree of independence indicated by the status of the appointed Engineer, namely whether he is an independent consulting engineer, and
- the practical consequences of any constraints on the Engineer's authority.

If the Employer wishes to impose constraints on the Engineer's authority, these constraints must be listed in the Particular Conditions, so as to avoid having to seek the Contractor's agreement to further constraints. Under Sub-Clause 1.3, the Employer's approval (of the Engineer exercising a specified authority) shall be in writing and shall not be unreasonably withheld or delayed. When deciding which constraints to list in the Particular Conditions, the Employer should take account of the likelihood of the Contractor being entitled to recover the additional costs he incurs whilst the Engineer awaits the Employer's written approval.

However, when the Contractor receives an Engineer's communication for which the Employer's prior approval was required, the Contractor is not entitled to query whether it was approved. For the purposes of the Contract, the Employer is deemed to have given approval. For the purposes of the Engineer's agreement with the Employer, whether the Employer actually approved is a matter of fact, and acting without approval may be a breach of this consultancy agreement.

Sub-paragraph (b) states that the Engineer has no authority to relieve either Party of any duties, obligations and responsibilities except as otherwise stated in the Contract. The main exception is the authority to instruct Variations, because they may include omission of any work, as described in CONS 13.1(d).

Finally, sub-paragraph (c) states that various actions of the Engineer do not relieve the Contractor from any responsibility under CONS or P&DB.

EPCT 3.1 entitles the Employer to appoint the "Employer's Representative", although there is no obligation to do so. If no such appointment is made, it

becomes even more essential for the Employer to notify the Contractor of the name of the person authorised to sign as the Employer.

EPCT's Employer's Representative, who may be an independent consulting engineer, is expected to fully represent the Employer. The Employer may therefore have no need to constrain his Representative's authority, although he is fully entitled to do so.

The Employer thus may, or may not, notify the Contractor of an Employer's Representative. If the Employer does so notify, he may (or may not) notify the Contractor of the appointee's duties and authority, including any limitations. Unless and until the Contractor is notified by the Employer:

- of the appointee's name and address, there will be no "Employer's Representative" as defined in the Contract;
- of the appointee's duties and authority, he/she will be deemed to have the full authority of the Employer except in respect of Clause 15 (this exception was included in the General Conditions in order to allow for the probability of the appointee being an independent consulting engineer); and

- that a previously-notified appointee has ceased to be the Employer's Representative, he/she continues as Employer's Representative under the Contract.

EPCT 3.1 omits the sub-paragraphs contained in CONS 3.1 and P&DB 3.1, for the following reasons:

- (a) EPCT 1.1.2.4 states that the Employer's Representative acts on behalf of the Employer (without CONS' or P&DB's exception of anything otherwise stated).
- (b) EPCT 3.1 states that, unless and until the Employer notifies otherwise, the Employer's Representative is deemed to have the full authority of the Employer (except for Clause 15), and therefore does have the same authority as the Employer to relieve the Contractor from obligations under the Contract.
- (c) EPCT 3.3(a) refers to communications, either from the Employer's Representative or from an assistant, not relieving the Contractor from responsibility.

3.2 Delegation by the Engineer

3.2 Other Employer's Personnel

CONS	P&DB	EPCT
<p>The Engineer 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 be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [<i>Determinations</i>].</p> <p>Assistants shall be suitably qualified persons, who are competent to carry out these duties and</p>	<p>The Engineer 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 be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [<i>Determinations</i>].</p> <p>Assistants shall be suitably qualified persons, who are competent to carry out these duties and</p>	<p>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.</p> <p>Assistants shall be suitably qualified persons, who are competent to carry out these duties and</p>

CONS

exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [*Law and Language*]

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

EPCT 3.3 (a) is comparable with CONS/P&DB 3.1 (c) above

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

RB 2.2-2.4 & 37.5; YB 2.2, 2.3 & 20.1; OB 3.3

P&DB

exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [*Law and Language*]

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

EPCT

exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

3.3 Delegated Persons

EPCT

All these persons, including the Employer's Representative and assistants, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by a delegated person, in accordance with the delegation, shall have the same effect as though the act had been an act of the Employer. However:

- (a) unless otherwise stated in the delegated person's communication relating to such act, it shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances;
- (b) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Employer to reject the work, Plant or Materials; and
- (c) 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.

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".

Under CONS or P&DB, whenever an assistant acts in accordance with a delegated power, the act has the same effect as though it had been performed by the Engineer. Under Sub-Clause 3.1(c) these acts, performed (in effect) by the Engineer, shall not relieve the Contractor from any responsibility. Therefore, an approval or consent under the Contract, given by a duly authorised assistant in accordance with the latter's delegated powers, has the same effect as it would have had if it had been given by the Engineer, but it does not relieve the Contractor from any responsibility.

EPCT 3.3 refers to the Employer's Representative and to his/her assistants. Whenever he/she or an assistant acts in accordance with a delegated power, the act has the same effect as though it had been performed by the Employer. Under EPCT 3.3(a), these acts performed (in effect) by the Employer shall not relieve the Contractor from any responsibility, unless otherwise stated in the communication relating to such act. Therefore, an approval or consent under the Contract, given

in accordance with a delegated power, has the same effect as it would have had if it had been given by the Employer. If it is written in terms which clearly relieve the Contractor from a responsibility under the Contract, the Contractor is entitled to rely upon it as though it had been given by the Employer.

However, irrespective of EPCT's relief from responsibility in respect of approvals and consents given by the Employer's Representative or his/her assistants, the right to reject Plant, Materials, design or workmanship under EPCT 7.5 is wholly unaffected if:

- approval or consent was only given by a person to whom the relevant authority had not been delegated;
- approval or consent was only given orally, which is not in accordance with Sub-Clause 1.3; or
- no approval (or disapproval) or consent has been given.

The Contractor may be dissatisfied with an assistant's determination or instruction. For example, the determination might have been a disapproval or an opinion of non-compliance, or might have been given under Sub-Clause 3.5. However, unless both Parties agree, the fourth sentence of CONS/P&DB 3.2 invalidates an assistant's determination under Sub-Clause 3.5: "unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5".

If the Contractor is dissatisfied with a determination or instruction which had been given by an assistant or by EPCT's Employer's Representative, he may refer the matter to the Engineer under CONS or P&DB, or to the Employer under EPCT, who shall confirm, reverse or vary the determination or instruction. The consequences of the reversal or variation are not stated, because they 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.

3.3 Instructions of the Engineer

CONS
The Engineer may issue to the Contractor (at any time) instructions and additional or modified

P&DB
The Engineer may issue to the Contractor (at any time) instructions which may be necessary for the

3.4 Instructions

EPCT
The Employer may issue to the Contractor instructions which may be necessary for the

Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

- (a) gives an oral instruction,
- (b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. These instructions shall be given in writing.

Contractor to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which it relates and the Sub-Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, 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 Clause.

RB 2.5, 7.1 & 13; YB 2.5 & 2.6; OB 3.4

The three Books differ in the extent to which it is appropriate for the Contractor to receive and obey instructions. If he considers that certain specified circumstances prevent him from complying with a Variation instruction, he may give the notice which is described in the second paragraph of Sub-Clause 13.1.

Under CONS, the Contractor executes the Works in accordance with the Engineer's instructions, and with designs which have been carried out by (or on behalf of) the Employer. The Engineer is empowered to issue instructions, and the Contractor is generally obliged to comply. It may even be necessary for immediate oral instructions to be given, although they should be avoided wherever possible,

so detailed procedures are specified for an instruction which is not immediately confirmed in writing. The procedures require prompt confirmation or denial of an alleged oral instruction, in order that its validity or invalidity can be established as soon as practicable.

Under P&DB, the Contractor provides Plant and executes any other Works in accordance with his own design, although P&DB 17.3(g) indicates that there may be certain elements of the design which were issued to the Contractor by (or on behalf of) the Employer. The Engineer is empowered to issue instructions, but P&DB 13.1(ii) anticipates the possibility of an instruction prejudicing the

Contractor's responsibility for the design of the Works. In order to lessen the likelihood of instructions being misunderstood, oral instructions are invalid and ineffective.

Under EPCT, the Contractor takes total responsibility for the design and execution of the Works, and there is no Engineer. The Employer should only be issuing

instructions which (i) are Variations, (ii) are otherwise referred to in the Contract, or (iii) require the Contractor to comply with an obligation under the Contract. If an instruction does not state the obligation to which it relates, in accordance with EPCT 3.4, it is not a valid instruction. However, the Contractor may be entitled to regard it as an instruction to carry out a Variation, unless it was not issued by a person to whom the appropriate authority had been delegated

3.4 Replacement of the Engineer

CONS	P&DB	EPCT
<p>If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.</p>	<p>If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p>see last paragraph of EPCT 3.1, above</p> </div>
<p>YB 2.8</p>		

Under CONS or P&DB, the Engineer has a major role in the administration of the Contract, particularly with respect to issuing Variations and Payment Certificates, and reviewing any Contractor's Documents. When examining the tender documents and considering the role of the Engineer, tenderers may take account of such matters as:

- the Engineer's technical competence and reputation, particularly in relation to reviewing Contractor's Documents,
- the degree of independence indicated by the status of the appointed Engineer, namely whether he is an independent consulting engineer, and
- the practical consequences of any constraints on the Engineer's authority.

Having studied these matters, tenderers may not want the Employer to be able to replace the Engineer, at least not without good reason. By contrast, Employers understandably consider that there should be no restriction imposed on replacing

the Engineer, whom the Employer has appointed to administer the Contract.

Sub-Clause 3.4 provides a fair and reasonable compromise between the conflicting desires of the Parties. If the Employer intends to replace the Engineer, the Contractor must receive 42 days' notice, which must include details of the replacement Engineer's experience which is relevant to the duties and authority he would have in respect of the Works. In order to prevent the Employer appointing an unsuitable replacement Engineer, the Contractor should notify the Employer of the "reasonable objection" as soon as possible during the period of 42 days. If the objection is reasonable, the Employer "shall not replace the Engineer ..."

Supporting particulars are to accompany the notice of the Contractor's "reasonable objection". What would suffice as a "reasonable objection" depends upon the circumstances, including the representations originally made to the tenderers, the details of the replacement Engineer's experience, and the duties

and authority necessary to administer the Contract and supervise the full scope of the Contractor's execution of the Works.

If the Contractor does not raise any reasonable objection within the period of 42 days, or such longer period as may be stated in the notice, the Employer may then

replace the Engineer. Thereafter, the Contractor cannot raise objection, under this Sub-Clause, to the appointed Engineer or undo the appointment. If the Contractor considers the Engineer to be incompetent, he may proceed to allege that the incompetence constituted a breach of Sub-Clause 3.1.

3.5 Determinations

CONS	P&DB	EPCT
<p>Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.</p> <p>The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [<i>Claims, Disputes and Arbitration</i>].</p>	<p>Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.</p> <p>The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [<i>Claims, Disputes and Arbitration</i>].</p>	<p>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.</p> <p>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 [<i>Obtaining Dispute Adjudication Board's Decision</i>].</p>
<div style="border: 1px solid black; padding: 2px; display: inline-block;">OB 3.5</div>		

Sub-Clauses 2.5 and 20.1 specify the procedures for the submission, by each Party, of claims for financial compensation and/or for an extension of a contractual period under Sub-Clause 8.4 or 11.3. Sub-Clauses 2.5 and 20.1 are referred to in Sub-Clause 11.3 and 8.4 respectively, and thus specify one claims procedure for each Party, whether for money or time. The procedural Sub-Clauses 2.5 and 20.1, and the provisions which entitle a Party to financial compensation, require the Engineer under CONS or P&DB, or the Employer under EPCT, to "proceed in accordance with Sub-Clause 3.5 to agree or determine" the extension and financial compensation.

The Engineer or Employer does not "proceed in accordance with Sub-Clause 3.5" only once in respect of each claim. He does so in stages, as further particulars are submitted under Sub-Clause 20.1, until the extension and financial compensation are finally agreed or determined. Under Sub-Clause 1.3, determinations shall be in writing, and shall not be unreasonably withheld or delayed. Under CONS/P&DB 3.2: "unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5".

Claims should not be regarded as either inevitable or unpalatable, and complying with claims procedures should not be regarded as being an aggressive act. Major projects

give rise to major risks, which have to be dealt with if they occur. Whilst the Parties might prefer everything to remain unchanged, they should not instinctively seek to attribute blame if circumstances arise or events occur which give rise to an adjustment of the Contract Price. In these events, the claims procedures are specified so as to provide the degree of formality considered necessary for the proper administration of a building or engineering project. Complying with these procedures and maintaining a co-operative approach to the determination of all adjustments should enhance the likelihood of achieving a successful project.

Under CONS or P&DB, the Engineer first consults with each Party, separately and/or jointly, and endeavours to achieve the agreement of both Parties (not, it should be noted, just the Engineer's agreement with one Party). If the agreement of both Parties cannot be achieved within a reasonable time, the Engineer is then required to make a "fair determination in accordance with the Contract". The Engineer's determination is not required to be made impartially, unless such a requirement is stated in the Particular Conditions. However, he should carry out this duty in a professional manner, utilising his "suitably qualified engineers and other professionals" mentioned in Sub-Clause 3.1. The Engineer is then required to notify both Parties of his determination, which is binding upon them unless and until revised under the dispute resolution procedures in Clause 20. In practice, the Engineer may first make an interim determination(s), indicating his intention to review it when further particulars are presented to him, and meanwhile including the appropriate adjustment in Interim Payment Certificates. Although an interim determination may nevertheless be referable to the DAB directly without further delay, it is usually preferable, if further particulars become available, for the Engineer to review his previous determination.

Under EPCT, the Contractor is firstly consulted by the Employer, or by the Employer's Representative (if any) unless he/she has no such delegated authority. 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 Clause 20.

In order for EPCT's Employer to be able to rely upon a communication as being a determination under Sub-Clause 3.5, and to require the Contractor to give effect to it unless notice of dissatisfaction is given, the Contractor must be aware that it

is such a communication. In other words, the determination should state that it is made under Sub-Clause 3.5, so that the Contractor is aware of its consequences under EPCT 3.5. If it is unclear whether the Employer's communication is a determination under Sub-Clause 3.5, he may not be able to rely upon it as such.

Under EPCT 14.7(b), the Employer's obligation is stated as being to pay the amount which "is due", subject to Sub-Clause 2.5 but irrespective of the Employer's notice under EPCT 14.6 and irrespective of any non-binding determinations under EPCT 3.5. This amount due may incorporate reductions to which the Employer is entitled, having claimed compensation from the Contractor in accordance with Sub-Clause 2.5 and having received no notice of dissatisfaction. If the Contractor notifies dissatisfaction with the Employer's determination under the last paragraph of EPCT 3.5:

- the determination is of no effect, and the Employer cannot rely upon it as entitling him to recover such compensation,
- he must still pay the amount which "is due", irrespective of the Employer's own determination under Sub-Clause 3.5, and
- the answer to the question as to what amount "is due" may be determined by reference to the provisions on which the Employer based his claim, either by agreement or under the dispute resolution procedures described in Clause 20. For example, the DAB may decide the amount which was due, having been informed of the (lesser or greater) amount actually paid by the Employer. If the DAB decides that the Employer had paid less than the amount which was due under EPCT 14.7(b), the Contractor would be entitled to financing charges under EPCT 14.8.

Further commentary on claims procedure is included in this Guide under Sub-Clauses 2.5 and 20.1, respectively for the Employer's and Contractor's claims.

The following table lists the provisions relevant to CONS/P&DB 3.5. Sub-Clauses marked * are also relevant to EPCT 3.5, although the details may differ.

Sub-Clauses relating to Claims under CONS or P&DB

Sub-Clause	Contractor's Entitlement	Employer's Entitlement
1.9 CONS Delayed Drawings or Instructions	Contractor may claim extension of time, Cost and reasonable profit if Engineer fails to instruct within notified reasonable time	
1.9 P&DB Errors in the Employer's Requirements	Contractor may claim extension of time, Cost and reasonable profit for error in Employer's Requirements which was not previously discoverable	
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
4.7 Setting Out	Contractor may claim extension of time, Cost and reasonable profit for errors in original setting-out points and levels of reference	
4.12 Unforeseeable Physical Conditions	Contractor may claim extension of time and Cost if he encounters physical conditions which are Unforeseeable	
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 finding	
7.4 Testing *	Contractor may claim extension of time, Cost and reasonable profit if testing is delayed by (or on behalf of) the Employer	

<u>Sub-Clause</u>	<u>Contractor's Entitlement</u>	<u>Employer's Entitlement</u>
7.5 Rejection *		Employer may claim costs if defective Plant, Materials or workmanship is rejected and subsequently retested
7.6 Remedial Work *		Employer may claim costs if Contractor fails to carry out remedial work and if he would not have been entitled to be paid for it
8.4 Extension of Time for Completion *	Contractor may claim extension of time if completion (see Sub-Clauses 8.2 & 10.1) is or will be delayed by a listed cause	
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 Engineer 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
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
11.4 Failure to Remedy Defects *		Employer may claim costs if Contractor fails to remedy a defect for which Contractor is responsible

<u>Sub-Clause</u>	<u>Contractor's Entitlement</u>	<u>Employer's Entitlement</u>
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 P&DB Delayed Tests *	Contractor may claim Cost and reasonable profit if Employer delays a Test after Completion	
12.3 CONS Evaluation	Engineer evaluates each item of work, applying measurement and appropriate rate or price	
12.3 P&DB Retesting *		Employer may claim costs attributable to repeated failures of Test after Completion
12.4 CONS Omissions	Contractor may claim a Cost which, although it had been included in a BoQ item, he would not recover because the item was for work which has been omitted by Variation	
12.4 P&DB Failure to Pass Tests after Completion *	Contractor may claim Cost and reasonable profit if Employer delays access to the Works or Plant	Employer may claim prescribed non-performance damages in event of failure to pass Test after Completion
13.2 CONS Value Engineering	Contractor may claim 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	
13.3 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 not receive payment in accordance with Sub-Clause 14.7	

<u>Sub-Clause</u>	<u>Contractor's Entitlement</u>	<u>Employers Entitlement</u>
15.3 Valuation at Date of Termination *		Works, Goods and Contractor's Documents are valued after Employer has terminated Contract
15.4 Payment after Termination *		Employer may claim losses and damages after terminating Contract
16.1 Contractor's Entitlement to Suspend Work *	Contractor may claim extension of time, Cost and reasonable profit if Engineer 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 "insuring 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	

Sub-Clauses marked * are those relevant to EPCT 3.5, although their details may differ from those in the provisions relevant to CONS/P&DB 3.5.

Clause 4 The Contractor

4.1 Contractor's General Obligations

	CONS	P&DB	EPCT
The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.	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 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 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 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, Contractor's Proposal and Schedules, 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 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 and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent 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 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	The Contractor shall, whenever required by the	The Contractor shall, whenever required by the	

CONS

Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- (b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [*Law and Language*], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;
- (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- (d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the

P&DB

Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer

EPCT

Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer.

purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] until these documents and manuals have been submitted to the Engineer.

RB 7.2, 8, 13 & 14.1; YB 8.1; OB 4.1

This Sub-Clause specifies the Contractor's general obligations, although those related to time are not repeated from Clause 8.

CONS 4.1 requires the Contractor to design to the extent specified in the Contract. This extent should be clearly described in the Specification, so that tenderers are in no doubt as to the Contractor's obligations. Notes on the Drawings may be too brief to specify this extent with sufficient clarity, and may be overlooked. If the Specification describes the extent to which the Contractor shall design part of the Permanent Works, the four sub-paragraphs of CONS 4.1 provide general provisions applicable to the Contractor's design. Unless any of these sub-paragraphs is overridden by a Particular Condition, they require the Engineer to co-ordinate each Party's designs, and they require the part to be fit for the purposes for which it is intended as are specified in the Contract (see comments below).

P&DB 4.1 and EPCT 4.1 specify that 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", and should not be interpreted a decade later, for example. It is therefore reasonable for the Employer to receive (and pay for) Works which are fit for the purposes he described in the tender documents. 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. If provisions in different documents are inconsistent, Sub-Clause 1.5 defines their priority.

Fitness for purpose is thus the basic criterion with which Contractor-designed Works must comply. It is therefore not essential, for example, for a contract document to specify that roofs must be resistant to local weather conditions (sun, rain, snow, etc.), because such obvious requirements are imposed on the Works

by this Sub-Clause, and are probably also implied by applicable Laws.

Fitness for purpose is required, irrespective of the level of skill, care and diligence expected of the Contractor's designers, and irrespective of the likelihood that independent professional designers may be unable to procure insurance other than up to the level of the usual professional duty of skill, care and diligence. Independent professional designers may decline liability other than up to the level of this usual professional duty, irrespective of whether fitness for purpose is specified in the Contract or is merely implied.

The second paragraph of Sub-Clause 4.1 requires the Contractor to provide the Contractor's Documents specified in the Contract. The Employer's use of these documents is constrained by Sub-Clause 1.10.

The General Conditions do not specify which documents are to be supplied, as "Contractor's Documents"; and do not imply that the Contractor submits all design documents. On the contrary, Sub-Clause 1.10 and P&DB/EPCT 5.2 (second paragraph) refer to some of his design documents as not being "Contractor's Documents" because the Contract does not require him to supply them to the Employer or Engineer. P&DB/EPCT 5.2 specify detailed procedures for the submission of Contractor's Documents; and CONS 4.1(a) refers to procedures specified elsewhere in the Contract. Therefore, a more detailed definition of the documents to be submitted must be included in the Contract: in CONS' Specification, in P&DB's Proposal or Employer's Requirements, or in EPCT's Tender or Employer's Requirements. For example, EPCT's Employer's Representative may only want to receive general arrangement drawings, and would neither want to receive the bending schedules detailing the reinforcement in the concrete nor want to employ the staff necessary to review them.

The second paragraph continues by requiring the Contractor to provide everything for his design, execution, completion and remedying of defects. The Contract must specify the scope of the Contractor's design and the Works to be

executed and completed. Sub-Clause 4.1 states that the Contractor provides whatever is necessary to carry out his obligations, so this wording should not need to be repeated elsewhere in the Contract. If the Employer is to provide services to assist the Contractor, they should be expressly described in the Contract: see Sub-Clauses 4.19 and 4.20, for example.

Under P&DB or EPCT, the third paragraph requires the Works to include any work which is necessary to satisfy the Employer's Requirements and to comply with the documents comprised in the Contract in the order of priority specified in Sub-Clause 1.5. The Contractor cannot (for example) economise by failing to provide what he promised in his Tender proposal, whilst still complying with the Employer's Requirements. The Contractor's obligations thus allow for the possibility that the Employer's Requirements are not very precise and the Employer studied and accepted the more precise details proposed in the Contractor's Tender.

The Contractor's responsibility for Site operations and construction methods is then stated. He is required to submit details of his proposed arrangements and methods of execution, but only for information. Clearly, the Engineer or Employer will wish to notify the Contractor of any perceived inconsistency between this information and the Contractor's obligations under the Contract.

Under CONS, the third paragraph states that (except to the extent specified in the Contract) the Contractor is responsible for such design of each item of Plant and Materials as is required for it to comply with the Contract. Although the extent of the Contractor's design obligations should be clearly described in the Specification, disputes can arise where they are not so described but there is a strong implication that he was expected to design the Plant and also some of the Materials (such as concrete mixes, for example). If the Contractor is to be responsible for any aspect of the design of an item, the Specification should stipulate the criteria and procedures for its design and acceptance.

4.2 Performance Security

	CONS	P&DB	EPCT
The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount and currencies stated in the Appendix to Tender. If an amount is not stated in the Appendix to Tender, this Sub-Clause shall not apply.	The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount and currencies stated in the Appendix to Tender. If an amount is not stated in the Appendix to Tender, this Sub-Clause shall not apply.		The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount and currencies stated in the Particular Conditions. If an amount is not stated in the Particular Conditions, this Sub-Clause shall not apply.
The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.	The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.		The Contractor shall deliver the Performance Security to the Employer within 28 days after both Parties have signed the Contract Agreement. The Performance Security shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.
The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and	The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and		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 become entitled to receive the Performance Certificate by the date 28 days prior to the 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 in the event of:

- (a) 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,
- (b) 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,
- (c) failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or
- (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*], irrespective of whether notice of termination has been given.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the

remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the 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 in the event of:

- (a) 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,
- (b) 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,
- (c) failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or
- (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*], irrespective of whether notice of termination has been given.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the

remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the 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 in the event of:

- (a) 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,
- (b) 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,
- (c) failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or
- (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*], irrespective of whether notice of termination has been given.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the

CONS

Performance Security to the extent to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

P&DB

Performance Security to the extent to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

EPCT

Performance Security to the extent to which the Employer was not entitled to make the claim.

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

RB 10; YB 10; OB 4.2

In international contracts, where the Employer may wish to anticipate the potential problems of default by the Contractor, a security is a common requirement for the protection of the Employer and/or of the project financial institution/bank. The amount of the Performance Security must be specified in CONS' or P&DB's Appendix to Tender, either as a sum or as a percentage of the Accepted Contract Amount; or in EPCT's Particular Conditions, either as a sum or as a percentage of "the Contract Price stated in the Contract Agreement", including currencies and proportions. Note that reference cannot only be made to EPCT's "Contract Price" because it may be adjusted (under Clause 13, for example) during the contract period.

Although the Sub-Clause states that it does not apply if the amount is not so specified, it is preferable (if no security is required) for the words "not applicable" to be stated in CONS' or P&DB's Appendix to Tender or in EPCT's Particular Conditions.

The Performance Security is to be issued by an entity approved by the Employer. It is required to be in the form annexed to the Particular Conditions, or in another form approved by the Employer. The Particular Conditions should therefore include details of the Employer's requirements regarding the entity, and details (in an annex) of the specified form.

Sub-Clause 1.3 requires approvals to be given in writing and not unreasonably withheld. The reasonableness of withholding an approval will depend upon the extent to which the Performance Security, and the entity which issued it, comply with the requirements specified in or annexed to the Particular Conditions. If a form was annexed, the Employer cannot insist upon "another form approved by the Employer". This "another form" is an alternative option for the Contractor. If the Contractor opts to seek the Employer's approval of a form other than that which

is annexed to the Particular Conditions, it may be reasonable for the Employer to withhold approval of a form which is less favourable to the Employer than the annexed form.

Typically, securities are often classified into two types, reflecting the conflicting desires of the Parties:

- An "unconditional" or "on-demand" security may be called (cash) on demand, without pre-conditions (such as proof of default) which may be challenged in arbitration or litigation. This type of performance security is typically regarded as the type which Employers prefer to receive.
- A "conditional" security requires certain conditions to be satisfied before it may be called (cash), the conditions typically being an arbitral award or other evidence (such as proof of default) of the caller's entitlement to compensation under the Contract. This type of performance security provides less scope for unfair calls, and is typically regarded as the type which Contractors prefer to provide.

Alternatively, the different forms of security may be categorised by reference to the contract for and under which the security is required and issued:

- An "independent" guarantee is one under which the obligations of the guarantor to pay the Employer (beneficiary) are separate from the obligations of the Contractor under the Contract, so the guarantor's obligations do not depend upon the provisions of the Contract. Unconditional on-demand securities are examples of this type of security, which are typically preferred by international banks because they then do not need to read the Contract, investigate the Contractor's alleged default, and assess the Employer's entitlement to compensation.

- An "accessory" guarantee/bond is one under which the obligations of the surety (guarantor) to pay the Employer (beneficiary) are inseparably linked ("co-extensive") with the obligations of the Contractor under the Contract, such that the surety's obligations are determined by and depend upon contractual obligations. This type of security, which is typically preferred by international credit insurance companies, may include provisions which entitle the surety to replace the defaulting Contractor and arrange for others to perform his contractual obligations.

Sub-Clause 4.2 is considered appropriate for use with any form of security, and not just with the example forms annexed to each GPPC.

Securities must be drafted with care, taking account of the law by which they will be governed, and preferably by lawyers familiar with such law.

The Performance Security is required to be valid until the Works are complete and defects have been remedied. Whilst the Employer may prefer it not to state its expiry date, the issuing entity may seek to insist on a stated expiry date. Sub-Clause 4.2 therefore requires the Performance Security to be extended if, 28 days before its expiry date, the Contractor has not become entitled to receive the Performance Certificate.

Whenever a Performance Security is issued or extended, and incorporates an expiry date, the date should take account of the possibility of:

- extensions to the Time for Completion,
- the Contractor failing to complete within the extended Time for Completion, and
- defects appearing and being notified on the last day of the delayed Defects Notification Period, and the Contractor failing to remedy them within a

reasonable time.

If the Contractor has not become entitled to receive the Performance Certificate by the date 28 days before the Performance Security expires, and he fails to extend it, Sub-Clause 4.2 entitles the Employer to call the Performance Security. This entitlement is of no effect unless the wording of the Performance Security, as originally procured by the Contractor and approved by the Employer, itself imposes an obligation on the guarantor to pay the Employer. The period of 28 days is specified in order to allow one or two days' grace period for the delivery of the documents (extending the validity of the Security) to the Employer, and to give him a reasonable time to make the necessary arrangements for the call. If the Employer becomes entitled to call the Performance Security by reason of this failure to extend it, the Employer may claim its full amount in accordance with Sub-Clause 4.2(a).

If the Employer becomes entitled to call the Performance Security under any of the circumstances described in sub-paragraphs (b) to (d) of Sub-Clause 4.2, the Employer may only claim the amount to which he is entitled to be paid by the Contractor under the Contract. If the Employer claims in excess of this amount from the guarantor:

- the Employer is in breach of the terms of Sub-Clause 4.2 in claiming the excess,
- the Employer may be entitled under the terms of the Performance Security, if it is an independent guarantee, to be paid the amount claimed including this excess (the guarantor's obligation to pay the Employer depends upon these terms and their governing Laws), and
- the indemnity specified in the penultimate paragraph of Sub-Clause 4.2 provides a degree of protection for the Contractor.

FIDIC's example forms of Performance Security

Two example forms of Performance Security are annexed to each GPPC: comprising a form of independent guarantee in Annex C (which may be called a conditional demand form); and a form of conditional accessory bond in Annex D. These forms are considered fair as between the Parties and should therefore be conducive to keen tendering. Competent tenderers will review the form(s) of Performance Security annexed to the Particular Conditions, and should then take account of the opportunity provided in the forms for unfair calling (or for threats to

call in order to exert commercial pressure), and of the guarantor's recourse to be paid by the Contractor. FIDIC does not recommend unconditional securities, which may discourage tendering and/or result in higher pricing.

FIDIC's example forms incorporate (by reference) two sets of Uniform Rules prepared for the International Chamber of Commerce ("ICC", 38 Cours Albert 1er, 75008 Paris, France) which has issued the following publications:

- 458 - Uniform Rules for Demand Guarantees ("URDG", 1992);
- 510 - Guide to the ICC Uniform Rules for Demand Guarantees (Professor Roy Goode, 1992);
- 524 - Uniform Rules for Contract Bonds ("URCB", 1993);
- 536 - Guide to ICC Uniform Rules for Contract Bonds & Model Forms (Richard J White, 1997);
- 547 - Bank Guarantees in International Trade (Roeland I V F Bertrams, 1996).

Incorporation of these Rules significantly reduces the wording in each example form, and should facilitate a common international standard for securities.

The wording of each example form relies upon the incorporation of the Rules. Capital Initial Letters are only used in the example forms for words which are defined in the security or in the Rules (or both). This is essential in the case of independent guarantees, where guarantors must not need to read the Contract.

URDG set out the arrangements whereby the beneficiary may call the guarantee by a simple declaration that its pre-conditions have been fulfilled. No evidence of the pre-conditions is required, so a correctly-worded demand should be successful in the absence of fraud. The guarantee is thus an "independent" guarantee, in the sense that a correctly-worded demand entitles the call, independent of the Contract. If the Employer's declaration is subsequently proved to be incorrect, the Contractor may subsequently have recourse under the Laws and/or under the indemnity in the penultimate paragraph of Sub-Clause 4.2.

The Performance Security proposed in Annex C states that it is subject to ICC's URDG, so the guarantor will need to have a copy of URDG but not the Contract. Under the example form in Annex C, and the similar forms of independent guarantees in Annexes B and E to G, the guarantor has only to compare the wording of the demand with that in the guarantee before making payment:

- (a) there must be a clear statement that the Principal named in the guarantee (namely the Contractor in the case of a Performance Security) is in breach of his obligations under the Contract; and
- (b) there must be a brief description of the breach, and of the obligation in respect of which he is in breach, using expressions similar to those in the Contract.

This independent guarantee form of security may be called a conditional demand form, because the demand has to satisfy these conditions, (a) and (b).

The procedure for calling the independent guarantee form of security only requires the preparation and submission of documentation by the Employer. Although he may need legal advice, both to verify the entitlement and to draft the demand, the position of an honest Employer (who does not intend to make an unfair call) is little different from that which applies under an unconditional guarantee. Essentially, the Employer has only to declare the basis of his entitlement to call the Performance Security, albeit in wording consistent with that specified in the guarantee.

In order to protect the Employer, the independent guarantee form of security includes a requirement for authentication of the signature(s) on the demand. It is understood that many banks require the protection of such authentication. Although Article 21 of URDG requires each demand to be copied to the Contractor "without delay", the Guarantor may pay immediately, without giving the Contractor the opportunity to challenge any non-authentic signatures. An alternative arrangement would be for the security to specify the Employer's bank account into which any demanded payment shall be made.

Although Article 27 of URDG defines the applicable law as that of the place of business of the guarantor, the Employer may prefer to specify (or approve) another applicable law. In any event, it is wise for the guarantee to specify the applicable law, for avoidance of misunderstanding on this important matter. Although the Employer and the guarantor may each prefer its own country's law to apply, and may not want a security to be subject to an unfamiliar foreign law, the Employer should consider how he could enforce a valid demand under the applicable law. He may prefer the law to be that of a country with a well-established case law in respect of the enforcement of independent guarantees, or which has acceded to the United Nations Convention on Independent Guarantees and Stand-By Letters of Credit (New York, 11 December 1995).

The Performance Security proposed in Annex D is a form of conditional accessory bond, incorporating ICC's Uniform Rules for Contract Bonds ("URCB"). In this case, the guarantor (typically, a credit insurance company) would need to have copies of the URCB and the Contract, because its obligations and liabilities are inseparably linked ("co-extensive") with the Contractor's obligations and liabilities under the Contract.

The Bond can only be called by reason of a "Default". URCB define "Default" as

any breach, default or failure to perform any "Contractual Obligation" which shall give rise to a claim for performance, damages, compensation or other financial remedy by the beneficiary and which is established pursuant to paragraph j of Article 7 of URCB. URCB define "Contractual Obligation" as any duty, obligation or requirement imposed by a clause, paragraph, section, term, condition, provision or stipulation contained in or forming part of the Contract.

URCB indicates that, except where a contrary provision is included in the Bond, it will expire six months after the latest date for performance. This would typically be during the Defects Notification Period, so a contrary provision must be made. The quoted expiry date should take account of the possibility of:

- extensions to the Time for Completion,
- the Contractor failing to complete within the extended Time for Completion, and

URDG 3 states that Guarantees should stipulate

- (a) the Contractor;
- (b) the Employer;
- (c) the guarantor (which may be a bank);
- (d) the Contract name/number;
- (e) the maximum aggregate liability of the guarantor, and the currencies in which it is payable;
- (f) the guarantee's expiry date;
- (g) the terms for demanding payment;
- (h) provisions for reduction of (e), if any.*

* if not required, the Security need not mention this aspect

- defects appearing and being notified on the last day of the delayed Defects Notification Period, and the Contractor failing to remedy them within a reasonable time.

The example form of Surety Bond does not include any requirement for authentication of signature(s). Under Article 7g of URCB, each claim under a bond is copied to the Contractor by the Guarantor before satisfying the claim, so the Contractor should be able to challenge any non-authentic signatures.

As far as practicable, a similar structure has been adopted for all the proposed securities in the three Books, so that the necessary differences in substance do not get confused with differences in style. However, it should be noted that the General Conditions are equally suitable for other forms of securities.

Article 3 of each of ICC's Uniform Rules lists the following requirements for a Performance Security:

URCB 3a states that the Bond should stipulate:

- (i) the Contractor;
- (ii) the Employer;
- (iii) the guarantor (which may be a credit insurer);
- (iv) the Contract;
- (v) the Contractual Obligations, if the Bond does not extend to the whole of the Contract;*
- (vi) the maximum aggregate liability of the guarantor;
- (vii) provisions for reduction of (vi), if any;*
- (viii) the date when the Bond becomes effective;
- (ix) whether the guarantor shall be entitled at its option to perform the Contract (or part of it);
- (x) the Bond's expiry date;
- (xi) Parties' and guarantor's names, addresses, etc.;
- (xii) applicability of Article 7(j)(i), if any;*
- (xiii) how disputes under the Bond are to be settled.

4.3 Contractor's Representative

CONS	P&DB	EPCT
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer 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.</p>	<p>Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer 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.</p>	<p>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.</p>
<p>The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.</p>	<p>The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.</p>	<p>The Contractor shall not, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement.</p>
<p>The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.</p>	<p>The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.</p>	
<p>The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [<i>Instructions of the Engineer</i>].</p>	<p>The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [<i>Instructions of the Engineer</i>].</p>	<p>The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [<i>Instructions</i>].</p>
<p>The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation.</p>	<p>The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation.</p>	<p>The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation.</p>

CONS

Any delegation or revocation shall not take effect until the Engineer 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*].

P&DB

Any delegation or revocation shall not take effect until the Engineer 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*].

EPCT

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*].

RB 15; YB 13.1; OB 4.3

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. Under Sub-Clause 1.3, consents are to be given in writing and shall not be unreasonably withheld or delayed.

As anticipated in the second sentence of Sub-Clause 4.3, it may be appropriate for the Contractor's Representative to be named in the Contract. If the Contractor's Representative is to be named in the Tender and thus in the Contract, tenderers may wish to name alternates, in case a preferred representative becomes unavailable during the period of validity of the Tender. 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.

4.4 Subcontractors

CONS

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. Unless otherwise stated in the Particular Conditions:

P&DB

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. Unless otherwise stated in the Particular Conditions:

EPCT

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

	CONS	P&DB	EPCT
(a)	the Contractor shall not be required to obtain consent to suppliers of Materials, or to a sub-contract for which the Subcontractor is named in the Contract;	(a) the Contractor shall not be required to obtain consent to suppliers of Materials, or to a sub-contract for which the Subcontractor is named in the Contract;	not less than 28 days' notice of:
(b)	the prior consent of the Engineer shall be obtained to other proposed Subcontractors;	(b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors; and	(a) the intended appointment of the Subcontractor, with detailed particulars which shall include his relevant experience,
(c)	the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Sub-contractor's work, and of the commencement of such work on the Site; and	(c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Sub-contractor's work, and of the commencement of such work on the Site.	(b) the intended commencement of the Subcontractor's work, and
(d)	each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [<i>Assignment of Benefit of Subcontract</i>] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [<i>Termination by Employer</i>].		(c) the intended commencement of the Subcontractor's work on the Site.

RB 4.1; YB 4; OB 4.5

"Subcontractors" include the subcontractors named in the Contract, other persons to whom work has been subcontracted in accordance with this Sub-Clause, and their respective legal successors; but not their assignees. The Contractor is responsible for actions and omissions of all Subcontractors.

When the tender documents are being prepared, it may be necessary to consider the extent to which tenderers are to be required to state their subcontracting proposals. Subcontractors who are named in the Contract will be considered as having been accepted by both Parties, so either Party may be able to insist upon their being used. If the Employer requires tenderers to name their proposed subcontractors:

- he should ensure that sufficient resources are available during the pre-contract stage to review their proposals for subcontracting, and

- alternates may be named, in case (after award) the Contractor has difficulty negotiating a subcontract with the only subcontractor named in the Contract.

Under CONS or P&DB, the listed criteria are considered applicable to many contracts but, depending on matters such as the nature of the Works, some of the sub-paragraphs may need to be amended in the Particular Conditions. Under Sub-Clause 1.3, the Engineer's consent under (b) shall be given in writing and shall not be unreasonably withheld or delayed. In respect of a design Subcontractor under P&DB, the Engineer's prior consent is required under the first paragraph of Sub-Clause 5.1.

Under EPCT, no requirements for consent or other criteria are generally appropriate. However, the wording in the General Conditions facilitates the

incorporation of Particular Conditions which specify the extent to which the Contractor is to give notice of Subcontractors being appointed and commencing work.

In practice, the Employer may be less interested in the names of Subcontractors performing the work (which is the scope of this Sub-Clause) and more interested

in names of manufacturers and other details of each item of Plant.

Under Sub-Clause 7.7 (a), the Contractor relinquishes ownership of each item of Plant and Materials when it arrives at the Site. If he is not then to be in breach of the Contract, he must ensure that the terms of supply subcontracts permit him to do so.

4.5 Assignment of Benefit of Subcontract

4.5 Nominated Subcontractors

	CONS	P&DB	EPCT
<p>If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Employer, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Employer for the work carried out by the Subcontractor after the assignment takes effect.</p>	<p>In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Engineer, under Clause 13 [<i>Variations and Adjustments</i>], instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars.</p>	<p>In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Employer, under Clause 13 [<i>Variations and Adjustments</i>], instructs the Contractor to employ as a Subcontractor. 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.</p>	
RB 4.2; OB 4.6	RB 5.9 (See CONS 5)		

CONS 4.5 is only likely to be applied if the Employer becomes aware of a Subcontractor having a continuing and assignable obligation. The General Conditions do not require the Contractor to advise the Employer that a Subcontractor's obligations extend beyond the relevant Defects Notification Period. The Contractor and Employer might need to consider carefully the terms of the assignment, in case it deprives the Contractor of his right to seek legal redress from the Subcontractor for latent defects discovered subsequently. If the Contractor is required to assign all benefits under the subcontract, including his right to make any future claim against the Subcontractor for defective performance, it may be appropriate for the terms of the assignment to:

- entitle the Contractor to require the Employer to make the claim on the Contractor's behalf, and/or
- relieve the Contractor from any further liability in respect of any work carried

out by this Subcontractor.

P&DB/EPCT 4.5 reduces the Contractor's obligation to comply with an instruction under Clause 13 to enter into a subcontract with a particular entity, because of the Contractor's responsibilities under the first paragraph of Sub-Clause 4.1. The instruction might have named the entity directly, or the instruction might be of a type with which the Contractor could only comply by employing a particular entity. No description is given of the basis on which the Contractor could raise a "reasonable objection". A few of the possible reasons are listed in CONS 5.2, together with the possibility of overcoming objections by way of an indemnification by the Employer. If the Employer wishes to nominate a Subcontractor under P&DB or EPCT, it may be preferable to do so with the Contractor's agreement, especially in the cases described in sub-paragraph (ii) and (iii) of P&DB/EPCT 13.1.

4.6 Co-operation

CONS	P&DB	EPCT
<p>The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:</p> <ul style="list-style-type: none"> (a) the Employer's Personnel, (b) any other contractors employed by the Employer, and (c) the personnel of any legally constituted public authorities, <p>who may be employed in the execution on or near the Site of any work not included in the Contract.</p> <p>Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to incur Unforeseeable Cost. 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.</p> <p>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.</p> <p>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 Engineer in the time and manner stated in the Specification.</p>	<p>The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:</p> <ul style="list-style-type: none"> (a) the Employer's Personnel, (b) any other contractors employed by the Employer, and (c) the personnel of any legally constituted public authorities, <p>who may be employed in the execution on or near the Site of any work not included in the Contract.</p> <p>Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to incur Unforeseeable Cost. 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.</p> <p>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.</p> <p>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 Engineer in the time and manner stated in the Employer's Requirements.</p>	<p>The Contractor shall, as specified in the Contract or as instructed by the Employer, allow appropriate opportunities for carrying out work to:</p> <ul style="list-style-type: none"> (a) the Employer's Personnel, (b) any other contractors employed by the Employer, and (c) the personnel of any legally constituted public authorities, <p>who may be employed in the execution on or near the Site of any work not included in the Contract.</p> <p>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.</p> <p>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.</p> <p>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.</p>

RB 31; YB 6.5 & 14.6; OB 4.4

As stated in the second sentence of Sub-Clause 2.1, the Contractor may not have exclusive right of access to, and possession of, the Site. In addition to the Employer's Personnel, the Contractor must also allow the Employer's other contractors to carry out their work. Under Sub-Clause 2.3(a), the Employer is responsible for ensuring that his other contractors co-operate with the Contractor's efforts under this Sub-Clause 4.6.

It is preferable for the tender documents to describe the extent to which the Contractor will have to "allow appropriate opportunities" under Sub-Clause 4.6. If instructions are given under the first sentence of Sub-Clause 4.6, the Contractor is expected to have allowed in his Tender for the Cost which an experienced contractor could reasonably have foreseen. To the extent that the Cost was not

reasonably foreseeable by an experienced contractor, taking account of the information available to tenderers, the instruction constitutes a Variation and Clause 13 applies.

CONS omits the other Books' penultimate paragraph because it is usually impractical to require a CONS Contractor to co-ordinate his activities with those of other contractors to an extent which is defined in the Contract and therefore which the Contractor can allow for in his Tender. The Contractor will nevertheless be responsible for most of his construction activities on the Site, but there may be a few exceptions where the Engineer is required to direct some such activities. These few exceptions are difficult to describe in general terms, so CONS omits the entire paragraph.

4.7 Setting Out

CONS	P&DB	EPCT
<p>The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Engineer. 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.</p>	<p>The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Engineer. 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.</p>	<p>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.</p>
<p>The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.</p>	<p>The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.</p>	
<p>If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	<p>If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	
<p>(a) an extension of time for any such delay, if</p>	<p>(a) an extension of time for any such delay, if</p>	

	CONS	P&DB	EPCT
	completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and	completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and	
(b)	payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.	(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.	
	After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.	After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.	

RB 17; YB 8.2; OB 4.7

Typically, the Contractor is responsible for setting out the Works, based upon items of reference comprising one point, one bearing and a level. From these minimum survey data references, all setting out can be established.

Under CONS or P&DB, the Employer is responsible for the accuracy of the items of reference, but the Contractor is required to verify their accuracy to the extent to which it is practicable to do so. In particular, P&DB 5.1 requires the Contractor to notify the Engineer of any error or other defect in these items of reference, within the period stated in the Appendix to Tender. If an error is subsequently found in any of these original items of reference, which an experienced contractor could not reasonably have discovered, the Contractor may give notice to the Engineer in order to be entitled to extension of time and reimbursement of Cost. The

Contractor is also stated as being entitled to reasonable profit, because of the presumption that the Employer should have been able to have prevented the error. CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

Under EPCT 5.1 and subject to its sub-paragraphs, the Contractor is responsible for the accuracy of the setting out data specified in the Employer's Requirements.

4.8 Safety Procedures

	CONS	P&DB	EPCT
The Contractor shall:	The Contractor shall:	The Contractor shall:	
(a) comply with all applicable safety regulations,	(a) comply with all applicable safety regulations,	(a) comply with all applicable safety regulations,	

	CONS	P&DB	EPCT
(b)	take care for the safety of all persons entitled to be on the Site,	take care for the safety of all persons entitled to be on the Site,	take care for the safety of all persons entitled to be on the Site,
(c)	use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,	use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,	use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
(d)	provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [<i>Employer's Taking Over</i>], and	provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [<i>Employer's Taking Over</i>], and	provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [<i>Employer's Taking Over</i>], and
(e)	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.	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.	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.

RB 19.1; YB 14.2; OB 4.17

Sub-paragraphs (a), (b) and (c) describe general obligations which may also be obligations under applicable Laws. These sub-paragraphs are therefore also included as Employer's obligations in Sub-Clause 2.3(b).

(unless the Particular Conditions state otherwise). These things may form part of the "arrangements and methods which the Contractor proposes to adopt for the execution of the Works" under Sub-Clause 4.1.

Sub-paragraphs (d) and (e) describe things which the Contractor is to provide

4.9 Quality Assurance

	CONS	P&DB	EPCT
	The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.	The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.	The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Employer shall be entitled to audit any aspect of the system.
	Details of all procedures and compliance documents shall be submitted to the Engineer for	Details of all procedures and compliance documents shall be submitted to the Engineer for	Details of all procedures and compliance documents shall be submitted to the Employer for

CONS

information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

P&DB

information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

EPCT

information before each design and execution stage is commenced. When any document of a technical nature is issued to the Employer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

OB 4.8

The Contractor is required to institute a quality assurance system in accordance with the details stated in the Contract, unless no such details are so stated. The international standard ISO 9001 introduced the concept of quality assurance, but

it may be inappropriate for some Works or for work in some countries. If this Sub-Clause is to apply, details of the quality assurance system should be included in the Contract, and could have been proposed by tenderers.

4.10 Site Data

CONS

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its

P&DB

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its

EPCT

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on subsurface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date.

The Contractor shall be responsible for verifying and interpreting all such data. The Employer shall have no responsibility for the accuracy, sufficiency or completeness of such data, except as stated in Sub-Clause 5.1 [*General Design Responsibilities*].

CONS

P&DB

EPCT

surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- (a) the form and nature of the Site, including sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- (d) the Laws, procedures and labour practices of the Country, and
- (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- (a) the form and nature of the Site, including sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- (d) the Laws, procedures and labour practices of the Country, and
- (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

RB 11; YB 11.1; OB 4.9

For many types of Works, the Employer may have carried out many types of investigations. The latter could include studies of feasibility (to verify the likelihood of the Works being economically advantageous), and various sub-surface, hydrological and environmental investigations. Tenderers typically need the factual results of all these investigations, so that they can foresee the conditions in which the Works are to be constructed.

Under a P&DB or EPCT contract, and also in the case of a CONS contract which includes a significant element of Contractor design, tenderers will require data in order to carry out pre-contract design and determine the details of the works for which costs are to be estimated (waiting until after award of the Contract enhances risk). Tenderers for Contractor-design works require as much data as that required by the Employer's designer under CONS. They may require more data, because the Employer's designer would co-ordinate the pre-tender sub-surface investigations to suit his preferred location of each pier of a multi-span bridge, for example. In contrast, when the Employer arranges for pre-tender investigations in order to obtain the data needed by the tenderers' designers, he

may find it difficult to anticipate their preferred locations.

Tenderers require considerable data for the preparation of tenders for an EPCT contract, under which the Contractor assumes much greater risks than under a CONS or P&DB contract. Since, for example, the risk of sub-surface conditions is allocated to the Contractor, each tenderer needs to assess how adverse the actual conditions may be, both in terms of working in these conditions and in terms of their effect on the design of the works. If the risk of sub-surface conditions is significant, taking account of the type of works, it may be in the Employer's interests for the contract to allocate this risk to the Employer, either by amending EPCT 4.12 or by using P&DB.

In all Books, the Employer asserts that he has made available "all relevant data" in his possession, which would include:

- data which he obtained from investigations for the Works, and
- data obtained by others, including data which may be publicly available but is in the Employer's possession.

The Employer should make as much information as possible available to tenderers, although it would be unwise for him to state that no other information was available. For a successful contract, it is in both Parties' interests for all of the tenderers and (subsequently) both of the Parties to have as much factual information, relevant to the Site and Works, as is available. However, the Employer's obligation is only to make "all relevant data ... on sub-surface and hydrological conditions" available. The Employer does not have to (although he may) make available:

- any data which is clearly not "relevant" to the Contractor's performance of obligations under the Contract,
- information which is known to be incorrect and thus not "data" (but dubious data must be made available, albeit with suitable explanations),
- experts' opinions and other non-factual interpretations, which are not "data",
- information which is neither data on sub-surface conditions nor data on hydrological conditions. Note that:
 - (i) "sub-surface conditions" are the conditions below the surface, including those within a body of water and those below the river-bed or sea-bed,
 - (ii) "hydrological conditions" means the flows of water, including those in rivers and the underwater currents in open seas, and
 - (iii) "environmental aspects" include such matters as the (known or suspected) presence of pollutants.

In this Sub-Clause, the Employer asserts that all his relevant data (on sub-surface and hydrological conditions) were made available before the Base Date, and that he shall similarly make available to the Contractor data which came or comes into

his possession after the Base Date (in effect, between the Base Date and the completion of the Works). Failure in this respect may have significant consequences, under the Contract in general and under CONS/P&DB 4.12 in particular, including the extent to which conditions will be regarded as "Unforeseeable". In some countries, negligent or intentional withholding of data may entitle the Contractor to termination, and consequential personal injury may result in private and/or criminal liability.

The Employer should endeavour to ensure that he obtains all his data as early as possible: preferably before the tender documents are issued to prospective tenderers, so that they can study the data before they visit the Site for the first time. The principle enshrined in the General Conditions is that the Employer makes data available by the Base Date at the latest, so that tenderers have up to 28 days within which to review the final items of data and finalise their Tenders. If important or unexpected data becomes available thereafter, such data must be made available, and it may be appropriate to consider postponing the date by which the Tenders are to be submitted.

The Contractor is responsible for the interpretation of the Site data, and for obtaining other information, so far as was practicable. The practicability of obtaining information will clearly depend upon the time allowed for the preparation of the Tender, and upon aspects such as the accessibility of the Site. Under EPCT, the Contractor is also responsible for verifying the data, and the Employer is only responsible to the extent specified in the sub-paragraphs of EPCT 5.1.

Under CONS or P&DB, the Contractor is deemed to have obtained all other necessary information, to the extent which was practicable. This extent clearly depends upon the cost and time necessary to obtain the information, within the prescribed tender period. No such provisions were considered necessary for inclusion in EPCT 4.10 because of the greater extent of the Contractor's responsibilities, particularly those under EPCT 4.12.

4.11 Sufficiency of the Accepted Contract Amount

4.11 Sufficiency of the Contract Price

	CONS	P&DB	EPCT
The Contractor shall be deemed to:		The Contractor shall be deemed to:	The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price.
(a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and		(a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and	

CONS

P&DB

EPCT

(b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [*Site Data*].

(b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [*Site Data*] and any further data relevant to the Contractor's design.

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper design, execution and completion of the Works and the remedying of any defects.

Unless otherwise stated in the Contract, the Contract Price covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper design, execution and completion of the Works and the remedying of any defects.

RB 12.1; YB 11.2; OB 4.10

Sub-Clause 4.11 confirms the Contractor's responsibility for the adequacy of CONS/P&DB's Accepted Contract Amount or of EPCT's Contract Price.

based his Tender on various matters referred to in Sub-Clause 4.10. P&DB's Accepted Contract Amount is also to have been based upon "any further data relevant to the Contractor's design", because the information obtained by the Employer may have been based on design assumptions which were not wholly identical to those made by the Contractor's designers. The Employer should not assume, for example, that all tenderers' designers will locate a bridge's piers, or align a tunnel, the same as the Employer's Personnel may have done.

Under CONS or P&DB, the Accepted Contract Amount is a fixed amount, and the Contract Price is defined in Sub-Clause 14.1.

Under EPCT, the Contract Price is largely referred to as being fixed, at least to a greater extent than under P&DB. However, EPCT's Contract Price may be adjusted, so:

No such provisions were considered necessary for inclusion in EPCT 4.11, because of the greater extent of the Contractor's responsibilities, particularly those under EPCT 4.12.

- the definition of Contract Price in EPCT 1.1.4.1 refers to the subsequent "adjustments in accordance with the Contract", and
- the Particular Conditions should define the amount of Performance Security, advance payment, and limit of Retention Money as percentages of the "Contract Price stated in the Contract Agreement".

Unless otherwise stated in the Contract, the Accepted Contract Amount or EPCT's Contract Price is deemed to cover all the Contractor's obligations. Work carried out under Provisional Sums (see Sub-Clause 13.5) must therefore be included within the scope of insurance cover under Clause 18, for example.

Under CONS/P&DB's sub-paragraph (b), the Contractor is deemed to have

4.12 Unforeseeable Physical Conditions

4.12 Unforeseeable Difficulties

CONS

P&DB

EPCT

In this Sub-Clause, "physical conditions" means

In this Sub-Clause, "physical conditions" means

Except as otherwise stated in the Contract:

CONS

natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Engineer as soon as practicable.

This notice shall describe the physical conditions, so that they can be inspected by the Engineer, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving such notice and inspecting and/or investigating these physical conditions, the Engineer

P&DB

natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Engineer as soon as practicable.

This notice shall describe the physical conditions, so that they can be inspected by the Engineer, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving such notice and inspecting and/or investigating these physical conditions, the Engineer

EPCT

- (a) the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;
- (b) by signing the Contract, the Contractor accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and
- (c) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.

shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Engineer may also review whether other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favourable conditions were encountered, the Engineer may proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.

The Engineer may take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which may be made available by the Contractor, but shall not be bound by any such evidence.

shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Engineer may also review whether other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favourable conditions were encountered, the Engineer may proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.

The Engineer may take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which may be made available by the Contractor, but shall not be bound by any such evidence.

RB 12.2; YB 11.3; OB 4.11

Under EPCT, Sub-Clause 4.12 sets out EPCT's principles that risks lie with the Contractor, except where the contrary is expressly stated in the Contract: in Clause 19, for example. Therefore, the Contractor is not entitled to compensation

for climatic events or other difficulties, unless they are so adverse and exceptional as to constitute Force Majeure as defined in Sub-Clause 19.1. The remaining comments on this Sub-Clause apply to CONS and P&DB only.

Under CONS or P&DB, Sub-Clause 4.12 entitles the Contractor to an extension of time for delay, and to reimbursement of additional Cost, if he encounters Unforeseeable physical conditions at the Site. As asserted in Sub-Clause 4.10, the Employer will have made available all information which he has, relating to the Site. Sub-Clause 4.12 not only protects the Contractor if the actual conditions were not foreseeable. It also protects the Employer by providing a method of dealing with the possibility of inaccuracies in the data referred to in Sub-Clause 4.10.

The "physical conditions" are defined widely, so as to include natural sub-surface conditions, natural and artificial physical obstructions, and the presence of chemical pollutants, for example. The physical conditions are those which the Contractor "encounters at the Site", so they must be a type of condition which is physical in the sense that it is "encountered". Climatic conditions on the Site, such as the direct effects of rainfall, are excluded. Note that:

- "sub-surface conditions" are the conditions below the surface, including those within a body of water and those below the river-bed or sea-bed,
- "hydrological conditions" means the flows of water, including those which are attributable to off-Site climatic conditions, and
- "physical conditions" exclude "climatic conditions" at the Site, and therefore exclude the hydrological consequences of climatic conditions at the Site.

The adjective "Unforeseeable" is defined in Sub-Clause 1.1.6.8 as meaning "not reasonably foreseeable by an experienced contractor by the date for submission of the Tender". The question whether hydrological conditions are Unforeseeable may be resolved by reference to the duration of the Time for Completion of the Works and to the statistical frequency of the hydrological event, based upon historic records. For example, if the Time for Completion is three years, an experienced contractor might be expected to foresee an event which occurs (on average) once in every six years, but an event which occurs only once in every ten years might be regarded as Unforeseeable. If hydrological conditions are likely to have a major effect on the execution of the Works, it may be desirable for the Contract to define Unforeseeable hydrological conditions and to clarify the consequences of extremely adverse hydrological conditions.

Note the limitation to the "Site", which means "the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site". These places are those made available by the Employer under Sub-Clause 2.1. Sub-Clause 4.12 does not entitle the Contractor to compensation in respect

of conditions encountered at "any additional areas which may be obtained by the Contractor", to which the first sentence of Sub-Clause 4.23 refers.

The Contractor's entitlement arises if such physical conditions are "Unforeseeable", which means "not reasonably foreseeable by an experienced contractor by the date for submission of the Tender", taking account (for example) of Sub-Clause 4.11(b) and of the data and matters mentioned in Sub-Clause 4.10.

In Sub-Clause 4.10, the Employer asserts that all his relevant data (on sub-surface and hydrological conditions) were made available before the Base Date, and that he shall similarly make available to the Contractor data which came or comes into his possession after the Base Date. The Employer should have made data available by the Base Date at the latest, so that tenderers have 28 days within which to review the final items of data and finalise their Tenders. If important or unexpected data becomes available thereafter, such data must also be made available. It may be appropriate to consider postponing the date by which the Tenders are to be submitted or, if data becomes available thereafter, to consider what is to be regarded as "Unforeseeable".

Having encountered physical conditions which he considers may be both adverse and Unforeseeable, the Contractor should promptly issue a notice, which could also serve as the notice referred to in the first sentence of Sub-Clause 20.1 (to which Sub-Clause 4.21(f) refers). Failure to give notice within the period stated in Sub-Clause 20.1 deprives the Contractor of his entitlement to an extension of time and compensation. CONS/P&DB 1.3 requires the Contractor to send a copy of his notices to the Employer.

The notice should describe the physical conditions, state that it is issued under Sub-Clauses 4.12 and 20.1, and be issued as soon as practicable so that the Engineer:

- has the maximum opportunity to carry out an inspection and assess for himself whether the described conditions were Unforeseeable, taking account of the Contractor's reasons set out in the notice, and
- may consider initiating a Variation (although there is no obligation to do so), in order to lessen the losses which might otherwise be suffered by the Employer.

Unless the physical conditions constitute Force Majeure and notice has been given under Clause 19.2, the Contractor is required to continue executing the Works, and not await instructions from the Engineer. When an experienced contractor encounters adverse physical conditions, he is expected to use his

expertise, overcome the conditions, and execute and complete the Works in accordance with the Contract. Although an experienced contractor should typically not require guidance on construction techniques, the Engineer should consider whether there is any need for Variations or other instructions.

Having given such prompt notice, the Contractor is entitled to an extension of time and reimbursement of the Cost attributable to the Unforeseeable physical conditions, compared with the anticipated physical conditions which could reasonably have been foreseen (which are deemed covered by the rates and prices contained in the Contract). In other words, the payment due should normally be the sum of:

- (a) the original contract value, namely of the work which would have been required if he had only encountered foreseeable physical conditions, plus
- (b) the additional Cost attributable to the extent to which the physical conditions actually encountered are Unforeseeable. This is the Cost which is in addition to the cost (deemed included in amounts (a)) which would have been incurred if he had encountered foreseeable physical conditions.

The original contract value (a) of the work in foreseeable conditions is the various amounts stated in the Contract, typically for excavating the zone over which the Unforeseeable conditions were encountered. The Contractor may consider that he should be paid the total Cost of excavating Unforeseeable conditions, even if they were only Unforeseeable to a limited degree. However, Sub-Clause 4.12 states that his entitlement is payment of the Cost due to the extent to which the conditions were Unforeseeable. Typically, it is therefore necessary to identify the additional time and resources required, compared with those which would have been involved in the excavation of the zone if it had only comprised foreseeable physical conditions. In the infrequent cases when the conditions are so adverse that it proves impossible to determine the costs which would have been incurred if he had encountered foreseeable physical conditions, it would be reasonable for the Contractor to be paid his total Cost of excavating the adverse zone (in lieu of the contract value (a) of excavating foreseeable conditions).

The original contract value (a) above would include the profit which the Contractor would have earned if he had encountered foreseeable physical conditions. In effect, the risk is shared, insofar as the Contractor loses the profit which he would have included in his Tender pricing if he had been aware of the existence of the adverse conditions.

Under the penultimate paragraph of Sub-Clause 4.12, the Engineer may review whether physical conditions in any other parts of the Works were more favourable than could reasonably have been foreseen. This review is described as being before "additional Cost is finally agreed or determined", the word "finally" confirming that there may well (and should) have been previous interim determinations of Cost for the purposes of Interim Payment Certificates. The Engineer should not delay or withhold his interim determination and certification under Sub-Clause 4.12(a)&(b) whilst waiting to see if more-favourable conditions are going to be encountered. Sub-Clause 1.3 states that "determinations shall not be unreasonably withheld or delayed"; and Sub-Clause 20.1 entitles the Contractor "to payment for such part of the claim as he has been able to substantiate".

This penultimate paragraph concludes by preventing a net reduction for all conditions encountered in similar parts of the Works, in order to impose a reasonable limitation on the Contractor's liability. The other parts of the Works, where more-favourable conditions were encountered, must be "similar" to the parts where adverse Unforeseeable conditions were encountered. Parts of the Works will be "similar" if their overall construction requirements are similar. For example:

- the Works may comprise a number of similar elements, such as dwellings, pylons or pumping stations;
- a multi-span structure, such as a viaduct, may have many similar pier foundations;
- a road cutting or tunnel may have similar section profiles at different locations.

Sub-Clause 4.12 concludes with a paragraph enabling the Engineer to take account of any reliable evidence of the physical conditions which the Contractor actually foresaw, although the possibility of misleading evidence having been prepared for the purposes of this paragraph should not be overlooked. It may be appropriate for the Contractor to make such reliable evidence available (although he is not obliged to do so) in order to avoid or resolve a dispute. If a dispute arises and is referred to arbitration, the arbitrators may be given sight of such evidence, may wish to question its authors, and may enquire why it was not made available to the Engineer under this paragraph.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 & 20.1.

4.13 Rights of Way and Facilities

CONS	P&DB	EPCT
<p>The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works.</p>	<p>The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works.</p>	<p>The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works.</p>
RB 42.3; OB 4.13		

This Sub-Clause and Sub-Clause 4.15 assume that access to the Site is physically practicable, but that the Contractor may need special or temporary rights-of-way or additional facilities. They may be located on the "additional

areas which may be obtained by the Contractor" mentioned in first sentence of Sub-Clause 4.23.

4.14 Avoidance of Interference

CONS	P&DB	EPCT
<p>The Contractor shall not interfere unnecessarily or improperly with:</p> <ul style="list-style-type: none"> (a) the convenience of the public, or (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others. <p>The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.</p>	<p>The Contractor shall not interfere unnecessarily or improperly with:</p> <ul style="list-style-type: none"> (a) the convenience of the public, or (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others. <p>The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.</p>	<p>The Contractor shall not interfere unnecessarily or improperly with:</p> <ul style="list-style-type: none"> (a) the convenience of the public, or (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others. <p>The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.</p>
RB 29		

The Contractor is required to avoid any unnecessary interference, and to indemnify the Employer in respect of claims from third parties resulting from any unnecessary or improper interference.

Under the last paragraph of Sub-Clause 17.1, the Employer indemnifies the Contractor in respect of the matters for which liability may be excluded from insurance cover, as described in sub-paragraph (d) of Sub-Clause 18.3. Under

Sub-Clauses 17.1 and 18.3(d)(ii), the Employer indemnifies the Contractor from claims in respect of "damage which is an unavoidable result of the Contractor's obligations", but not in respect of any other damage which is a result of the particular arrangements and methods which the Contractor elected to adopt in order to perform his obligations. The Contractor should adopt appropriate arrangements and methods so as to minimise claims from third parties due to the performance of his obligations under the Contract.

4.15 Access Route

CONS	P&DB	EPCT
<p>The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. 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. These efforts shall include the proper use of appropriate vehicles and routes.</p>	<p>The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. 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. These efforts shall include the proper use of appropriate vehicles and routes.</p>	<p>The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. 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. These efforts shall include the proper use of appropriate vehicles and routes.</p>
<p>Except as otherwise stated in these Conditions:</p>	<p>Except as otherwise stated in these Conditions:</p>	<p>Except as otherwise stated in these Conditions:</p>
<ul style="list-style-type: none"> (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; (b) 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; (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route, (d) the Employer does not guarantee the suitability or availability of particular access routes, and 	<ul style="list-style-type: none"> (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; (b) 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; (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route, (d) the Employer does not guarantee the suitability or availability of particular access routes, and 	<ul style="list-style-type: none"> (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; (b) 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; (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route, (d) the Employer does not guarantee the suitability or availability of particular access routes, and

	CONS	P&DB	EPCT
(e)	Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.	(e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.	(e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

RB 30; OB 4.12

Under Sub-Clause 2.1, the Employer is required to grant the Contractor the right of access to the Site, such that the Contractor is entitled to go on to the Site.

The word "route" indicates something which can be represented as a line on a map, typically overland, without implying that a road to the Site exists. It is only assumed that there is a route by which access would be physically practicable. The Contractor is entitled to make use of the route without negotiating with its owners, but this entitlement does not indicate that the route is suitable for transport. The wording of the Sub-Clause does not preclude the possibility that he might have to construct a road along the route. If so, any constraints may need to be specified in the Contract.

The practical difficulties in getting to and from the Site are to be solved by the Contractor. Under sub-paragraph (a), he is held responsible for maintaining his chosen access routes. The phrase "(as between the Parties)" recognises that the Sub-Clause may well apply to highways which are the responsibility of third parties, but the Employer has no responsibility under this Sub-Clause for any failure on their part. However, Sub-Clause 8.5 may be applicable.

If the Site is totally surrounded by land owned by third parties, the Contract should clarify:

- (i) the alignment of the route through the third parties' lands, along which the Employer will be granting the right of access, and
- (ii) how the Contractor can gain access; for example, whether access will be hindered by third parties' control measures.

If the Site is surrounded by private land, but there is a route to the Site along the Employer's land, it may be appropriate for the Contract to include details similar to those of (i) and (ii) above. In some countries, it might even be appropriate (and in the interests of both Parties) for the Contract to make the Employer responsible for the maintenance of the part of the access road which is on his land, notwithstanding this Sub-Clause.

If the Contractor will be installing Plant on a Site on which most personnel are employed by an entity other than the Contractor, this entity (who might be another contractor or the Employer) may be the most appropriate maintainer of access roads. This aspect should be considered by the Employer when preparing the tender documents.

4.16 Transport of Goods

	CONS	P&DB	EPCT
Unless otherwise stated in the Particular Conditions:	Unless otherwise stated in the Particular Conditions:	Unless otherwise stated in the Particular Conditions:	Unless otherwise stated in the Particular Conditions:
(a) the Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;	(a) the Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;	(a) the Contractor shall give the Employer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;	(a) the Contractor shall give the Employer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;

	CONS	P&DB	EPCT
(b)	the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and	(b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and	(b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
(c)	the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.	(c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.	(c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.

RB 30.2; YB 22; OB 7.2

Unless this Sub-Clause is amended in the Particular Conditions, the Contractor is required to give notice of the intended arrival on the Site of any Plant or of a major item of other Goods, and he is required to indemnify the Employer in respect of claims arising from their transport.

On some projects, the Employer may need advance warning of arrival of Goods on a congested Site. P&DB's GPPC proposes a provision requiring the Contractor to obtain approval before delivery. Alternatively, notice might only be required in respect of items in excess of specified dimensions or weights.

On some contracts, the indemnity may be considered inappropriate. For example, the Employer may be made responsible for any damage to bridges which is attributable to the transport of Plant or Materials, if the Contract requires the item to be transported in one large piece.

Under the last paragraph of Sub-Clause 17.1, the Employer indemnifies the

Contractor in respect of the matters for which liability may be excluded from insurance cover, as described in sub-paragraph (d) of Sub-Clause 18.3. Under Sub-Clauses 17.1 and 18.3(d)(ii), the Employer indemnifies the Contractor from claims in respect of "damage which is an unavoidable result of the Contractor's obligations", but not in respect of any other damage which is a result of the particular arrangements and methods which the Contractor elected to adopt in order to perform his obligations. The Contractor should adopt appropriate arrangements and methods so as to minimise claims from third parties due to the performance of his obligations under the Contract.

Under Sub-Clause 18.2, Goods must be insured when they are within the Country. If they are being manufactured in the Country, it may be difficult to define the stage of manufacture at which an item constitutes "Goods" and must therefore be insured.

4.17 Contractor's Equipment

	CONS	P&DB	EPCT
	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.	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.	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.

CONS**P&DB****EPCT**

The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

RB 54.1 & 54.2; YB 14.1; OB 4.16

Contractor's Equipment, which includes Subcontractor's equipment, is deemed to be intended for the execution of the Works, and not for use elsewhere. Consent is required before each major item leaves the Site, except in respect of transport vehicles, which typically leave the Site daily. Under Sub-Clause 1.3, consent shall be given in writing and shall not be unreasonably withheld or delayed.

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 arrived on another site and was then deemed to be intended for exclusive use there. Previous submissions under the following Sub-Clauses may be relevant:

- 4.1 details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works;
- 4.21 progress reports;
- 8.3 programme.

4.18 Protection of the Environment

CONS**P&DB****EPCT**

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Specification, and shall not exceed the values prescribed by applicable Laws.

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements, and shall not exceed the values prescribed by applicable Laws.

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements, and shall not exceed the values prescribed by applicable Laws.

RB 19.1(c); OB 4.18

The Contractor is required to take all reasonable steps to protect the environment, and is required to limit emissions to specified values. If he fails to do so, the

Contractor would be liable. He is not required to indemnify the Employer under this Sub-Clause, but Sub-Clause 17.1 may be applicable. See also Sub-Clause 2.3(b).

The second paragraph only relates to the Contractor's activities, and not to the operation of the Works after handing over. The Contractor cannot prevent the Employer operating the Works in such a way that "emissions, surface discharges

and effluent" exceed "the values indicated". Matters such as emission requirements for the Contractor-designed Works should be specified in P&DB/EPCT's Employer's Requirements, and could form part of the Tests after Completion.

4.19 Electricity, Water and Gas

CONS	P&DB	EPCT
<p>The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require.</p>	<p>The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require.</p>	<p>The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require.</p>
<p>The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specification. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.</p>	<p>The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Employer's Requirements. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.</p>	<p>The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Employer's Requirements. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.</p>
<p>The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>	<p>The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>	<p>The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>

YB 14.3; OB 4.19

Sub-Clauses 4.19 and 4.20 include basic provisions in respect of things which the Employer may be able to provide for the Contractor's use, thereby reducing the overall costs of the project. The provisions entitle the Contractor to use whichever of these things are described as being available, in the Contract: in CONS' Specification, or in P&DB/EPCT's Employer's Requirements. These Sub-Clauses do not require the Employer to make available, and do not entitle the Contractor to use, anything which is not so described as being available, in the Contract.

Sub-Clause 4.19 includes basic provisions in respect of utility services, including

any which are under the care and control of the Employer. The first sentence of the Sub-Clause excludes the Employer's responsibility, except to the extent (if any) to which he has undertaken to make specified services available.

When preparing the tender documents, the Employer may wish to consider whether it would be advisable to take any responsibility in respect of existing utility services. For example, if the Site is an unoccupied (green-field) site, the Employer may prefer to let the Contractor make any necessary arrangements direct with the providers of these utility services, and not involve the Employer in the arrangements.

If the Employer is to make any of these services available, details and prices must be given in CONS' Specification, or P&DB/EPCT's Employer's Requirements. If the Contractor will need to rely upon the continued availability of a service, the

Contract should indicate who bears the cost of a failure in the supply. It may be reasonable for the Employer to be responsible for services which he controls, and for other specified services to be at the risk of the Contractor.

4.20 Employer's Equipment and Free-Issue Material

CONS	P&DB	EPCT
<p>The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:</p>	<p>The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Employer's Requirements. Unless otherwise stated in the Employer's Requirements:</p>	<p>The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Employer's Requirements. Unless otherwise stated in the Employer's Requirements:</p>
<p>(a) the Employer shall be responsible for the Employer's Equipment, except that</p> <p>(b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.</p>	<p>(a) the Employer shall be responsible for the Employer's Equipment, except that</p> <p>(b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.</p>	<p>(a) the Employer shall be responsible for the Employer's Equipment, except that</p> <p>(b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.</p>
<p>The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>	<p>The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>	<p>The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>]. The Contractor shall pay these amounts to the Employer.</p>
<p>The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Engineer of any shortage, defect or default in these materials.</p>	<p>The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Employer's Requirements. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Engineer of any shortage, defect or default in these</p>	<p>The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Employer's Requirements. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Employer of any shortage, defect or default in these</p>

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Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

YB 14.4; OB 4.20

Sub-Clauses 4.19 and 4.20 include basic provisions in respect of things which the Employer may be able to provide, thereby reducing the overall costs of the project. The provisions entitle the Contractor to use whichever of these things are described as being available, in the Contract: in CONS' Specification, or in P&DB/EPCT's Employer's Requirements. These Sub-Clauses do not require the Employer to make available, and do not entitle the Contractor to use, anything which is not so described as being available, in the Contract.

Sub-Clause 4.20 refers to the possibility of two categories of items being made available to the Contractor:

- Employer's Equipment, which Sub-Clause 1.1.6.3 defines as excluding Plant which has not been taken over by the Employer, and
- "free-issue materials", namely the materials which are to be issued to the Contractor, free of charge. Although some free-issue materials may be required to be incorporated into the Works, they do not become "Materials" and "Goods" which are to be provided by the Contractor (see Sub-Clauses 1.1.5.3 and 4.1).

When preparing the tender documents, the Employer may wish to consider whether it would be advisable to have responsibility for making any items available. It is usually preferable to let the Contractor select his Equipment and make the necessary arrangements direct with manufacturers and suppliers for procurement of all necessary equipment, plant and materials. However, the Employer may, for example, elect to provide the following, accepting the risks of so doing:

- any Employer's cranes (or his other equipment) which are permanently

allocated to the Site, and/or

- any plant and/or materials which will take so long to procure that the Works would be completed sooner if they are ordered before the Parties enter into the Contract.

For Employer's Equipment, the details in CONS' Specification or in P&DB/EPCT's Employer's Requirements should include details of the equipment, availability arrangements, prices, and particular requirements such as who will drive or operate the items, and/or who will be responsible for their care, custody, control and insurance. Such details take precedence over the typical provisions contained in sub-paragraphs (a) and (b) of this Sub-Clause.

For free-issue materials, the details in CONS' Specification or in P&DB/EPCT's Employer's Requirements should include details of the materials, availability arrangements (time, place, transport and/or off-loading arrangements, and the like), and particular requirements (for example, to give the Contractor the opportunity to suggest minor modifications to fabricated materials so as to facilitate installation). After each item of free-issue materials has been issued to the Contractor, it comes under his care, custody and control. The Contractor may consider it advisable to effect insurance in respect of his liability, even if no such requirement is stated in CONS' Specification or in P&DB/EPCT's Employer's Requirements.

The Contract requirements in respect of Plant and Materials, including fitness for purpose, do not impose obligations in respect of plant and materials provided by the Employer.

4.21 Progress Reports

CONS	P&DB	EPCT
<p>Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer 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.</p>	<p>Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer 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.</p>	<p>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.</p>
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>Each report shall include:</p>	<p>Each report shall include:</p>	<p>Each report shall include:</p>
<ul style="list-style-type: none"> (a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Sub-contractor (as defined in Clause 5 [<i>Nominated Subcontractors</i>]), (b) photographs showing the status of manufacture and of progress on the Site; (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of: <ul style="list-style-type: none"> (i) commencement of manufacture, (ii) Contractor's inspections, (iii) tests, and (iv) shipment and arrival at the Site; 	<ul style="list-style-type: none"> (a) 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; (b) photographs showing the status of manufacture and of progress on the Site; (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of: <ul style="list-style-type: none"> (i) commencement of manufacture, (ii) Contractor's inspections, (iii) tests, and (iv) shipment and arrival at the Site; 	<ul style="list-style-type: none"> (a) 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; (b) photographs showing the status of manufacture and of progress on the Site; (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of: <ul style="list-style-type: none"> (i) commencement of manufacture, (ii) Contractor's inspections, (iii) tests, and (iv) shipment and arrival at the Site;

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| <p>(d) the details described in Sub-Clause 6.10 [<i>Records of Contractor's Personnel and Equipment</i>];</p> <p>(e) copies of quality assurance documents, test results and certificates of Materials;</p> <p>(f) list of notices given under Sub-Clause 2.5 [<i>Employer's Claims</i>] and notices given under Sub-Clause 20.1 [<i>Contractor's Claims</i>];</p> <p>(g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and</p> <p>(h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.</p> | <p>(d) the details described in Sub-Clause 6.10 [<i>Records of Contractor's Personnel and Equipment</i>];</p> <p>(e) copies of quality assurance documents, test results and certificates of Materials;</p> <p>(f) list of Variations, notices given under Sub-Clause 2.5 [<i>Employer's Claims</i>] and notices given under Sub-Clause 20.1 [<i>Contractor's Claims</i>];</p> <p>(g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and</p> <p>(h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.</p> | <p>(d) the details described in Sub-Clause 6.10 [<i>Records of Contractor's Personnel and Equipment</i>];</p> <p>(e) copies of quality assurance documents, test results and certificates of Materials;</p> <p>(f) list of Variations, notices given under Sub-Clause 2.5 [<i>Employer's Claims</i>] and notices given under Sub-Clause 20.1 [<i>Contractor's Claims</i>];</p> <p>(g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and</p> <p>(h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.</p> |
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OB 4.15

Unless this Sub-Clause is amended (or deleted) in the Particular Conditions, the Contractor is required to submit monthly reports. The Sub-Clause specifies them in some detail, but it is recognised that less detail may be appropriate for some projects. This detailed report on the progress during the month is considered to be an essential part of competent project management.

Under Sub-Clause 14.3, the Contractor's Statement has to be submitted together with supporting documents which include the report in accordance with

Sub-Clause 4.21. The period for payment under paragraph (b) of Sub-Clause 14.7 does not commence until all these supporting documents have been received.

The Contractor is to provide these reports regularly, until he has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works; namely, the work which is mentioned in Sub-Clause 11.1(a).

4.22 Security of the Site

CONS	P&DB	EPCT
<p>Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and</p> <p>(b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorised personnel of the Employer's other contractors on the Site.</p>	<p>Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and</p> <p>(b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorised personnel of the Employer's other contractors on the Site.</p>	<p>Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and</p> <p>(b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by (or on behalf of) the Employer, as authorised personnel of the Employer's other contractors on the Site.</p>

YB 14.7; OB 4.22

On many sites, it is important (for legal and practical reasons) to allocate responsibility for security. Unless this Sub-Clause is amended in the Particular Conditions, the Contractor is responsible for security. Typically, he may be the only organisation whose personnel are on the Site full-time.

When preparing the tender documents, the Employer may wish to consider amending this Sub-Clause and accepting responsibility for security.

4.23 Contractor's Operations on Site

CONS	P&DB	EPCT
<p>The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.</p> <p>During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any</p>	<p>The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.</p> <p>During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any</p>	<p>The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Employer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.</p> <p>During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any</p>

CONS

Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

P&DB

Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract

EPCT

Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of the Taking-Over Certificate for the Works, the Contractor shall clear away and remove all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

RB 32 & 33; YB 14.5; OB 4.21 & 4.23

The Contractor is required to confine his operations to:

- the Site, which the Employer made available, to which Plant and Materials are delivered, and on which the Permanent Works are executed, and
- any agreed additional working areas, which do not become parts of the Site. These agreed working areas are obtained by the Contractor, the Employer is not responsible for them, Plant and Materials are not required to be delivered thereto, and Permanent Works are not executed thereon.

The Employer will usually require such restrictions, so as to facilitate the inspections carried out by the Employer's Personnel. The Employer may also wish

to minimise inconvenience to, and claims from, the occupiers of land which is adjacent to the Site, rather than merely relying upon Sub-Clause 17.1.

The Contractor is held responsible for keeping the Site tidy, and for removing rubbish from a part of the Works for which a Taking-Over Certificate has already been issued. Therefore, a Taking-Over Certificate cannot be withheld for the sole reason that rubbish has not yet been removed, unless it prejudices safe use, because this Sub-Clause refers to it being removed after the Taking-Over Certificate is issued.

Having received a Taking-Over Certificate, the Contractor must evacuate the part taken over, except that any necessary Goods may be retained on the Site. Under EPCT, the last paragraph of the Sub-Clause only relates to the Taking-Over Certificate for the Works, consistent with the "turnkey" concept.

4.24 Fossils

CONS

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological

P&DB

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological

EPCT

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological

CONS

P&DB

EPCT

or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost, which shall be included in the Contract Price.

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

or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost, which shall be included in the Contract Price.

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

or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Employer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost, which shall be added to the Contract Price.

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

RB 27; OB 4.24

As between the Parties, fossils and other antiquities are the property of and the liability of the Employer, although other parties may have rights and/or liabilities under the Laws of the Country.

The Contractor is required to give notice upon discovery of the finding, and await instructions for dealing with it. He should endeavour to utilise his resources economically, but he is entitled to extension of time and reimbursement of Costs arising from compliance with the instructions. The Sub-Clause makes no

reference to the finding having to be unforeseeable, because the Contract should specify the procedure in respect of foreseeable findings. CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

Clause 5 CONS: Nominated Subcontractors

This Clause includes basic provisions which should only be invoked with a degree of caution. Generally, the Contractor should be given reasonable freedom to decide (subject to Sub-Clause 4.4) what parts of the Works he wishes to subcontract, and to whom. The Contractor's freedom to subcontract may be restricted other than by invoking Clause 5:

- If there are particular restrictions related to the manufacturer of certain items of Plant or Materials, the Specification may refer to the named manufacturer without making him a nominated Subcontractor.
- If the Employer wishes to ensure that a part of the Works is executed by a specialist company and not by the Contractor himself, the Specification may list acceptable potential Subcontractors, and/or tenderers could be invited to specify their chosen Subcontractors in a Schedule. For avoidance of doubt, the Specification or Schedule may also state that the Subcontractor is not a nominated Subcontractor under this Clause.
- If the Employer wishes to ensure that part of the project is designed and executed by a specialist company, and/or wishes to participate (either directly or through the Engineer) in the choice of plant to be provided by such company, a separate contract may be less problematic than a nominated subcontract.

In accordance with the second sentence of Sub-Clause 4.4, the Contractor is responsible for the acts or defaults of each nominated Subcontractor. The Employer and Engineer should not deal directly with a nominated Subcontractor (or with any Subcontractor) but should only deal with the Contractor (unless he agrees otherwise).

The following apparent advantages of instructing the employment of a nominated Subcontractor may be persuasive, namely that the Employer and/or Engineer:

- can choose the specialist company: as noted above, this can be achieved other than by nomination;
- can participate in the choice of plant: again, this can be achieved other than by nomination, and the need to discuss technical matters through the Contractor often causes problems; and/or
- can avoid participation in co-ordination of the interface between the nominated Subcontractor's and the Contractor's works: this apparent advantage is frequently not achieved in practice, because the Contractor may incur Cost as a result of the requirements for co-ordination, and the Contractor may have been unaware of them and/or of the terms of the subcontract when he priced his Tender (which thus excluded such Cost).

5.1 Definition of “nominated Subcontractor”

CONS

In the Contract, “nominated Subcontractor” means a Subcontractor:

- (a) who is stated in the Contract as being a nominated Subcontractor, or
- (b) whom the Engineer, under Clause 13 [*Variations and Adjustments*], instructs the Contractor to employ as a Subcontractor.

RB 59.1

Sub-Clause 5.1 defines two types of nominated Subcontractor, without implying that any Subcontractors will be nominated:

- (a) The Contract may specify the named specialist company to be appointed for a particular part of the Works; in which case it should also specify co-ordination and other requirements, and the terms of the proposed

subcontract.

- (b) The Engineer may instruct the Contractor to employ a named specialist company; typically under Sub-Clause 13.3 (as a Variation), under Sub-Clause 13.5 (in respect of a Provisional Sum), or under Sub-Clause 13.6 (as daywork).

5.2 Objection to Nomination

CONS

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees to indemnify the Contractor against and from the consequences of the matter:

- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- (b) the subcontract does not specify that the nominated Subcontractor shall indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- (c) the subcontract does not specify that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - (i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract, and
 - (ii) indemnify the Contractor against and from

CONS

all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities.

RB 59.2 & 59.3

Some of the other problems which can arise, in addition to those mentioned in the above comments on Clause 5, are indicated in the matters described in the sub-paragraphs of Sub-Clause 5.2.

If the Contractor wishes to object to the nomination, he must do so promptly, describing all the grounds on which his objections are based. The grounds need not be restricted to those described in the sub-paragraphs, although they list the most likely grounds for objection under a CONS contract. The grounds listed in these sub-paragraphs may also be relevant to objections raised under Sub-

Clause 4.5 of a P&DB or EPCT contract, but may not be the most likely grounds. The Sub-Clause provides the Employer with a possible resolution of the objection, namely indemnification. The Engineer is not authorised to issue such indemnities on behalf of the Employer.

If the Contractor does not object to the nomination, or if his objections are resolved by indemnification and/or negotiations between the Parties and the prospective Subcontractor, the Contractor must comply with the instruction in accordance with Sub-Clauses 3.3 and 5.1(b).

5.3 Payments to nominated Subcontractors

CONS

The Contractor shall pay to the nominated Sub-contractor the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [*Provisional Sums*], except as stated in Sub-Clause 5.4 [*Evidence of Payments*].

RB 59.4

Sub-Clause 13.5(b) states that the Contractor shall be paid the actual amounts which he pays to the nominated Subcontractor plus a percentage for the Contractor's overheads and profit. The Engineer is required to certify such actual amounts as are due to be paid to the Subcontractor. These certificates may be in

the form of a letter incorporating the following words:

"We hereby certify that the amount of ... is due to be paid to ... in respect of his application for payment..."

5.4 Evidence of Payments

CONS

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) submits this reasonable evidence to the Engineer, or
- (b) (i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - (ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

RB 59.5

The Engineer should not normally request evidence of previous payments, unless he has reason to believe that the Contractor is in default under the subcontract.

The nominated Subcontractor may feel that, since he was selected and nominated by (or on behalf of) the Employer, he should be entitled to seek the support of the Employer or Engineer in respect of any disagreements which he

is having with the Contractor. However, the Employer may have originally opted for nomination with the intention of minimising any dealings with the Subcontractor.

The Engineer has no stated duty to request the evidence of previous payments. The nominated Subcontractor is not a party to the Contract, so he is not entitled to rely upon its provisions. However, he may be entitled to certain rights under the applicable law, particularly if specific undertakings were given to the Subcontractor to encourage him to enter into the subcontract. Such undertakings should be honoured, and should have been copied to the tenderers for the main Contract.

If the Engineer requests the evidence of previous payments to a nominated Subcontractor, he must do so sufficiently in advance of issuing a Payment Certificate. The Contractor must be allowed a reasonable time to present the documents described in sub-paragraph (a) or (b), and the Engineer will need time to review these documents and issue a Payment Certificate within the time specified in Clause 14.

If the Contractor fails to provide the documents described in sub-paragraph (a) or (b) of Sub-Clause 5.4, the Employer is entitled to pay the Subcontractor directly. There is no obligation to do so, unless (as mentioned above) specific undertakings were given. Payment is at the Employer's (not the Engineer's) discretion. The Engineer should therefore consult the Employer before requesting the Contractor to provide the reasonable evidence.

If the Employer elects to pay the Subcontractor directly, he should ensure that the procedure set out in this Sub-Clause is adhered to. In accordance with Sub-Clause 2.5:

- the Employer or the Engineer should give prompt notice to the Contractor of the amount which the Employer directly paid, and
- "This amount may be included as a deduction in the Contract Price and Payment Certificates."

If the procedures specified in Sub-Clauses 2.5 and 5.4 are not adhered to, the Employer may not be entitled to this deduction.

Clause 5 P&DB/EPCT: Design

Although the General Conditions do not refer to any specified stages of the design process, it may comprise three stages:

- (a) Conceptual design by (or on behalf of) the Employer, for inclusion in the Employer's Requirements in order to define the Works. This might involve less than 10% of total design input, and it might be necessary to distinguish between early ideas and definite requirements.
- (b) Preliminary design by (or on behalf of) each tenderer for inclusion in the Tender (including P&DB's Proposal). The Instructions to Tenderers should have indicated the extent of detail required, taking account of tenderers' understandable reluctance to incur excessive tendering costs if the

likelihood of success seemed low.

- (c) Final design for the working drawings (Contractor's Documents), which might involve two sub-stages: general arrangement drawings and detailed drawings. Note that the fourth paragraph of Sub-Clause 5.2 refers to each document being ready "for use", which could cover the completion of a general arrangement drawing which is to be used for the next design stage, but is not itself to be used for construction or manufacture.

If the Contractor is required to be responsible for a design provided by the Employer, tenderers must be allowed to check the design and to propose amendments.

5.1 General Design Obligations

P&DB

The Contractor shall carry out, and be responsible for, the design of the Works. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria (if any) stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Engineer for consent the name and particulars of each proposed designer and design Subcontractor.

The Contractor warrants that he, his designers and design Subcontractors have the experience and capability necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer at all reasonable times, until the expiry date of the relevant Defects Notification Period.

Upon receiving notice under Sub-Clause 8.1 [*Commencement of Works*], the Contractor shall

EPCT

The Contractor shall be deemed to have scrutinised, prior to the Base Date, 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 Employer shall not be responsible for any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information, except as stated below. Any data or information received by the Contractor, from the Employer or otherwise, shall not relieve the Contractor from his responsibility for the design and execution of the Works.

scrutinise the Employer's Requirements (including design criteria and calculations, if any) and the items of reference mentioned in Sub-Clause 4.7 [*Setting Out*]. Within the period stated in the Appendix to Tender, calculated from the Commencement Date, the Contractor shall give notice to the Engineer of any error, fault or other defect found in the Employer's Requirements or these items of reference.

After receiving this notice, the Engineer shall determine whether Clause 13 [*Variations and Adjustments*] shall be applied, and shall give notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the error, fault or other defect when examining the Site and the Employer's Requirements before submitting the Tender, the Time for Completion shall not be extended and the Contract Price shall not be adjusted.

However, the Employer shall be responsible for the correctness of the following portions of the Employer's Requirements and of the following data and information provided by (or on behalf of) the Employer:

- (a) portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer,
- (b) definitions of intended purposes of the Works or any parts thereof,
- (c) criteria for the testing and performance of the completed Works, and
- (d) portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract.

YB 6.4; OB 4.1 & 5.1

P&DB 5.1 commences by requiring the designers to comply with criteria (if any) specified in the Employer's Requirements, and requiring the Contractor to seek the Engineer's consent to each of the designers (which, under Sub-Clause 1.3, shall not be unreasonably withheld or delayed). These criteria might, for example, be necessary for structures where the consequences of failure might be catastrophic. In addition, the Employer might require the Contractor's principal designers to be fluent in a particular language. Although the Contract does not establish a contractual relationship between the Employer and an individual designer, the applicable Laws may impose duties of care. Designers are required to be available to discuss design aspects with the Engineer, although they are not required to travel to such meetings at the cost of the Contractor.

EPCT 5.1 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.

P&DB 5.1 requires the Contractor, before commencing design, to scrutinise any design criteria and calculations in the Employer's Requirements. Tenderers may have started some of these activities during the tender period. The detailed effects of these provisions could depend on such matters as the nature of the Works, the detailed criteria, the Laws of the Country, and previous assertions by the Parties. The Contractor is thus given the opportunity to verify that the Works can be provided in accordance with the Contract, and give notice to the Engineer. P&DB 13 empowers the Engineer then to resolve any defects in the Employer's Requirements, although it is obviously preferable for any defects to have been resolved before the tender documents are issued. P&DB 5.1 concludes by stating that the Contractor is not entitled to an extension of time or reimbursement of

Costs to the extent that an experienced contractor could have discovered the error and raised the matter by the date when Tenders were to have been submitted. P&DB 1.9 entitles the Contractor to an extension of time and reimbursement of Costs to the extent that an experienced contractor could not have discovered an error or defect during the (typically longer) period when scrutinising the Employer's Requirements under P&DB 5.1. P&DB 4.7 contains similar entitlements in respect of errors in the items of reference used for setting out the Works.

EPCT 5.1 commences with the Contractor's assertion that he scrutinised the Employer's Requirements before the Base Date. The Contractor is required to be responsible for the accuracy of the Employer's Requirements, except as stated in the four sub-paragraphs. Subject to the same exception, the second paragraph of EPCT 5.1 confirms that the Employer is not responsible for their accuracy. At first, it may appear strange that one of the two Parties to a Contract agrees to be responsible for a technical document prepared by the other Party for inclusion in a Contract. However, the intention is to minimise the extent of the Employer's responsibility, recognising that EPCT will often be used in situations where the Contractor's technical resources exceed those of the Employer. The Employer's Requirements may incorporate documents (for example, standard specifications) which the Employer thinks may be appropriate, but some of these documents may specify an inappropriate level of quality, which is insufficient to achieve the mandatory requirements described in the sub-paragraphs of EPCT 5.1.

EPCT 5.1 concludes with the sub-paragraphs describing the extent of the Employer's responsibility for correctness:

(a) portions of the Employer's Requirements, and data and information

provided by the Employer, which the Contract states are immutable (wholly unchangeable) or the Employer's responsibility; the writers of the Employer's Requirements should take account of the wording in this sub-paragraph;

- (b) definitions of the intended purposes, to which the second sentence of Sub-Clause 4.1 refers;
- (c) testing and performance criteria which the Employer requires, so as to define levels of acceptability;
- (d) portions of the Employer's Requirements, and data and information provided by the Employer, "which cannot be verified by the Contractor" (not the tenderer).

If the Employer retains the services of a consulting engineer, it is to be expected that the agreement between them would prohibit the consulting engineer subsequently accepting an appointment with any of the tenderers. Similarly, the Employer should not require the Contractor to employ the Employer's designer, whose allegiance would thus be transferred from Employer to Contractor. This latter arrangement might cause problems:

- for the tenderers, because they would each need a designer, who would be discouraged by not being able to develop his design for the Contractor, and
- for the transferred designer, because of any discomfort or other problems developing the design provided by the tenderer's designer; and/or because of conflict of interest: initially, whilst anticipating his role as Contractor's designer, and subsequently, because he had been the Employer's designer.

5.2 Contractor's Documents

P&DB

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 in Sub-Clause 5.6 [*As-Built Documents*] and Sub-Clause 5.7 [*Operation and Maintenance Manuals*]. Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be

EPCT

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 in Sub-Clause 5.6 [*As-Built Documents*] and Sub-Clause 5.7 [*Operation and Maintenance Manuals*]. Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be

written in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

The Contractor shall prepare all Contractor's Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel. The Employer's Personnel shall have the right to inspect the preparation of all these documents, wherever they are being prepared.

If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Engineer for review and/or for approval, they shall be submitted accordingly, together with a notice as described below. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Engineer for review and (if so specified) for approval, and (ii) "Contractor's Documents" exclude any documents which are not specified as being required to be submitted for review and/or for approval.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the Engineer receives a Contractor's Document and the Contractor's notice. This notice shall state that the Contractor's Document is considered ready, both for review (and approval, if so specified) in accordance with this Sub-Clause and for use. The notice shall also state that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

The Engineer 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

written in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

The Contractor shall prepare all Contractor's Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel.

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. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Employer for review, and (ii) "Contractor's Documents" exclude any documents which are not specified as being required to be submitted for review.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the Employer receives a Contractor's Document and the Contractor's notice. This notice shall state that the Contractor's Document is considered ready, both for review in accordance with this Sub-Clause and for use. The notice shall also state that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

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 (and, if specified, approved) in accordance with this Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the prior approval or consent of the Engineer shall have been obtained:

- (a) in the case of a Contractor's Document which has (as specified) been submitted for the Engineer's approval:
 - (i) the Engineer shall give notice to the Contractor that the Contractor's Document is approved, with or without comments, or that it fails (to the extent stated) to comply with the Contract;
 - (ii) execution of such part of the Works shall not commence until the Engineer has approved the Contractor's Document; and
 - (iii) the Engineer shall be deemed to have approved the Contractor's Document upon the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, unless the Engineer has previously notified otherwise in accordance with sub-paragraph (i);
- (b) 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;
- (c) execution of such part of the Works shall be in accordance with these reviewed (and, if specified, approved) Contractor's Documents; and
- (d) if the Contractor wishes to modify any design or document which has previously been

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:

- (a) 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;
- (b) execution of such part of the Works shall be in accordance with these Contractor's Documents, as submitted for review; and
- (c) if the Contractor wishes to modify any design or document which has previously been

submitted for review (and, if specified, approval), the Contractor shall immediately give notice to the Engineer. Thereafter, the Contractor shall submit revised documents to the Engineer in accordance with the above procedure.

If the Engineer instructs that further Contractor's Documents are required, the Contractor shall prepare them promptly.

Any such approval or consent, or any review (under this Sub-Clause or otherwise), shall not relieve the Contractor from any obligation or responsibility

submitted for review, the Contractor shall immediately give notice to the Employer. Thereafter, the Contractor shall submit revised documents to the Employer in accordance with the above procedure.

Any such agreement (under the preceding paragraph) or any review (under this Sub-Clause or otherwise) shall not relieve the Contractor from any obligation or responsibility.

YB 6.1 - 6.3 & 7.1; OB 5.2

This Sub-Clause specifies procedural requirements for "Contractor's Documents", which include calculations, computer software (programs), drawings, manuals and models: see Sub-Clause 1.1.6.1. The first paragraph of Sub-Clause 5.2 describes them as comprising:

- 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 General Conditions do not specify which documents are to be supplied, as "Contractor's Documents"; and do not imply that the Contractor submits all design documents. On the contrary, Sub-Clauses 1.10 and 5.2 refer to some of his design documents as not being "Contractor's Documents" because the

Contract does not require him to supply them to the Employer or Engineer. The Employer's Requirements must therefore specify:

- which documents are to be supplied by the Contractor, namely the "Contractor's Documents", possibly elaborating on Sub-Clauses 5.6 and 5.7, and
- which (if any) of such Contractor's Documents are to be submitted for review under Sub-Clause 5.2 (and under P&DB, whether for approval) and other necessary information: for example, the extent of detail required for the submissions, and procedures and periods for the reviews.

Different procedures and/or periods may be appropriate for different types of documents. For example, under P&DB, the Contractor may be required to submit general arrangement drawings for approval, and drawings of concrete reinforcement for review, but not to submit the bending schedules detailing this reinforcement.

For some types of Works, it may be appropriate for the Employer's Requirements to refer to the various stages of design development and to specify reviews for

certain types of documents which will be produced in the initial stages. Although these design development documents may not be required for construction, they would (if specified as being required for review) become Contractor's Documents and have to be submitted when considered ready for use, namely for use in the subsequent stages of design development.

The purposes of the pre-construction review are:

- to permit the Employer's Personnel (including P&DB's Engineer) to verify that Contractor's Documents comply with the Contract, and
- to give the earliest possible opportunity to consider whether the proposed works are what the Employer actually requires. If not, it would typically be necessary to initiate a Variation.

Under P&DB 5.2, the Employer's Requirements may specify that some Contractor's Documents are to be submitted for approval: for example, general arrangement drawings, or details required for co-ordination with other contractors. The need to obtain approvals may be seen as facilitating interference in the design process. Notwithstanding the last paragraph of P&DB 5.2, it may be difficult (if a dispute arises) for the Employer to refute all liability for an approved submission. Even a "deemed approval" under Sub-Clause 5.2(a)(iii) could give rise to such problems. There would seem to be no point in requiring documents to be submitted for approval if the recipient does not intend to give approval. The procedure for review (excluding approval) is specified in P&DB 5.2 in such a way as not to impose on the Engineer any duty to consent 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 Engineer should either give prior written consent to 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.

Under EPCT 5.2, the procedure for review (which excludes approval) is similarly specified in Sub-Clause 5.2 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.

The review period is defined as the period required by the reviewer, P&DB's

Engineer or EPCT's Employer, but not exceeding 21 days. If the reviewer does not notify that Contractor's Documents fails to comply with the Contract, the Contractor may commence execution of the relevant works when the specified review period expires, although the Contractor's Documents are not deemed to comply with the Contract. Under P&DB, they would be deemed approved under sub-paragraph (a)(iii) if the Employer's Requirements specified that they had to be (and they had been) submitted for the Engineer's "approval". If the Employer's Requirements specified that they had to be (and they had been) submitted for "consent" but it was not given within 21 days, the situation is the same as would apply if the Contract had not specified that they had to be submitted for consent. Compliance with the Contract is not evidenced by the Contractor not being notified "that a Contractor's Document fails (...) to comply with the Contract".

In respect of Contractor's Documents which are specified as having to be submitted for review (not for approval under P&DB), the Contractor may thus proceed after the review period expires unless he receives the notice that a Contractor's Document fails (to the extent stated) to comply with the Contract. In other words, the Contract specifies the Contractor's Documents which must be submitted for review and the duration of each review period, and entitles him to proceed after such period unless a Contractor's Document fails to comply with the Contract. He does not, for example, have to await a permission which could then be wrongfully withheld.

Notification that a Contractor's Document fails ("to the extent stated") to comply with the Contract entitles the Employer to claim compensation for the costs of the subsequent review, subject to the procedures specified in Sub-Clause 2.5. If the Contractor receives such notice, he should rectify the Contractor's Document (including "the extent stated") and resubmit. If the Contractor considers that the Contractor's Document does comply with the Contract, he made need to demonstrate such compliance and request a binding instruction to effect the amendment sought by (or on behalf of) the Employer. If the Parties did not agree whether this instruction constitutes a Variation, the dispute may be resolved under Clause 20. Note that the DAB would decide upon the status of the instruction, and should not decide the details of the Works.

With a review procedure, it is possible that the Contractor may submit Contractor's Documents which he suspects may not comply with the Contract. He might feel that such actions are justified because he wishes to propose a Variation, without including all the items listed in Sub-Clause 13.3, and without offering an adjustment to the Contract Price. Such a careless disregard for the

Contract is fraught with risks because, irrespective of whether the Contractor is notified of the non-compliance, the Works must comply with the Contract. If the Contractor wishes to propose a Variation, or suspects that his design intentions do not comply with the Contract, he should submit a proposal in accordance with (and mentioning) Sub-Clause 13.2.

The final sub-paragraph of Sub-Clause 5.2 requires the Contractor to give notice if a Contractor's Document, which was previously subject to a review, is to be amended. This notice should be accompanied by an explanation of the need for amendment. Prompt correction of errors should be encouraged.

The penultimate paragraph of P&DB 5.2 empowers the Engineer to instruct further Contractor's Documents. If he requires further Contractor's Documents, and they are not within the scope of Contractor's Documents which the Contractor is required to submit to the Engineer under the Contract, the instruction would usually constitute a Variation.

Under EPCT, such instructions (that further Contractor's Documents are required) must comply with Sub-Clause 3.4.

Under Sub-Clause 1.3, approvals and consents shall be given in writing and shall not be unreasonably withheld or delayed.

5.3 Contractor's Undertaking

P&DB	EPCT
<p>The Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with:</p> <ul style="list-style-type: none"> (a) the Laws in the Country, and (b) the documents forming the Contract, as altered or modified by Variations. 	<p>The Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with:</p> <ul style="list-style-type: none"> (a) the Laws in the Country, and (b) the documents forming the Contract, as altered or modified by Variations.
OB 5.3	

This Sub-Clause defines the fundamental criteria with which the Works must comply: Laws, Variations, and the Contract documents in the order of precedence specified in Sub-Clause 1.5. If certain Laws specifically relate to the Works, the Employer might wish to consider drawing them to the attention of tenderers, and/or dealing with their effects in the Contract. For example, major works may require legislation before construction can begin, and/or may require various agreements to be entered into with other affected

parties.

It is not envisaged that the Employer needs to list out all relevant legislation for the convenience of tenderers or of the Contractor. If the Employer only lists some of the relevant legislation, the limited extent of the list should be stated, for avoidance of doubt.

A Variation changes the "Works", but does not amend the "Contract".

5.4 Technical Standards and Regulations

	P&DB	EPCT
<p>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.</p> <p>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 Clause 10 [<i>Employer's Taking Over</i>]. References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise.</p> <p>If changed or new applicable standards come into force in the Country after the Base Date, the Contractor shall give notice to the Engineer and (if appropriate) submit proposals for compliance. In the event that:</p> <ul style="list-style-type: none"> (a) the Engineer determines that compliance is required, and (b) the proposals for compliance constitute a variation, <p>then the Engineer shall initiate a Variation in accordance with Clause 13 [<i>Variations and Adjustments</i>].</p>	<p>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.</p> <p>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 Clause 10 [<i>Employer's Taking Over</i>]. References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise.</p> <p>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:</p> <ul style="list-style-type: none"> (a) the Employer determines that compliance is required, and (b) the proposals for compliance constitute a variation, <p>then the Employer shall initiate a Variation in accordance with Clause 13 [<i>Variations and Adjustments</i>].</p>	
OB 5.4		

Sub-Clause 1.13 requires the Contractor to comply with all relevant regulations, including paying fees and giving notices under these regulations.

In Sub-Clause 5.4, the first sentence specifies various criteria for the design, Contractor's Documents and Works. If any of these conflict, it will be necessary

to ascertain their order of precedence. Although the Laws take priority over other requirements, under Sub-Clause 5.3, some of the criteria included in the first sentence of Sub-Clause 5.4 may also be legal requirements. The order of precedence of contract documents is specified in Sub-Clause 1.5.

In some countries, certain types of work may have to receive statutory approval and/or certification. Sub-Clause 5.4 imposes on the Contractor the responsibility to comply with these statutory requirements. However, the Employer's Requirements should take account of statutory requirements which are applicable to the operation of the Works.

If substantially changed or new criteria are promulgated, they may be legal requirements (see Sub-Clause 13.7), or they may be optional. The Contractor

is required to prepare and submit proposals for compliance, but the proposals need not include all the items listed in Sub-Clause 13.3. On the contrary, the final sentence of Sub-Clause 5.4 clarifies that a determination under sub-paragraph (a) precedes a Variation being initiated "either by an instruction or by a request for the Contractor to submit a proposal" (Sub-Clause 13.1).

Under P&DB 3.1, EPCT 3.3 and Sub-Clause 5.8, approvals, consents, and the like shall not relieve the Contractor from any responsibility.

Under Sub-Clause 13.1, the Employer's Requirements may be varied. It is advisable to seek prior agreement of the consequences of each Variation, especially if it affects the scope or purpose of the Works.

5.5 Training

P&DB

EPCT

The Contractor shall carry out the training of Employer's Personnel in the operation and maintenance of the Works to the extent specified in the Employer's Requirements. If the Contract specifies training which is to be carried out before taking-over, the Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] until this training has been completed.

The Contractor shall carry out the training of Employer's Personnel in the operation and maintenance of the Works to the extent specified in the Employer's Requirements. If the Contract specifies training which is to be carried out before taking-over, the Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] until this training has been completed.

The Contractor is required to carry out training, but only to the extent (if any) specified in the Employer's Requirements. There is thus no obligation to provide training unless it is specified in the Employer's Requirements.

The main reason for including this Sub-Clause in the General Conditions arises from its second sentence. The Employer's Requirements may specify the extent of training to be carried out before a Section or the whole of the Works is taken over by the Employer. In that case, Sub-Clause 10.1 cannot be applied until such training has been completed. Under P&DB 10.2, a Taking-Over Certificate may be issued for a part of the Works, at the sole

discretion of the Employer, and the part could be stated to exclude incomplete training.

The training must be executed in a competent manner, as further described in Sub-Clause 7.1. However, the Contractor's obligation under the second sentence of Sub-Clause 4.1, to provide Works which are fit for purpose when completed, does not itself imply an obligation to provide training under Sub-Clause 5.5 to achieve the level of competence necessary to operate the Works. Clearly, the Contractor cannot be responsible for the suitability of those Employer's Personnel who are selected, by (or on behalf of) the Employer, to be

trainees. If the training is required to achieve a specified level of competence, then it and the qualities and abilities of these Employer's Personnel should be clearly defined in the Employer's Requirements.

The Employer's Personnel selected as trainees should be made available by the Employer when indicated in the programme submitted under Sub-Clause 8.3, free of charge. Therefore, unless otherwise stated in the Contract:

- the Contractor is not required to pay trainees or to provide transport or sleeping accommodation; and

- when making these arrangements, the Employer may assume that training will be carried out at the Works.

If there is a delay in the provision of prospective trainees, the immediate consequence is delay, impediment or prevention which is attributable to the Employer or Employer's Personnel, in terms of Sub-Clause 8.4. However, if some trainees are provided, the Contractor is entitled to proceed (so that he can comply with Sub-Clauses 5.5, 8.2 and 10.1), unless he receives instructions under Sub-Clause 8.8 to suspend training.

5.6 As-Built Documents

P&DB

EPCT

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 Engineer prior to the commencement of the Tests on Completion.

In addition, the Contractor shall supply to the Engineer as-built drawings of the Works, showing all Works as executed, and submit them to the Engineer for review under Sub-Clause 5.2 [*Contractor's Documents*]. The Contractor shall obtain the consent of the Engineer 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 Engineer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] until the Engineer has received these documents.

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.

In addition, the Contractor shall supply to the Employer as-built drawings of the Works, showing all Works as executed, and submit them to the Employer for review under Sub-Clause 5.2 [*Contractor's Documents*]. 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. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] until the Employer has received these documents.

OB 5.6

The Contractor is required to prepare various documents under this Sub-Clause. Other details may need to be specified in the Employer's Requirements.

As-built documents are "Contractor's Documents" which the Employer uses subject to Sub-Clause 1.10. Under the second paragraph of P&DB 5.2, appropriate Employer's Personnel may inspect the preparation of these Documents.

Firstly, "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 under Sub-Clause 5.2, unless the Employer's Requirements specify otherwise.

Secondly, the Contractor is required to provide as-built drawings showing the Works as executed, and submit them for review under Sub-Clause 5.2. The purpose of this review is to permit the Employer's Personnel to verify compliance with the Contract, particularly in respect of the size, referencing system and scope of the drawings. Although the final paragraph of Sub-Clause 5.2 states that the

outcome of its review procedure shall not relieve the Contractor from responsibility, the reviewer should avoid taking any action which could be construed as detailing an amendment which might then be regarded as something required by (and the responsibility of) the Employer.

Under the final paragraph of the Sub-Clause, if the Employer's Requirements specify the numbers and types of as-built drawings required, the Contractor must complete them before the Works are taken over by the Employer. In that case, Sub-Clause 10.1 cannot be applied until the drawings have been supplied, "except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose". This exception arises under Sub-Clause 10.1(a), the Contractor then being required to complete the minor outstanding work and remedy the defects, under Sub-Clauses 5.8 and 11.1.

Sub-Clauses 2.1 and 10.2 constrain the Employer from premature use of the Works, with EPCT 10.2 making such use of a part of the Works a breach of the Contract unless it states otherwise. Under P&DB 10.2, a Taking-Over Certificate may be issued for a part of the Works, at the sole discretion of the Employer, and the part could be stated to exclude any as-built drawings which the Engineer has not received.

5.7 Operation and Maintenance Manuals

	P&DB	EPCT
	<p>Prior to commencement of the Tests on Completion, the Contractor shall supply to the Engineer provisional operation and maintenance manuals in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant.</p> <p>The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [<i>Taking Over of the Works and Sections</i>] until the Engineer has received final operation and maintenance manuals in such detail, and any other manuals specified in the Employer's Requirements for these purposes.</p>	<p>Prior to commencement of the Tests on Completion, the Contractor shall supply to the Employer provisional operation and maintenance manuals in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant.</p> <p>The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [<i>Taking Over of the Works and Sections</i>] until the Employer has received final operation and maintenance manuals in such detail, and any other manuals specified in the Employer's Requirements for these purposes.</p>

YB 6.6; OB 5.7

The Contractor is required to prepare operation and maintenance manuals in two stages under this Sub-Clause. It may need to be elaborated in the Employer's Requirements. Manuals are "Contractor's Documents" which the Employer uses subject to Sub-Clause 1.10. Under the second paragraph of P&DB 5.2, appropriate Employer's Personnel may inspect the preparation of these Documents.

Firstly, provisional manuals have to be supplied before the Tests on Completion. The scope of these manuals should be the same as will be required for the final manuals. The reference to "provisional" is intended to indicate that (in practice) it is usually necessary for the final manuals to take account of the outcome of the Tests on Completion.

Secondly, the Contractor is required to provide final manuals before the Works are

taken over by the Employer. Sub-Clause 10.1 cannot be applied until these final manuals have been supplied, "except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose". This exception arises under Sub-Clause 10.1(a), the Contractor then being required to complete the minor outstanding work and remedy defects, under Sub-Clauses 5.8 and 11.1.

Sub-Clauses 2.1 and 10.2 constrain the Employer from premature use of the Works, with EPCT 10.2 making such use of a part of the Works a breach of the Contract unless it states otherwise. Under P&DB 10.2, a Taking-Over Certificate may be issued for a part of the Works, at the sole discretion of the Employer, and the part could be stated to exclude any manuals which the Engineer has not received.

5.8 Design Error

	P&DB	EPCT
	If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.	If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.
YB 7.1; OB 5.8		

The first paragraph of Sub-Clause 5.2 describes Contractor's Documents as comprising:

- documents specified in the Employer's Requirements, which must therefore so specify;
- 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

Errors in the Employer's Documents are covered in Sub-Clause 5.1 and P&DB 1.9.

Under the last paragraph of Sub-Clause 1.8, each Party is required to notify the other Party of errors of a technical nature. The law may also impose this duty.

Clause 6 Staff and Labour

6.1 Engagement of Staff and Labour

	CONS	P&DB	EPCT
Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.	Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.		Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

RB 34; YB 18.1; OB 6.1

This Sub-Clause removes any implication of obligation on the part of the Employer to provide personnel, except to the extent (if any) that the Employer has undertaken to do so. If the Employer is to make any personnel available, his obligations must be specified precisely. The consequences of shortcomings may need to be considered carefully before specifying these obligations.

6.2 Rates of Wages and Conditions of Labour

	CONS	P&DB	EPCT
The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.	The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor		The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor

OB 6.2

It is considered reasonable to require the Contractor to be a good employer of his labour force. If the Contractor does not comply with the Sub-Clause, the Employer might have difficulty proving the extent of any loss suffered as a result, but he would be able to resist claims from the Contractor in respect of events caused by the non-compliance.

6.3 Persons in Service of Employer

CONS	P&DB	EPCT
The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.	The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.	The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

OB 6.3

It is also reasonable not to allow the Contractor to undermine the Employer's activities, either on the project or elsewhere, by encouraging Employer's Personnel to transfer their employment to the Contractor.

Each Party should seek the other Party's prior agreement to the recruitment of its personnel.

6.4 Labour Laws

CONS	P&DB	EPCT
<p>The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.</p> <p>The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.</p>	<p>The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.</p> <p>The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.</p>	<p>The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.</p> <p>The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.</p>

OB 6.4

Under Sub-Clauses 1.13 and 6.4, the Contractor must comply with the Laws of the Country. If the Contractor does not comply with Sub-Clause 6.4, the Employer might have difficulty proving the extent of any loss suffered as a result, but he would be able to resist claims from the Contractor in respect of events caused by the non-compliance.

6.5 Working Hours

	CONS	P&DB	EPCT
No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Appendix to Tender, unless:	No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Appendix to Tender, unless:	No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:	No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:
(a) otherwise stated in the Contract,	(a) otherwise stated in the Contract,	(a) otherwise stated in the Contract,	(a) otherwise stated in the Contract,
(b) the Engineer gives consent, or	(b) the Engineer gives consent, or	(b) the Employer gives consent, or	(b) the Employer gives consent, or
(c) 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 Engineer.	(c) 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 Engineer.	(c) 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.	(c) 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.

RB 45; YB 18.3 & 18.4; OB 6.5

When the tender documents are being prepared, consideration may be given as to whether this Sub-Clause is required (if not, it may be deleted) and, if so, for what reason. The Employer may wish to specify the working hours, especially for work on an existing operational facility. Alternatively, the Employer's Personnel may simply wish to know the Contractor's working hours well in advance, so as to plan and manage their activities.

Under CONS or P&DB, if the Employer wishes to specify working hours, he should state them in the Appendix to Tender. If the Employer's Personnel wish to know the Contractor's intentions, the item in the Appendix to Tender may be left blank in the tender documents, to be completed by each tenderer.

Under EPCT, the phrase "normal working hours" is not defined. If the Employer wishes to specify working hours, he should state them in the Employer's Requirements or the Particular Conditions. However, the Contractor usually decides the timing of the "normal working hours" under an EPCT Contract. Unless he states them in his Tender, the phrase "normal working hours" may be regarded as being whatever working hours the Contractor establishes as normal.

The three sub-paragraphs then list the exceptions to the first two lines of the Sub-Clause, namely another provision in the Contract, prior consent, or urgency. Under Sub-Clause 1.3, consent shall be given in writing and shall not be unreasonably withheld or delayed.

6.6 Facilities for Staff and Labour

	CONS	P&DB	EPCT
Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also	Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The	Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The	Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The

	CONS	P&DB	EPCT
provide facilities for the Employer's Personnel as stated in the Specification.	Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.	Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.	Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.
The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.	The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.	The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.	The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.
OB 6.6			

This Sub-Clause removes any implication of obligation on the part of the Employer to arrange facilities for the Contractor's personnel, except to the extent (if any) that the Employer has undertaken to do so. If the Employer is to make any of these arrangements, his obligations must be specified precisely. The consequences of shortcomings may need to be considered carefully before specifying these obligations.

It may be difficult to establish what accommodation and facilities are "necessary" under this Sub-Clause, until the effects of their inadequacy have become apparent. In that event, the Employer cannot be held responsible for these effects, and he would be able to resist claims from the Contractor associated with these effects.

6.7 Health and Safety

	CONS	P&DB	EPCT
The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall 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, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.	The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall 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, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.	The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall 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, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.	The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall 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, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
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	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	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	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

CONS

authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, 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 Engineer may reasonably require.

P&DB

authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, 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 Engineer may reasonably require.

EPCT

authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

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.

OB 6.7

This Sub-Clause sets out the Contractor's overall responsibility for health and safety. Liaison with local health authorities may result in their facilities being used as ambulance service, for example.

local facilities seem likely to be insufficient for the numbers of personnel on Site, the Contractor must overcome the shortfall. In certain circumstances, it may even be necessary for him to provide a fully-equipped hospital.

The importance of planning for possible accidents must not be overlooked. If the

6.8 Contractor's Superintendence

CONS

Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [*Law and Language*]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing

P&DB

Throughout the design and execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [*Law and Language*]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing

EPCT

Throughout the design and execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [*Law and Language*]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing

CONS

P&DB

EPCT

accidents), for the satisfactory and safe execution of the Work

accidents), for the satisfactory and safe execution of the Work

accidents), for the satisfactory and safe execution of the Work

RB 15 & 16.1(a); OB 6.8

It may be difficult to establish what is "necessary" and how many are "sufficient" under this Sub-Clause, until the effects of any inadequacies have become apparent. In that event, the Employer cannot be held responsible for these effects, and he would be able to resist claims from the Contractor associated with these

effects. Failure to comply might be evident by constructional problems, which might be serious enough to necessitate an instruction to suspend the Works under Sub-Clause 8.8.

6.9 Contractors Personnel

CONS

P&DB

EPCT

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer 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:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) 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.

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer 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:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) 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.

The 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:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) 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.

RB 16; YB 13.2; OB 6.9

It may not be necessary to require removal of personnel under this Sub-Clause, because the Contractor may wish to take his own action, without instruction. Typically, the Contractor may readily be persuaded to remove the person, and such removal by agreement is preferable to enforcement under this Sub-Clause.

However, if the Contractor is required to remove any person employed on the Site,

the Contractor should comply with the instruction (see CONS/P&DB 3.3) unless under EPCT the instruction does not comply with EPCT 3.4. Thereafter, if the Contractor demonstrates that the opinion (of CONS' or P&DB's Engineer or EPCT's Employer) was unreasonable and unfounded, the Contractor may be entitled to compensation under applicable law.

6.10 Records of Contractor's Personnel and Equipment

CONS	P&DB	EPCT
<p>The Contractor shall submit, to the Engineer, 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 Engineer, 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.</p>	<p>The Contractor shall submit, to the Engineer, 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 Engineer, 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.</p>	<p>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.</p>

RB 35; YB 18.2; OB 4.15 (d)

In order to facilitate the evaluation of claims and Variations, it is necessary to establish basic record-keeping from the commencement of a contract.

The data required to be submitted under Sub-Clause 6.10 must be included in each of the Contractor's reports, in accordance with Sub-Clause 4.21(d). Under Sub-Clause 14.3, the Contractor's Statement has to be submitted together with supporting documents which include the report in accordance with Sub-Clause

4.21. The period for payment under paragraph (b) of Sub-Clause 14.7 does not commence until the relevant report has been submitted under Sub-Clause 4.21, including the data described in Sub-Clause 6.10.

Sub-Clause 6.10 may become an "other Sub-Clause which may apply to a claim", mentioned in the last paragraph of Sub-Clause 20.1, unless the claim is one to which these records of Contractor's Personnel and Equipment do not apply.

6.11 Disorderly Conduct

CONS	P&DB	EPCT
<p>The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or</p>	<p>The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or</p>	<p>The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or</p>

CONS

P&DB

EPCT

disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

OB 6.10

It may be difficult to establish what are "reasonable precautions" under this Sub-Clause, until the effects of any inadequacies have become apparent. In that event, the Employer cannot be held responsible for these effects, it might be necessary

for the civil police to be involved, and the Employer would be able to resist claims from the Contractor associated with these effects.

Clause 7 Plant, Materials and Workmanship

7.1 Manner of Execution

	CONS	P&DB	EPCT
The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:	The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:	The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:	The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:
(a) in the manner (if any) specified in the Contract,	(a) in the manner (if any) specified in the Contract,	(a) in the manner (if any) specified in the Contract,	(a) in the manner (if any) specified in the Contract,
(b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and	(b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and	(b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and	(b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
(c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract	(c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract	(c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract	(c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract

RB 36.1; YB 19.1; OB 7.1

This Sub-Clause specifies general requirements in respect of the manner in which the Works are to be executed. More detailed requirements will be derived from other provisions in the Contract, to which sub-paragraph (a) refers.

The reference in sub-paragraph (c) to "non-hazardous Materials" prohibits the use of materials which may be hazardous except to the extent that the use of particular Materials is specified in the Contract. In this context, there are three different hazardous situations:

- Many manufacturing processes are hazardous, but do not result in hazardous "Materials", which are defined as the things supplied by the Contractor. Sub-Clause 7.1 requires the Contractor to supply Materials which have been manufactured in accordance with its sub-paragraphs, but does not require the manufacturing processes to be non-hazardous. Off-Site manufacture creates, but does not use, the "Materials" as defined in Sub-Clause 1.1.5.3.
- Materials must not require the use of hazardous Site procedures for them to "form ... part of the Permanent Works" (Sub-Clause 1.1.5.3) on the Site.

- Materials must not be hazardous thereafter, during their working life or during any subsequent procedures for their demolition and disposal.

Under CONS or P&DB, the Engineer is not empowered to relax this provision of the Contract. If he consents to the use of Materials which are subsequently found to be hazardous, the Contractor will be in breach of this Sub-Clause and will have to replace the Materials, because he retains responsibility in accordance with Sub-Clause 3.1(c).

If the Contractor wishes to use Materials which do not comply with Sub-Clause 7.1, he may propose their use under the procedures specified in Sub-Clause 13.2, drawing attention to the hazards. If a tenderer wishes (if he becomes the Contractor) to use Materials which do not comply with Sub-Clause 7.1, he should so state and ensure that his proposal is incorporated into the Contract, relying upon Sub-Clause 7.1(a).

7.2 Samples

CONS	P&DB	EPCT
<p>The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for consent prior to using the Materials in or for the Works:</p> <p>(a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and</p> <p>(b) additional samples instructed by the Engineer as a Variation.</p> <p>Each sample shall be labelled as to origin and intended use in the Works.</p>	<p>The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [<i>Contractor's Documents</i>]:</p> <p>(a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and</p> <p>(b) additional samples instructed by the Engineer as a Variation.</p> <p>Each sample shall be labelled as to origin and intended use in the Works.</p>	<p>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 [<i>Contractor's Documents</i>], 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.</p>

RB 36.1 & 36.2; YB 6.1; OB 5.5

The Contractor is required to submit samples as specified in the Contract and, except under EPCT, manufacturer's standard samples.

requires the consent to be given in writing and not unreasonably withheld or delayed.

Under CONS or P&DB, the samples are to be accompanied by "relevant information". It would depend on the type of Materials involved, but typically could include details relevant to the use (application) of the Materials and to their maintenance requirements. Under CONS 7.2, the Engineer's prior consent is required before the Materials are used, and Sub-Clause 1.3

Under P&DB or EPCT, the samples are to be submitted for review in accordance with the procedure specified in Sub-Clause 5.2. Unless (under its fifth paragraph) the Contractor received notice that the sample "fails (to the extent stated) to comply with the Contract", he is entitled to proceed as soon as the "review period" has expired.

7.3 Inspection

CONS	P&DB	EPCT
<p>The Employer's Personnel shall at all reasonable times:</p> <p>(a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and</p>	<p>The Employer's Personnel shall at all reasonable times:</p> <p>(a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and</p>	<p>The Employer's Personnel shall at all reasonable times:</p> <p>(a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and</p>

CONS

(b) during production, manufacture and construction (at the Site and elsewhere), 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.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

P&DB

(b) during production, manufacture and construction (at the Site and elsewhere), 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

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

EPCT

(b) during production, manufacture and construction (at the Site and, to the extent specified in the Contract, elsewhere), 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.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

In respect of the work which 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, put out of sight, or packaged for storage or transport. The Employer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Employer does not require to do so. 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.

RB 37.1, 37.2 & 38; YB 14.7, 19.2, 19.3 & 20.2; OB 7.3

The Employer's Personnel are to be given all reasonable access to inspect and test materials and workmanship. Note that the tests which Sub-Clause 7.3 entitles them to carry out are not limited to any which are described in the Contract. The tests referred to in Sub-Clause 7.3 are thus in a different category to those covered elsewhere:

- Sub-Clause 7.3 relates to the testing by the Employer's Personnel during the execution of the work;

- Sub-Clause 7.4 relates to the specified testing by the Contractor, namely the tests to be carried during the execution of the work and the tests to be carried out upon completion (before the Employer's taking over);
- Sub-Clause 9.1 relates to the specified testing by the Contractor upon completion, before the taking over;
- P&DB 12 and EPCT 12 relate to the specified testing, if any, to be carried out after the taking over (typically, one or two months after taking over).

Unless the relevant details are described in (or reasonably to be inferred from) the Contract, the Contractor would not have allowed in his pricing for costs attributable to the testing by the Employer's Personnel under Sub-Clause 7.3, such as the provision of test equipment or special access arrangements. 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.

If the Employer's Personnel intend to carry out inspections or testing for which the Contractor will be required to provide additional facilities or other things at significant Cost, details should be specified in the Contract. If these facilities or other things are not so specified, they may be instructed under Clause 13.

Under CONS or P&DB, the Contractor is required to give notice when any Plant

or Materials is about to be packaged or covered up. If he fails to notify, and proceeds with packaging and/or covering up, he must unpack and uncover at his own cost, notwithstanding that the Plant or Materials may be in accordance with the Contract. If the Contractor does notify, the Engineer must be reasonably prompt in responding, by carrying out the examination, inspection, measurement or testing without unreasonable delay, or by giving written notice to the Contractor that it is considered unnecessary. Unreasonable delay may entitle the Contractor to an extension of time under Sub-Clause 8.4(e). Under Sub-Clause 1.3, these notices must be given in writing and a copy sent to the Employer.

Under EPCT, the situation is similar but 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 CONS or P&DB..

7.4 Testing

CONS	P&DB	EPCT
<p>This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).</p>	<p>This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).</p>	<p>This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).</p>
<p>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. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.</p>	<p>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. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.</p>	<p>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. The Contractor shall agree, with the Employer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.</p>
<p>The Engineer may, under Clause 13 [<i>Variations and Adjustments</i>], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall</p>	<p>The Engineer may, under Clause 13 [<i>Variations and Adjustments</i>], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall</p>	<p>The Employer may, under Clause 13 [<i>Variations and Adjustments</i>], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall</p>

be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

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, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

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

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

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, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

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

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

be borne by the Contractor, notwithstanding other provisions of the Contract.

The Employer shall give the Contractor not less than 24 hours' notice of the Employer's intention to attend the tests. If the Employer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Employer, and the tests shall then be deemed to have been made in the Employer's presence.

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, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) 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
- (b) 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.

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.

RB 36 & 37.3; YB 20.3 - 20.5, 28.2 & 28.4; OB 7.4

Sub-Clause 7.3 obliges the Contractor to give full opportunity for others to carry out tests, many of which may not be described in the Contract.

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, and is referred to in the first sentence of Clause 9.

Sub-Clause 7.4 makes no specific mention of the possible addition of tests not provided for in the Contract, because additional tests would be instructed as Variations under Clause 13. It is advisable to seek prior agreement of the consequences of each Variation, but it may not be possible to do so.

If the Contractor suffers delay or incurs Cost, he gives notice under the fifth

paragraph. CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer. Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

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 P&DB/EPCT's Works, are fit for their intended purposes, in accordance with Sub-Clause 4.1. The final paragraph 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.

7.5 Rejection

CONS	P&DB	EPCT
<p>If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.</p>	<p>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 Engineer may reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.</p>	<p>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. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.</p>
<p>If the Engineer requires this Plant, Materials 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 subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay these costs to the Employer.</p>	<p>If the Engineer 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 subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay these costs to the Employer.</p>	<p>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 subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay these costs to the Employer.</p>

RB 37.4; YB 21; OB 7.5

The first paragraph applies if, following any of the activities described in Sub-Clause 7.3 or 7.4, something is found to be defective. The Contractor is then required to remedy the defect and make the thing comply with the Contract. He may request clarification (in borderline cases) of the reasons why it is considered to be defective, but there is no need for the Engineer or other Employer's Personnel to identify the cause of the defect.

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

Under CONS/P&DB 15.2(c)(ii), inexcusable failure to comply with Sub-Clause 7.5 and/or 7.6 entitles the Employer to termination. There is no necessity for the Engineer to issue a notice under Sub-Clause 15.1, although the giving of a notice may be in the interests of the Employer.

EPCT 15.2 does not refer to Sub-Clause 7.5 or 7.6, because the Employer's Personnel are not expected to monitor the execution of the Works as thoroughly as is usually expected of the Engineer under CONS or P&DB.

7.6 Remedial Work

CONS	P&DB	EPCT
<p>Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:</p> <ul style="list-style-type: none"> (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract, (b) remove and re-execute any other work which is not in accordance with the Contract, and (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise. 	<p>Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:</p> <ul style="list-style-type: none"> (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract, (b) remove and re-execute any other work which is not in accordance with the Contract, and (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise. 	<p>Notwithstanding any previous test or certification, the Employer may instruct the Contractor to:</p> <ul style="list-style-type: none"> (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract, (b) remove and re-execute any other work which is not in accordance with the Contract, and (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.
<p>The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).</p>	<p>The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).</p>	
<p>If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay to the Employer all costs arising from this failure.</p>	<p>If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay to the Employer all costs arising from this failure.</p>	<p>If the Contractor fails to comply with any such instruction, which complies with Sub-Clause 3.4 [<i>Instructions</i>], the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5</p>

CONS

P&DB

EPCT

[*Employer's Claims*] pay to the Employer all costs arising from this failure.

RB 39 & 64

Under CONS/P&DB 15.2(c)(ii), inexcusable failure to comply with Sub-Clause 7.6 entitles the Employer to termination. There is no necessity for the Engineer to issue a notice under Sub-Clause 15.1, although the giving of a notice may be in the interests of the Employer.

EPCT 3.4 requires each instruction to state the obligations to which it relates,

without which it is not a valid instruction. Therefore, EPCT 7.6 omits the paragraph requiring the Contractor to comply with the instruction, and the final paragraph refers to EPCT 3.4. EPCT 15.2 does not refer to Sub-Clause 7.5 or 7.6, because the Employer's Personnel are not expected to monitor the execution of the Works as thoroughly as is usually expected of the Engineer under CONS or P&DB.

7.7 Ownership of Plant and Materials

CONS

P&DB

EPCT

Each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

- (a) when it is delivered to the Site;
- (b) when the Contractor is entitled to payment of the value of the Plant and Materials under Sub-Clause 8.10 [*Payment for Plant and Materials in Event of Suspension*].

Each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

- (a) when it is delivered to the Site;
- (b) when the Contractor is entitled to payment of the value of the Plant and Materials under Sub-Clause 8.10 [*Payment for Plant and Materials in Event of Suspension*].

Each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

- (a) when it is delivered to the Site;
- (b) when the Contractor is entitled to payment of the value of the Plant and Materials under Sub-Clause 8.10 [*Payment for Plant and Materials in Event of Suspension*].

YB 32; OB 7.6

As a legal matter, it may be important to establish the ownership of Plant and Materials, particularly in case of bankruptcy/liquidation of the person who is in possession of them. In some countries, the Employer may have certain rights in respect of items for which he has paid, entitling him to take possession of them.

To the extent that any part of Sub-Clause 7.7 is inconsistent with applicable Laws, they are stated to prevail.

The Plant and Materials are required to become the property of the Employer "free from liens and other encumbrances", which include the rights which a seller may have until such time that he receives payment from the purchaser/buyer.

Under sub-paragraph (a), the Contractor relinquishes ownership on delivery at Site, irrespective of Sub-Clause 14.5. If he is not then able to transfer ownership (because of the terms of his supply subcontract, for example), he is in breach of

the Contract. Sub-Clause 14.5 may have entitled him previously to payment when shipped; or may not entitle him to payment even though the item has become the Employer's property under Sub-Clause 7.7(a).

Under sub-paragraph (b), the change in ownership occurs as soon as the Contractor is entitled under Sub-Clause 8.10 to payment, and not when he subsequently receives payment. In other words, change in ownership does not depend upon the Contractor having received payment in full, which might sometimes be difficult to establish.

The owner of goods may be liable for the payment of taxes or duties, and ownership may also be a factor in determining liability for care, custody and control.

Contractors are sometimes reluctant to have these provisions in the Contract, because of the possibility of inconsistency with the requirements of suppliers and Subcontractors. However, subcontracts must be consistent with the main contract, which typically becomes effective before subcontracts do so.

7.8 Royalties

CONS	P&DB	EPCT
<p>Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:</p> <p>(a) natural Materials obtained from outside the Site, and</p> <p>(b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.</p>	<p>Unless otherwise stated in the Employer's Requirements, the Contractor shall pay all royalties, rents and other payments for:</p> <p>(a) natural Materials obtained from outside the Site, and</p> <p>(b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.</p>	<p>Unless otherwise stated in the Employer's Requirements, the Contractor shall pay all royalties, rents and other payments for:</p> <p>(a) natural Materials obtained from outside the Site, and</p> <p>(b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.</p>

RB 28.2

The Employer will have provided the Site (although the land may be owned by others), so the Contractor is typically entitled to use the earth, rock and other natural Materials on the Site for any earthworks which may be required on the Site, without paying the Employer (or others) for these Materials. These earthworks may be part of the Permanent or Temporary Works.

Similarly, if the execution of the Works involves the disposal of material in areas within the Site, the Contractor would not expect to pay the Employer for such use of these areas. These typical arrangements may be implied from Sub-Clauses 2.1 and 7.8, unless other arrangements are specified in the Contract.

The Contractor is responsible for making the necessary arrangements with owners and/or occupiers of quarries, borrow areas and spoil tips, if the Works:

- involve earth, rock or other natural Materials being obtained from outside the Site, and/or
- involve off-Site disposal of surplus material from the required excavation and demolition works.

These owners and/or occupiers may, however, be prepared to pay the Contractor for the benefit of being able to use surplus material from the required excavation and demolition Permanent Works. The General Conditions do not prevent the

Contractor retaining these payments for the disposal described in sub-paragraph (b). Typically, if a contract requires the Contractor to dispose of things off the Site, they become his property. However, he is not entitled to take the Employer's property (whether natural or man-made) which is either specified to be placed in "disposal areas within the Site" or is not surplus material from the required excavation and demolition Permanent Works.

On a project involving a substantial amount of earthworks or off-Site disposal, the Contract should clarify the extent to which the Contractor may dispose of surplus

material on the Site, and may have to define the boundaries of the Site accurately. If the Contract specifies the land areas that are to be used for the disposal of surplus material, the requirement to use these land areas may have the effect of making them parts of the Site, unless the Contract states otherwise.

Under Sub-Clause 2.1, the Employer is responsible for giving the Contractor free right of access to all parts of the Site, but not to any other land areas which the Contractor uses, such as for the disposal of surplus material from the required excavation and demolition works.

Clause 8 Commencement, Delays and Suspension

8.1 Commencement of Work

	CONS	P&DB	EPCT
The Engineer shall give the Contractor not less than 7 days' notice of the Commencement Date. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.	The Engineer shall give the Contractor not less than 7 days' notice of the Commencement Date. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.		Unless otherwise stated in the Contract Agreement: (a) the Employer shall give the Contractor not less than 7 days' notice of the Commencement Date; and (b) 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 [<i>Contract Agreement</i>].
The Contractor shall commence the 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.	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.		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.

RB 41; YB 1.1.1; OB 8.1

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.

If the Contract Agreement defines the Commencement Date, such a definition will be binding, because the Contract Agreement has the highest priority under Sub-Clause 1.5. CONS/P&DB 8.1 does not refer to the Contract Agreement, but only because the notification by the Engineer is the procedure most often used.

The notice should be given soon after (and not before) the Contract becomes legally effective, and need only state:

"We hereby give notice, in the terms of Sub-Clause 8.1 of the Conditions of Contract, that the Commencement Date shall be ..."

It may be necessary to add further information regarding the arrangements for giving the Contractor possession of the Site in accordance with Sub-Clause 2.1.

The Employer should not enter into the Contract until he expects to be able to comply with Sub-Clause 2.1. 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.

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 six weeks had expired, the Contractor might only be entitled to relatively small financial compensation, and not to termination.

The importance of the last sentence of Sub-Clause 8.1 should not be overlooked.

Notwithstanding extensions to the Time for Completion, particularly for delays which only affect part of the Works, the Contractor has to proceed expeditiously. This may, depending on the circumstances, oblige him to complete other parts (which were not affected by a delay which entitled him to an extension of time)

before the expiry of the extended Time for Completion. However, the circumstances may give rise to practical difficulties in defining what constitutes "due expedition", particularly if the Employer considers himself entitled to termination under Sub-Clause 15.2(c).

8.2 Time for Completion

	CONS	P&DB	EPCT
	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:	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:	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:
(a)	achieving the passing of the Tests on Completion, and	achieving the passing of the Tests on Completion, and	achieving the passing of the Tests on Completion, and
(b)	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 [<i>Taking Over of the Works and Sections</i>].	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 [<i>Taking Over of the Works and Sections</i>].	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 [<i>Taking Over of the Works and Sections</i>].

RB 43; YB 25; OB 8.2

This is the Contractor's fundamental time-related obligation, namely completion within the Time for Completion calculated from the Commencement Date (see Sub-Clause 8.1).

If different parts of the Works are required to be completed within different Times for Completion, these parts should be defined as Sections: in the Appendix to Tender under CONS/P&DB, or in EPCT's Particular Conditions. Precise geographical definitions are advisable, in order to minimise ambiguity regarding each Party's responsibilities when the Employer takes over a Section.

The Sub-Clause defines the extent of the work to be completed within the Time for Completion and before taking-over, in accordance with the first sentence of Sub-Clause 10.1 (sub-paragraph (i)), but subject to the exception of some items of minor outstanding work and defects permitted in Sub-Clause 10.1(a).

The work to be completed within the Time for Completion includes, under subparagraph (b), all work for which the Contract uses the following provision:

"The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 of the Conditions of Contract until ..."

These quoted words should be used wherever the Contract is to require a particular item of work to be completed within the Time for Completion and before taking-over. These words are used in CONS 4.1(d) and in P&DB/EPCT 5.5, 5.6 and 5.7, except that the phrase "of the Conditions of Contract" is omitted.

The exception permitted in Sub-Clause 10.1(a), namely of some items of minor outstanding work, should not be regarded as including an entire item of work which is expressly stated as being required for the Works to be considered to be completed for the purposes of taking over.

8.3 Programme

CONS	P&DB	EPCT
<p>The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [<i>Commencement of Works</i>]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:</p> <ul style="list-style-type: none"> (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, (b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [<i>Nominated Subcontractors</i>]), (c) the sequence and timing of inspections and tests specified in the Contract, and (d) a supporting report which includes: <ul style="list-style-type: none"> (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage. 	<p>The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [<i>Commencement of Works</i>]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:</p> <ul style="list-style-type: none"> (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design, Contractor's Documents, procurement, manufacture, inspection, delivery to Site, construction, erection, testing, commissioning and trial operation, (b) the periods for reviews under Sub-Clause 5.2 [<i>Contractor's Documents</i>] and for any other submissions, approvals and consents specified in the Employer's Requirements, (c) the sequence and timing of inspections and tests specified in the Contract, and (d) a supporting report which includes: <ul style="list-style-type: none"> (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage. 	<p>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:</p> <ul style="list-style-type: none"> (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each major stage of the Works, (b) the periods for reviews under Sub-Clause 5.2 [<i>Contractor's Documents</i>], (c) the sequence and timing of inspections and tests specified in the Contract, and (d) a supporting report which includes: <ul style="list-style-type: none"> (i) a general description of the methods which the Contractor intends to adopt for the execution of each major stage of the Works, and (ii) the approximate number of each class of Contractor's Personnel and of each type of Contractor's Equipment for each major stage.
<p>Unless the Engineer, within 21 days after receiving a</p>	<p>Unless the Engineer, within 21 days after receiving a</p>	<p>Unless the Employer, within 21 days after receiving</p>

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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 Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [*Variation Procedure*].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) 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 Engineer in accordance with this Sub-Clause.

P&DB

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 Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [*Variation Procedure*].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) 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 Engineer in accordance with this Sub-Clause.

EPCT

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 the extent stated) 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.

RB 14.1 & 14.2; YB 12; OB 4.14

An experienced contractor will always prepare an up-to-date programme. It will be required under CONS/P&DB by the Engineer to monitor progress, and under all Books by Employer's Personnel to plan their activities. However, this Sub-Clause does not empower them to give or withhold approval to the programme, only to notify the extent to which it does not comply with the Contract. Therefore, neither Party can misuse the programme in order to achieve an unfair advantage over the other Party. Since there is no approval:

- approval cannot be wrongfully withheld unless and until the programme incorporates a constraint which was not envisaged in the Contract; and
- if the Contractor wrongfully submits an over-optimistic programme or supporting report (in terms of productivity, for example), there will be no

approved programme or report to be used thereafter for the unquestionable validation of a claim for extension of time. It would not be reasonable for obligations to be imposed on the Employer by reason of a document which was prepared after the Contract became effective and to which consent was not required to be given, and was not given.

The Employer's Personnel will, of course, be bound by any constraints contained in the Contract (the periods for reviews under P&DB 5.2, for example), and the programme may (or may not) be suitable for calculating an extension of time.

The Employer's Personnel are stated to be entitled to rely upon the programme. They may, for example, need to arrange for certain people to be available when particular parts of the Works are being executed, or when particular Contractor's

Documents are to be submitted for review. More of them may need to be on Site during periods when the rate of progress is at its peak, especially if the Contractor's Personnel will be working multiple shifts, including night-work.

The third paragraph requires the Contractor to give notice of probable future events which may adversely affect the Works, and particularly those which may increase the actual time required for completion. Note that it is the actual time which is referred to as being affected, not the Time for Completion to which the Contractor is entitled, so the obligation to notify includes events other than those listed in Sub-Clause 8.4. Anticipation of future problems is an important part of project management.

Similarly, the Employer's Personnel should keep the Contractor informed of these probable future events, it being in the Employer's interest to ensure that the Contractor is fully aware of them. There is no statement to this effect in the

General Conditions, because an inadvertent failure might then be construed as excusing delayed completion.

Under the second and the last sentences of Sub-Clause 8.3, the Contractor should revise the programme whenever the previous programme is inconsistent with:

- actual progress (which may be either behind or ahead of the current version of the programme),
- the Contractor's obligations (accelerated completion would be consistent with such obligations), or
- his stated intentions (for example, "the arrangements and methods ... for the execution of the Works" mentioned in Sub-Clause 4.1).

8.4 Extension of Time for Completion

CONS	P&DB	EPCT
<p>The Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [<i>Taking Over of the Works and Sections</i>] is or will be delayed by any of the following causes:</p> <p>(a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [<i>Variation Procedure</i>]) or other substantial change in the quantity of an item of work included in the Contract,</p> <p>(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,</p> <p>(c) exceptionally adverse climatic conditions,</p> <p>(d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or</p>	<p>The Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [<i>Taking Over of the Works and Sections</i>] is or will be delayed by any of the following causes:</p> <p>(a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [<i>Variation Procedure</i>]),</p> <p>(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,</p> <p>(c) exceptionally adverse climatic conditions,</p> <p>(d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or</p>	<p>The Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [<i>Taking Over of the Works and Sections</i>] is or will be delayed by any of the following causes:</p> <p>(a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [<i>Variation Procedure</i>]),</p> <p>(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions, or</p>

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- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

P&DB

- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

EPCT

- (c) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Employer in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time under Sub-Clause 20.1, the Employer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

RB 44; YB 26; OB 8.3

Provisions for extension of time are for the benefit of both parties. The Sub-Clause benefits the Contractor by giving him more time if any of the listed events occurs and delays completion. The Sub-Clause protects the Employer (especially if there is a delay, impediment or prevention by the Employer under the final sub-paragraph) from the possibility of Sub-Clause 8.2 being invalidated under applicable Laws. Note the following aspects of the first sentence:

- "The Contractor shall be entitled ...": which is not stated as being subject to anyone's opinion.
- "... subject to Sub-Clause 20.1 ...": the second and the final paragraphs of which may affect the entitlement to an extension of time.
- "... to an extension ... if and to the extent that completion ... is ... delayed by ...": so the extension should typically be calculated by reference to the delay in completion attributable to a listed cause. It may have disrupted progress, but may not itself have been the cause of any delay in completion. For example, a listed cause may only delay works which are not on the critical path and thus do not delay "completion for the purposes of Sub-Clause 10.1".
- "...completion for the purposes of Sub-Clause 10.1 ...": its first sentence (sub-paragraph 10.1(i)) defines the extent of the work which is to be completed within the Time for Completion, and which is thus relevant when

considering extensions of time. The work must include the matters described in sub-paragraphs (a) and (b) of Sub-Clause 8.2 but may exclude, as permitted in Sub-Clause 10.1(a), "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)".

Sub-Clause 8.4 does not include a descriptive list of all events which can give rise to an extension. Sub-paragraph (b) refers to other Sub-Clauses which entitle the Contractor to extensions of time, and which are included in the Table in this Guide at the end of the commentary on Clause 3. Each of these other Sub-Clauses entitles the Contractor (usually in a sub-paragraph (a)) to "an extension of time ..., if completion is or will be delayed, under Sub-Clause 8.4". The phrase "completion ... under Sub-Clause 8.4" means "completion for the purposes of Sub-Clause 10.1", as analysed above.

Unless the Contractor does not consider himself entitled to an extension of time (e.g., because "completion" will not be delayed), he is required to give the notice described in the first paragraph of Sub-Clause 20.1 (to which Sub-Clause 4.21(f) refers). Sub-Clause 20.1 specifies the procedure for agreement or determination of the extension of time, which is the same procedure as that for the agreement or determination of additional payments. However, Sub-Clause 8.4 and entitlements to extension of time do not themselves entitle the Contractor to

additional payment. CONS/P&DB 1.3 requires the Contractor to send a copy of his notices to the Employer.

Most of the Sub-Clauses to which sub-paragraph (b) of Sub-Clause 8.4 relates provide for the financial consequences, but Sub-Clause 8.5 is one exception.

Under CONS or P&DB, Sub-Clause 8.4(c) entitles the Contractor to an extension of time for climatic conditions which are "exceptionally adverse". In order to establish whether such climatic conditions occurred, it may be appropriate to compare the adverse climatic conditions with the frequency with which events of similar adversity have previously occurred at or near the Site. An exceptional degree of adversity might, for example, be regarded as one which has a probability of occurrence of four or five times the Time for Completion of the Works (for example, once every eight to ten years for a two-year contract). However, there is no equivalent entitlement to additional payment in respect of a climatic condition, unless it satisfies the criteria specified in Sub-Clause 17.3(h). If it satisfies these criteria, Sub-Clause 17.4 entitles the Contractor to compensation for rectifying some of the damage attributable to climatic conditions.

Under EPCT, the Contractor is not entitled to an extension of time for climatic conditions, unless they constitute Force Majeure under Clause 19.

Finally, the Sub-Clause concludes by confirming that the total of all extensions of time, either for the Works or for a particular Section, cannot subsequently be decreased. This is so even if many omissions are instructed as Variations, although the Contractor's obligation under Sub-Clause 8.1 to proceed "with due expedition and without delay" may infer completion sooner than is required under Sub-Clause 8.2.

Although the Contractor may submit a proposal (under Sub-Clause 13.2(i)) which will "accelerate completion", or he may (under Sub-Clause 13.1) be requested to submit such a proposal, the General Conditions contain no provisions under which he may be instructed to achieve completion before the Time for Completion expires, including extensions due under Sub-Clause 8.4. If the Employer wishes this to be achieved, the Parties should endeavour to reach agreement.

Acceleration to complete within the Time for Completion is covered in Sub-Clause

8.6. Acceleration to complete prior to the Time for Completion is covered in Sub-Clause 13.2. This "Time for Completion" is defined in Sub-Clause 1.1.3.3 as including extensions of time due under Sub-Clause 8.4. If the Engineer (under CONS or P&DB) or Employer (under EPCT) fails to determine extensions of time in accordance with Sub-Clauses 8.4 and 20.1:

- there would thereafter be no "Time for Completion" (time is said to be "at large"),
- the Contract would be construed accordingly (Sub-Clause 8.6 may be inapplicable, for example), and
- the Contractor's obligation would be to complete within a time which was reasonable in all the circumstances.

CONS/P&DB 3.3 requires the Contractor to comply with acceleration instructions given by the Engineer, although he is not empowered to instruct the Contractor to complete prior to the Time for Completion. If the Contractor receives such an instruction, he must obey it, but he may consider it advisable to notify the Employer immediately and advise him of the likely effect on the final Contract Price. The effect of these instructions may be much greater than the Employer may envisage, and would entitle the Contractor to request the evidence under Sub-Clause 2.4 of the Employer's ability to pay the increased Contract Price.

EPCT 3.4 constrains the Employer's instructions to those necessary for the Contractor's obligations, which must be identified in the instruction. The Employer is not empowered to instruct the Contractor to complete prior to the Time for Completion, and the Contractor is not obliged to comply with any such instruction.

If the Parties intend to enter into an agreement for accelerated completion, their agreement should define the consequences if actual completion is not achieved within the desired accelerated time for completion, but occurs within the Time for Completion including extensions of time due. Will Sub-Clause 8.7 apply, but with respect to the failure to complete within such desired (and agreed) accelerated time for completion? Or will there be a reduction in a bonus payment, with Sub-Clause 8.7 only applying with respect to the failure to complete within the Time for Completion including all extensions of time due under Sub-Clause 8.4.

8.5 Delay Caused by Authorities

CONS	P&DB	EPCT
<p>If the following conditions apply, namely:</p> <ul style="list-style-type: none"> (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country, (b) these authorities delay or disrupt the Contractor's work, and (c) the delay or disruption was Unforeseeable, <p>then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [<i>Extension of Time for Completion</i>].</p>	<p>If the following conditions apply, namely:</p> <ul style="list-style-type: none"> (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country, (b) these authorities delay or disrupt the Contractor's work, and (c) the delay or disruption was Unforeseeable, <p>then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [<i>Extension of Time for Completion</i>].</p>	<p>If the following conditions apply, namely:</p> <ul style="list-style-type: none"> (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country, (b) these authorities delay or disrupt the Contractor's work, and (c) the delay or disruption was not reasonably foreseeable by an experienced contractor by the date for submission of the Tender, <p>then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [<i>Extension of Time for Completion</i>].</p>

RB 31.2; OB 8.4

This Sub-Clause, like Sub-Clause 8.4, makes no mention of the financial consequences, because they would depend upon the particular circumstances.

8.6 Rate of Progress

CONS	P&DB	EPCT
<p>If, at any time:</p> <ul style="list-style-type: none"> (a) actual progress is too slow to complete within the Time for Completion, and/or (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [<i>Programme</i>], <p>other than as a result of a cause listed in Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], then the Engineer may instruct the Contractor to</p>	<p>If, at any time:</p> <ul style="list-style-type: none"> (a) actual progress is too slow to complete within the Time for Completion, and/or (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [<i>Programme</i>], <p>other than as a result of a cause listed in Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], then the Engineer may instruct the Contractor to</p>	<p>If, at any time:</p> <ul style="list-style-type: none"> (a) actual progress is too slow to complete within the Time for Completion, and/or (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [<i>Programme</i>], <p>other than as a result of a cause listed in Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], then the Employer may instruct the Contractor to</p>

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submit, under Sub-Clause 8.3 [*Programme*], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

submit, under Sub-Clause 8.3 [*Programme*], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

submit, under Sub-Clause 8.3 [*Programme*], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Employer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

RB 14.2 & 46; YB 12.3; OB 8.5}

This Sub-Clause provides the basis for monitoring progress by reference to the programme submitted under Sub-Clause 8.3. Its third paragraph requires the Contractor to give notice of specific probable future events or circumstances which may adversely affect or delay the execution of the Works.

Sub-Clause 8.6 is only applicable when the situation described in its sub-paragraph (a) or (b) has arisen for reason(s) other than those listed in Sub-Clause 8.4. It is thus inapplicable if the situation is wholly attributable to causes which are so listed, or if the Employer prevents extensions of time being agreed or determined in accordance with the penultimate paragraph of Sub-Clause 20.1. However, its applicability should not be dependent upon all extensions claimed by the Contractor having been agreed or determined. For example, Sub-Clause 8.6 would be applicable if it appears that completion will be ten weeks late and an early outcome of the consultations under Sub-Clause 3.5 is that the entitlement

to an extension of time is in the range of between two and six weeks.

Under Sub-Clause 1.1.3.3, the "Time for Completion" includes extensions of time due under Sub-Clause 8.4. If the Engineer (under CONS or P&DB) or Employer (under EPCT) fails to determine extensions of time in accordance with Sub-Clauses 8.4 and 20.1, there would thereafter be no "Time for Completion" and Sub-Clause 8.6 may be inapplicable.

If Sub-Clause 8.6 is applicable, an instruction given under it should refer to it as well as requiring the Contractor to submit, under Sub-Clause 8.3, a revised programme and supporting report. Instructions given under Sub-Clause 8.6 may give rise to the entitlement described in its final paragraph, so it is important to record the basis of the instruction. In particular, EPCT 3.4 requires instructions to include this information.

8.7 Delay Damages

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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. These delay damages shall be the sum stated in the Appendix to Tender, 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 under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Appendix to Tender.

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. 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.

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. These delay damages shall be the sum stated in the Appendix to Tender, 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 under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Appendix to Tender.

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. 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.

P&DB

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. 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 under this Sub-Clause 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. 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.

EPCT

RB 47; YB 27.1; OB 8.6

This Sub-Clause defines the extent of the compensation paid by the Contractor to the Employer if the Works, or a Section (if any), are not completed within the Time for Completion. Although its operation may be affected by the applicable Laws, the Sub-Clause generally provides the mechanism for this compensation, without the Employer having to demonstrate his actual loss.

The sum per day is to be stated in CONS/P&DB's Appendix to Tender or in the Particular Conditions under EPCT. The sum may be expressed as a percentage of the Contract Price, unless this would not comply with applicable Laws. They may require the sum to have been calculated as:

- a reasonable estimate of the Employer's losses or foregone benefits, which may be equivalent to financing charges for the Contract Price per day, plus

- the daily cost of the Employer's Personnel involved in supervising the execution of the Works during the period of prolongation.

For the limit of delay damages, if it is to be stated, the usual percentage in international contracts generally varies between 5% and 15%.

The currencies of payment may affect the Employer's calculation of the sum per day and the limit. When preparing their tenders, tenderers will wish to assess their potential liability to the Employer, and take account of the potential liability to pay the delay damages specified in the tender documents. Delay damages are also subject to the limit of liability described in Sub-Clause 17.6.

The applicability of Sub-Clause 8.7 is not dependent upon all extensions claimed by the Contractor having been agreed or determined. The Contractor cannot

prevent the deduction by submitting claims for extension of time. However, the Employer may lose his entitlement to claim delay damages if he prevents extensions of time being agreed or determined in accordance with the penultimate paragraph of Sub-Clause 20.1. If the Employer fails to comply (or, under CONS or P&DB, prevents the Engineer from complying) with Sub-Clause 8.4, he may be unable to rely upon Sub-Clauses 8.2 and 8.7, under many countries' Laws.

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-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.

Before the Employer deducts delay damages from moneys due to the Contractor, he could consider whether the delay is a reflection of cash flow shortfall from interim payments. If so, further diminution of cash flow (by withholding delay damages) could exacerbate the situation.

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. However, he can recover additional costs which arose directly from the steps taken by the Contractor to expedite progress, under Sub-Clause 8.6.

In the rare event of a subsequent extension of time, the amount recoverable has to be recalculated, and any over-payment refunded. No express provision is made for payment of financing charges in respect of this refund.

Note that Sub-Clause 8.7 applies notwithstanding that the General Conditions contain no provisions entitling the Contractor to the payment of a bonus for accelerated completion. When preparing the tender documents, the Employer may wish to consider incorporating arrangements for bonus payments.

In the Test Editions, this Sub-Clause concluded with a paragraph referring to a notice which would require the Contractor to complete within a specified reasonable time. It was decided to omit such a paragraph from Sub-Clause 8.7, so as to avoid any effect which such a paragraph could have on Clause 15. See the comments on Sub-Clause 15.1, in this Guide, where it is suggested that the notice could state that it is given without prejudice to the Employer's rights under the Contract or otherwise.

8.8 Suspension of Work

CONS	P&DB	EPCT
<p>The Engineer 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.</p> <p>The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.</p>	<p>The Engineer 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.</p> <p>The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.</p>	<p>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.</p> <p>The Employer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.</p>

RB 40.1; YB 23; OB 8.7

Suspensions may be required by reason of a situation for which either (or neither) Party may be responsible.

There is no duty under the Contract to instruct a suspension, even if it is obvious that certain works must be suspended: for example, because of a flood season. In these obvious cases, it is the Contractor who is at risk if he persists in executing work which should obviously be suspended. In some cases, his persistence may make a suspension necessary for reasons attributable to the Contractor.

Following receipt of the instruction, the Contractor is required to protect, store and

secure. No mention is made of any instruction by (or on behalf of) the Employer. In practice, the Employer's Personnel should be involved, because of the entitlement to reimbursement under Sub-Clause 8.9.

No mention is made of any need for the suspension instruction to clarify the cause for the suspension. Occasionally, the Employer may prefer to admit liability, in order to avoid notifying a cause which he regards as confidential. In certain cases, it may be preferable for the Contractor to be given an explanation, in order to clarify the application of Sub-Clauses 8.9, 8.10 and 8.11. They may be invoked by the Contractor unless he receives notice of the cause.

8.9 Consequences of Suspension

CONS	P&DB	EPCT
<p>If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub-Clause 8.8 [<i>Suspension of Work</i>] and/or from resuming the work, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p> <p>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 in accordance with Sub-Clause 8.8 [<i>Suspension of Work</i>].</p>	<p>If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions under Sub-Clause 8.8 [<i>Suspension of Work</i>] and/or from resuming the work, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p> <p>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 in accordance with Sub-Clause 8.8 [<i>Suspension of Work</i>].</p>	<p>If the Contractor suffers delay and/or incurs Cost from complying with the Employer's instructions under Sub-Clause 8.8 [<i>Suspension of Work</i>] and/or from resuming the work, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be added to the Contract Price.</p> <p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p> <p>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 in accordance with Sub-Clause 8.8 [<i>Suspension of Work</i>].</p>

RB 40.1 & 40.2; YB 24; OB 8.8

This Sub-Clause sets out the procedure to deal with a suspension which is not due to the Contractor's shortcomings. Firstly, he gives notice under CONS or P&DB to the Engineer (with a copy to the Employer under CONS/P&DB 1.3), or under EPCT to the Employer. Although no time is prescribed for him to give the notice, he should do so as soon as possible after receipt of the instruction to suspend, making reference to Sub-Clauses 8.9 and 20.1.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

The Contractor is not entitled to an extension of time for a delay, and/or to payment of a Cost:

- if the suspension is due to a cause which was attributable to or the responsibility of the Contractor, and of which the Contractor was so notified under Sub-Clause 8.8,
- in respect of the making good of any deterioration, defect or loss caused by the Contractor's faulty design, workmanship or materials, or
- which was due to the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8.

The General Conditions do not entitle the Contractor to require the Employer to take over Plant or Materials if a suspension exceeds 28 days. The Employer may wish to do so, when he is required to pay for them under Sub-Clause 8.10 and they become his property under Sub-Clause 7.7(b).

8.10 Payment for Plant and Materials in Event of Suspension

	CONS	P&DB	EPCT
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 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 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 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:
(a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and	(a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and	(a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and	(a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and
(b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's instructions.	(b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's instructions.	(b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's instructions.	(b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Employer's instructions.

YB 24.2; OB 8.9

For a suspension which is not due to the Contractor's shortcomings, he becomes entitled to payment for any suspended Plant and Materials, after 28 days, if he takes the necessary actions for them to become the Employer's property in accordance with Sub-Clause 7.7(b). In some countries, the Laws may require

certain actions to be taken in order to make the items the property of the Employer. When sub-paragraphs (a) and (b) apply, ownership passes from Contractor to Employer under Sub-Clause 7.7. The applicable Laws may affect the Parties' respective entitlements if:

- the Contractor is unable to comply with Sub-Clause 7.7, or
- the Employer fails to make payment and the Contract is terminated for other reasons.

During the period of 28 days, the only entitlement to payment would be under

Clause 14, and therefore would depend upon the location and completeness of the Plant and Materials: see Sub-Clause 14.5, for example. Sub-Clause 8.10 does not specify an immediate entitlement to payment, because the suspension might only be a few days and might occur prior to payment becoming due under Clause 14.

8.11 Prolonged Suspension

CONS	P&DB	EPCT
<p>If the suspension under Sub-Clause 8.8 [<i>Suspension of Work</i>] has continued for more than 84 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [<i>Variations and Adjustments</i>] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p>	<p>If the suspension under Sub-Clause 8.8 [<i>Suspension of Work</i>] has continued for more than 84 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [<i>Variations and Adjustments</i>] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p>	<p>If the suspension under Sub-Clause 8.8 [<i>Suspension of Work</i>] 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 [<i>Variations and Adjustments</i>] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p>

RB 40.3; YB 24.3; OB 8.10

If a twelve week suspension is not due to the Contractor's shortcomings, he may request permission to proceed. If no permission is given, he may give notice as

described, for which no time limit is specified. Under the applicable Laws, delay in giving notice may be construed as waiving entitlements under this Sub-Clause.

8.12 Resumption of Work

CONS	P&DB	EPCT
<p>After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall</p>	<p>After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall</p>	<p>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</p>

make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

YB 24.4; OB 8.11

The first sentence of Sub-Clause 8.9 entitles the Contractor to an extension of time and payment in respect of these aspects of "resuming the work".

Clause 9 Tests on Completion

9.1 Contractor's Obligations

	CONS	P&DB	EPCT
<p>The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [<i>Testing</i>], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [<i>Contractor's General Obligations</i>].</p> <p>The Contractor shall give to the Engineer not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.</p>	<p>The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [<i>Testing</i>], after providing the documents in accordance with Sub-Clause 5.6 [<i>As-Built Documents</i>] and Sub-Clause 5.7 [<i>Operation and Maintenance Manuals</i>].</p> <p>The Contractor shall give to the Engineer not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.</p> <p>Unless otherwise stated in the Particular Conditions, the Tests on Completion shall be carried out in the following sequence:</p> <ul style="list-style-type: none"> (a) pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of Plant can safely undertake the next stage, (b); (b) commissioning tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and (c) trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract. <p>During trial operation, when the Works are operating under stable conditions, the Contractor shall give</p>	<p>The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4, [<i>Testing</i>] after providing the documents in accordance with Sub-Clause 5.6 [<i>As-Built Documents</i>] and Sub-Clause 5.7 [<i>Operation and Maintenance Manuals</i>].</p> <p>The Contractor shall give to the Employer not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Employer shall instruct.</p> <p>Unless otherwise stated in the Particular Conditions, the Tests on Completion shall be carried out in the following sequence:</p> <ul style="list-style-type: none"> (a) pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of Plant can safely undertake the next stage, (b); (b) commissioning tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and (c) trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract. <p>During trial operation, when the Works are operating under stable conditions, the Contractor shall give</p>	

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

notice to the Engineer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Schedule of Guarantees.

Trial operation shall not constitute a taking-over under Clause 10 [*Employer's Taking Over*]. Unless otherwise stated in the Particular Conditions, any product produced by the Works during trial operation shall be the property of the Employer.

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion described in sub-paragraph (a), (b) or (c), the Contractor shall submit a certified report of the results of these Tests to the Engineer.

notice to the Employer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Performance Guarantees.

Trial operation shall not constitute a taking-over under Clause 10 [*Employer's Taking Over*]. Unless otherwise stated in the Particular Conditions, any product produced by the Works during trial operation shall be the property of the Employer.

In considering the results of the Tests on Completion, appropriate allowances shall be made for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion described in sub-paragraph (a), (b) or (c), the Contractor shall submit a certified report of the results of these Tests to the Employer.

YB 28; OB 9.1

The Tests on Completion are the tests which are required by the Employer in order to determine whether the Works (or a Section, if any) have reached the stage at which the Employer should take over the Works or Section. Tests on Completion must be specified in detail in the Contract: in CONS' Specification, in P&DB's Employer's Requirements and (possibly) Contractor's Proposal, and in EPCT's Employer's Requirements and (possibly) the Tender. Under P&DB or EPCT, these Tests would normally include some performance tests, in order to determine whether the Works or Section comply with specified performance criteria.

Typically, Tests on Completion are specified in the Contract to a considerable extent of detail. Therefore, the report required by the last sentence of the Sub-Clause is usually necessary. Clause 9 is intended to be applicable to any type of tests which the Contractor is required to carry out at completion, before the taking-over procedures described in Clause 10.

Tests on Completion need not cover every aspect necessary to define completion. The passing of these Tests is only part of the criteria (as stipulated in Sub-Clauses 8.2 and 10.1) which are required to be satisfied before taking over. Note the applicability of Sub-Clause 7.4 to these tests.

Under P&DB/EPCT, the Employer's Requirements may need to include particular requirements for the report specified in the last sentence of Sub-Clause 9.1. The Tests on Completion might include a combination of electrical, hydraulic and mechanical tests, with the Works being operated continuously to determine their reliable output and efficiency. 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 as to whether completion of

the Works has been achieved. Typically, the provisions might have to take account of the quality and availability of feedstock and other materials, the quality and production rates of the output (product) and of by-products (including treatment and disposal of effluent), and efficiency in the use of power, materials and other resources.

The Contractor may act in advance of substantial completion, and often he would need to do so. He is required to give three weeks' notice of the date when he will be ready to carry out the Tests on Completion. He then carries out the Tests in

accordance with Sub-Clauses 7.4 and 9.1, at the agreed times. Unless otherwise agreed, the Tests on Completion are to be carried out (within the period of 14 days) on such days as have been instructed. If no such instruction is given, the first paragraph of Sub-Clause 9.2 becomes applicable.

The Sub-Clause makes no specific mention of the possible addition of tests not provided for in the Contract, because Tests on Completion are defined in Sub-Clause 1.1.3.4 as including additional tests instructed as Variations. It is advisable to seek prior agreement of the consequences of each Variation.

9.2 Delayed Tests

CONS	P&DB	EPCT
<p>If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [<i>Testing</i>] (fifth paragraph) and/or Sub-Clause 10.3 [<i>Interference with Tests on Completion</i>] shall be applicable.</p>	<p>If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [<i>Testing</i>] (fifth paragraph) and/or Sub-Clause 10.3 [<i>Interference with Tests on Completion</i>] shall be applicable.</p>	<p>If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [<i>Testing</i>] (fifth paragraph) and/or Sub-Clause 10.3 [<i>Interference with Tests on Completion</i>] shall be applicable.</p>
<p>If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.</p>	<p>If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.</p>	<p>If the Tests on Completion are being unduly delayed by the Contractor, the Employer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Employer.</p>
<p>If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.</p>	<p>If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.</p>	<p>If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. These Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.</p>

YB 28.3; OB 9.2

If the Tests on Completion are delayed by the Employer, the immediate effect is the applicability of Sub-Clause 7.4. If the delay is excessive, Sub-Clause 10.3 becomes applicable, which entitles the Contractor to compensation for carrying out Tests on Completion during the Defects Notification Period.

It is unusual for the Tests on Completion to be delayed by the Contractor. In that event, the Employer's Personnel may, after notice has been given in accordance with this Sub-Clause, make their own arrangements to carry out the Tests. The

Contractor should first be given the opportunity to rectify his default, in accordance with the second paragraph of the Sub-Clause. If Tests on Completion are thereafter carried out by the Employer's Personnel, the Contractor is required to accept the results of the Tests, although he is not entitled to receive a report.

Employer's Personnel are not obliged to carry out these Tests, and may consider that it would be unwise to do so.

9.3 Retesting

CONS	P&DB	EPCT
<p>If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [<i>Rejection</i>] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.</p>	<p>If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [<i>Rejection</i>] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.</p>	<p>If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [<i>Rejection</i>] shall apply, and the Employer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.</p>

YB 28.5; OB 9.3

If tests are repeated after the cause of previous failures has been remedied, and it seems likely that other (related) work may have been affected by the remedial

work, that other work may therefore need to be retested.

9.4 Failure to Pass Tests on Completion

CONS	P&DB	EPCT
<p>If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [<i>Retesting</i>], the Engineer shall be entitled to:</p> <ul style="list-style-type: none"> (a) order further repetition of Tests on Completion under Sub-Clause 9.3; (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as 	<p>If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [<i>Retesting</i>], the Engineer shall be entitled to:</p> <ul style="list-style-type: none"> (a) order further repetition of Tests on Completion under Sub-Clause 9.3; (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as 	<p>If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [<i>Retesting</i>], the Employer shall be entitled to:</p> <ul style="list-style-type: none"> (a) order further repetition of Tests on Completion under Sub-Clause 9.3; (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as

	CONS	P&DB	EPCT
<p>the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [<i>Failure to Remedy Defects</i>]; or</p> <p>(c) issue a Taking-Over Certificate, if the Employer so requests.</p> <p>In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>].</p>	<p>the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [<i>Failure to Remedy Defects</i>]; or</p> <p>(c) issue a Taking-Over Certificate, if the Employer so requests.</p> <p>In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>].</p>	<p>the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [<i>Failure to Remedy Defects</i>]; or</p> <p>(c) issue a Taking-Over Certificate.</p> <p>In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [<i>Employer's Claims</i>] and Sub-Clause 3.5 [<i>Determinations</i>].</p>	

YB 28.7; OB 9.4

There is no limit on the number of repetitions which may be ordered, because (after any Test) it may appear that only minor remedial work will be required to overcome the apparent reasons for the failure.

If the Contractor cannot carry out the remedial work, the Employer may apply Clause 15 or seek agreement to a reduction in the Contract Price. Typically, he might first indicate the reduction he would require, and seek the Contractor's agreement prior to the issue of a Taking-Over Certificate. If agreement cannot be reached prior to the issue of the Taking-Over Certificate under sub-paragraph (c), then sub-paragraph (a) or (b) could be applied.

Under P&DB or EPCT, because this Sub-Clause gives no indication that the Test is deemed to have been passed, no Retention Money would be released under Sub-Clause 14.9. If the whole of the Works failed the Test, the first half of

Retention Money might then not be due for release until the same time as the second half of the Retention Money, namely when the Defects Notification Period expires. Sub-Clause 9.4 does not contain all the provisions of P&DB/EPCT 12.4, under which the Contractor may be entitled to decide whether to remedy the defect or simply to compensate the Employer for the failure.

When preparing the tender documents under P&DB or EPCT, the Employer may wish to consider incorporating (in the Particular Conditions), in respect of a failure to pass the Tests on Completion, provisions which:

- permit a Taking-Over Certificate to be issued as described in Sub-Clause 9.4(c), followed by repetition under Clause 12 of the failed Tests on Completion; or
- are similar to those in Sub-Clause 12.4 but are applicable to the Tests on Completion, assuming that there are to be no Tests after Completion.

Clause 10 Employer's Taking Over

10.1 Taking Over of the Works and Sections

CONS	P&DB	EPCT
<p>Except as stated in Sub-Clause 9.4 [<i>Failure to Pass Tests on Completion</i>], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [<i>Time for Completion</i>] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.</p> <p>The Contractor may apply by notice to the Engineer 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. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.</p> <p>The Engineer shall, within 28 days after receiving the Contractor's application:</p> <p>(a) 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</p> <p>(b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over</p>	<p>Except as stated in Sub-Clause 9.4 [<i>Failure to Pass Tests on Completion</i>], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [<i>Time for Completion</i>] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.</p> <p>The Contractor may apply by notice to the Engineer 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. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.</p> <p>The Engineer shall, within 28 days after receiving the Contractor's application:</p> <p>(a) 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</p> <p>(b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over</p>	<p>Except as stated in Sub-Clause 9.4 [<i>Failure to Pass Tests on Completion</i>], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [<i>Time for Completion</i>] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.</p> <p>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. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.</p> <p>The Employer shall, within 28 days after receiving the Contractor's application:</p> <p>(a) 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</p> <p>(b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over</p>

CONS

Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application with 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.

P&DB

Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application with 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.

EPCT

Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

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.

RB 48.1 & 48.2; YB 29.1 & 29.2; OB 10.1

The Employer is required to take over the Works (or a Section, if any) when they are completed in accordance with the Contract including the matters described in Sub-Clause 8.2:

- (a) "achieving the passing of the Tests on Completion" (Sub-Clause 8.2(a)), and
- (b) "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" (Sub-Clause 8.2(b); including the "work which is stated in the Contract" at CONS 4.1(d) or P&DB/EPCT 5.5, 5.6 and 5.7),

but excluding:

- (c) "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);" (Sub-Clause 10.1(a))

Under CONS/P&DB, if the Employer wishes to take over and operate the Works before the "work which is stated in the Contract" (in CONS 4.1(d) or P&DB 5.5, 5.6 and 5.7) is complete, the first sentence of CONS/P&DB 10.2 provides him with an appropriate procedure.

The Employer has no right to use the Works if the Contractor has failed to complete them in accordance with the Contract, except after termination. If the

Works appear to be complete (except for minor outstanding work that does not affect the use of the Works) but fail the Tests on Completion, Sub-Clause 9.4 may be applied.

Under the second paragraph of Sub-Clause 10.1, the Contractor applies for the Taking-Over Certificate by written notice. The Contractor may (and in his own interests should) anticipate completion by giving notice up to 14 days in advance of his expected completion date. This early notice allows the Employer additional time to effect insurance, if he wishes to do so, and also allows time for the Employer's Personnel to make any other arrangements necessary for effecting the taking over.

CONS/P&DB 1.3 requires the Contractor to send copies of his notices to the Employer, and requires the Engineer to send copies of Taking-Over Certificates to the Employer.

It may be desirable for there to be a joint inspection of the Works or Section when they appear to be complete, attended by representatives of the Parties, and by the Engineer under CONS or P&DB. This inspection will be followed by the action stated in Sub-Clause 10.1, (a) or (b). The Contractor should have been aware of which action was to be taken, by reason of his representative having participated in the inspection. The Taking-Over Certificate may be in the form of a letter:

Sample Form of Taking-Over Certificate for the Works

Having received your notice under Sub-Clause 10.1 of the Conditions of Contract,

we hereby certify that the Works were completed in accordance with the Contract on ... [date], except for minor outstanding work and defects [which include those listed in the attached Snagging List and] which should not substantially affect the use of the Works for their intended purpose.

Sample Form of Taking-Over Certificate for a Section

Having received your notice under Sub-Clause 10.1 of the Conditions of Contract,

we hereby certify that the following Section of the Works was completed in accordance with the Contract on the date stated below, except for minor outstanding work and defects [which include those listed in the attached Snagging List and] which should not substantially affect the use of such Section for its intended purpose:

[name or description of the Section; and state the completion date]

10.2 Taking Over of Parts of the Works

CONS	P&DB	EPCT
<p>The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.</p> <p>The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:</p> <ul style="list-style-type: none"> (a) the part which is used shall be deemed to have been taken over as from the date on which it is used, (b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and (c) if requested by the Contractor, the Engineer shall issue a Taking-Over Certificate for this part. <p>After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor</p>	<p>The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.</p> <p>The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:</p> <ul style="list-style-type: none"> (a) the part which is used shall be deemed to have been taken over as from the date on which it is used, (b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and (c) if requested by the Contractor, the Engineer shall issue a Taking-Over Certificate for this part. <p>After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor</p>	<p>Parts of the Works (other than Sections) shall not be taken over or used by the Employer, except as may be stated in the Contract or as may be agreed by both Parties.</p>

shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.

If the Contractor incurs Cost as a result of the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or agreed by the Contractor, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to payment of any such Cost plus reasonable profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine this Cost and profit.

If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [*Delay Damages*], and shall not affect the maximum amount of these damages.

shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.

If the Contractor incurs Cost as a result of the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or agreed by the Contractor, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to payment of any such Cost plus reasonable profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine this Cost and profit.

If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [*Delay Damages*], and shall not affect the maximum amount of these damages.

RB 47.2, 48.2 & 48.3; YB 29.3; OB 10.2

Under EPCT, 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 of EPCT 10.2 (and probably of EPCT 2.1 also). Therefore, "use or occupation by the Employer" of such a part is not mentioned in EPCT 17.3. The remaining comments on this Sub-Clause apply to CONS and P&DB only.

Under CONS or P&DB, the Employer grants the Contractor possession of the Site in accordance with Sub-Clause 2.1. Taking over a part of the Works brings possession to an end. If the Employer expected to take over any part of the Works, it should have been defined, in the Appendix to Tender, as a Section. Sub-Clause 10.2 covers the possibility that the Employer may later decide to take over a part of the Works other than a Section, before completion of the other parts.

The Employer must first arrange for the issue of a Taking-Over Certificate for the part, recognising that it will reduce his entitlement to delay damages under Sub-Clause 8.7. In some countries, it might prejudice his entire entitlement, because the reduction is to be determined by his appointed Engineer, pro rata to the value of the part. The Laws of some countries require liquidated delay damages to be predetermined, and

not to be subject to assessment by someone appointed by the payee.

Under the penultimate paragraph, the Contractor is entitled to recover any reasonable additional Cost incurred due to the Employer taking over part of the Works. No mention is made of any entitlement to extension of the Time for Completion for the Works or any Section, because it is covered by Sub-Clause 8.4(e). Also, no mention is made of extension of time for completion of the part itself, because it has been completed and because there is no "time for completion" for parts of the Works.

The Taking-Over Certificate may be in the form of a letter to the Contractor, with a copy sent to the Employer:

Sample Form of Taking-Over Certificate for Parts of the Works (CONS or P&DB)

We hereby certify, in the terms of Sub-Clause 10.2 of the Conditions of Contract, that the following parts of the Works were completed in accordance with the Contract on the dates stated below, except for minor outstanding work and defects [which include those listed in the attached Snagging List]:

[description of each part taken over; and state its completion date]

10.3 Interference with Tests on Completion

CONS	P&DB	EPCT
<p>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 Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.</p>	<p>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 Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.</p>	<p>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.</p>
<p>The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Engineer shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.</p>	<p>The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Engineer shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.</p>	

	CONS	P&DB	EPCT
	<p>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 Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>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 Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>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 Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.</p> <p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>

YB 29.4; OB 10.3

Typically, the Tests on Completion are the events which immediately precede completion and taking over. It is therefore reasonable that, if such Tests (and thus taking over) are prevented by the Employer, he nevertheless becomes responsible for the relevant Works or Section: not just the part.

Under EPCT, this is considered less likely to happen. When it does, a deemed taking-over may be in neither Party's interests.

Under CONS or P&DB, this deemed taking over will apply to the scope of the prevented Tests; i.e., to the Works or Section, whichever would otherwise have been taken over when the prevented Tests had been passed. Even if the prevented Tests were limited to those which should have been carried out on a

Section, they may result in a deemed taking over of the Works, depending upon the relevant circumstances.

If the Contractor suffers delay or incurs Cost, he gives notice under the third paragraph. CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

10.4 Surfaces Requiring Reinstatement

	CONS	P&DB	EPCT
	Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.	Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.	(No EPCT Sub-Clause)

RB 48.4

Under EPCT, it is envisaged that surfaces will be reinstated before taking over. If this is not the case, details should be included in the Taking-Over Certificate.

Clause 11 Defects Liability

11.1 Completion of Outstanding Work and Remedying Defects

	CONS	P&DB	EPCT
	In order that the Works and Contractor's Documents, and each Section, 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:	In order that the Works and Contractor's Documents, and each Section, 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:	In order that the Works and Contractor's Documents, and each Section, 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:
	(a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and	(a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and	(a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Employer, and
	(b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).	(b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).	(b) 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 for the Works or Section (as the case may be).
	If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.	If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.	If a defect appears or damage occurs, the Employer shall notify the Contractor accordingly.

RB 49.2; YB 30.2 & 30.3; OB 12.1

In some other published forms of contract, the period after completion was given a name which gave an incorrect implication of the Contractor's responsibilities. The expression "Defects Notification Period" recognises the aspect which will seem administratively most significant, namely the notification of defects under this Sub-Clause. Note that the Sub-Clause refers to the Contractor's Documents, which (unlike Sections) do not form part of the Works.

Under Sub-Clause 10.1, the Contractor is entitled to a Taking-Over Certificate notwithstanding that some work may still be incomplete. Under Sub-Clause 11.1(a), the Contractor is required to complete this outstanding work within an

instructed time which must be reasonable. If no reasonable time is so instructed, this work must be completed "by the expiry date of the relevant Defects Notification Period" or (if that was impractical) as soon as practicable thereafter.

Under Sub-Clause 11.1(b), the Contractor is required to remedy defects or damage which have been notified by the Employer, or (on his behalf) by the Engineer under CONS or P&DB. Although these notices should be issued whenever a defect appears or damage occurs, as stated in the last sentence of the Sub-Clause, it is desirable for there to be a joint inspection of the Works or Section. Such inspection should be conducted a few days before the expiry of the

Defect Notification Period, and should be attended by representatives of the Parties, and by the Engineer under CONS or P&DB. This inspection will be followed by the formal notice under Sub-Clause 11.1(b), although the Contractor should have been aware of the notified defects or damage by reason of his representatives having been present at the inspection. The notice should describe the defects or damage, but does not need to specify how they should be remedied.

Having been notified under Sub-Clause 11.1(b), the Contractor is both obliged and entitled to carry out the remedial work, including to the right of access under

Sub-Clause 11.7. The Employer should not remedy the defects or damage himself, unless and until he is entitled to do so under Sub-Clause 11.4.

If the Employer refrains from notifying a defect or damage, because he prefers to remedy himself and then recover the reasonable cost of so doing from the Contractor, the Employer will be in breach of the last sentence of Sub-Clause 11.1. However, the Employer may (under the applicable Laws) be entitled to do so in some circumstances, such as having demonstrable grounds for believing that the Contractor would fail to carry out the work with the necessary skill and care.

11.2 Cost of Remedying Defects

	CONS	P&DB	EPCT
	All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [<i>Completion of Outstanding Work and Remedying Defects</i>] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:	All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [<i>Completion of Outstanding Work and Remedying Defects</i>] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:	All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [<i>Completion of Outstanding Work and Remedying Defects</i>] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:
(a)	any design for which the Contractor is responsible,	(a) the design of the Works, other than a part of the design for which the Employer is responsible (if any),	(a) the design of the Works,
(b)	Plant, Materials or workmanship not being in accordance with the Contract, or	(b) Plant, Materials or workmanship not being in accordance with the Contract,	(b) Plant, Materials or workmanship not being in accordance with the Contract,
		(c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or	(c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or
(c)	failure by the Contractor to comply with any other obligation.	(d) failure by the Contractor to comply with any other obligation.	(d) failure by the Contractor to comply with any other obligation.
	If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-Clause 13.3 [<i>Variation Procedure</i>] shall apply.	If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-Clause 13.3 [<i>Variation Procedure</i>] shall apply.	If and to the extent that such work is attributable to any other cause, the Employer shall give notice to the Contractor accordingly, and Sub-Clause 13.3 [<i>Variation Procedure</i>] shall apply.

RB 49.3; YB 30.2 & 30.9; OB 12.2

The Contractor is only entitled to be notified if the necessity for the work is "attributable to any other cause", in which case Sub-Clause 13.3 shall apply. If the cause is not set out in a notice, the Contractor will not directly be entitled to additional payment.

If the Contractor receives notice of remedial work being required under sub-paragraph (b) of Sub-Clause 11.1, he must carry out such work, or Sub-Clause

11.4 will apply. If he considers that none of the sub-paragraphs of Sub-Clause 11.2 applies and that he is therefore entitled to be paid for remedying a defect or damage, he should promptly respond to the notice (as well as complying with it) by giving notice and detailed particulars of his claim in accordance with the procedure specified in Sub-Clause 20.1.

11.3 Extension of Defects Notification Period

CONS	P&DB	EPCT
<p>The Employer shall be entitled subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] 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 (as the case may be, and after taking over) 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.</p>	<p>The Employer shall be entitled subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] 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 (as the case may be, and after taking over) 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.</p>	<p>The Employer shall be entitled subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] 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 (as the case may be, and after taking over) 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.</p>
<p>If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [<i>Suspension of Work</i>] or Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.</p>	<p>If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [<i>Suspension of Work</i>] or Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.</p>	<p>If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [<i>Suspension of Work</i>] or Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.</p>

YB 30.4; OB 12.3

If a defect prevents the Works, Section or a major item of Plant being operated for a certain number of days, the Employer is entitled (subject to Sub-Clause 2.5) to require the Defects Notification Period to be extended by that number of days. Some defects might not prevent any Section or item of Plant from being used for their intended purpose(s).

Sub-Clause 11.3 applies whenever works cannot be used by reason of a defect

or damage. It may have occurred before or after taking over, and may (or may not) have been due to the Contractor's shortcomings. If the Contractor is not responsible for the defect or damage, the remedial work would constitute a Variation and entitle the Contractor to additional payment, including compensation for the extension to the Defects Notification Period (unless the Employer waives his entitlement to the extension).

11.4 Failure to Remedy Defects

CONS	P&DB	EPCT
<p>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. The Contractor shall be given reasonable notice of this date.</p>	<p>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. The Contractor shall be given reasonable notice of this date.</p>	<p>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. The Contractor shall be given reasonable notice of this date.</p>
<p>If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Employer may (at his option):</p>	<p>If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Employer may (at his option):</p>	<p>If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Employer may (at his option):</p>
<p>(a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;</p> <p>(b) require the Engineer to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [<i>Determinations</i>]; or</p> <p>(c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and</p>	<p>(a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;</p> <p>(b) require the Engineer to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [<i>Determinations</i>]; or</p> <p>(c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and</p>	<p>(a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;</p> <p>(b) agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [<i>Determinations</i>]; or</p> <p>(c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and</p>

	CONS	P&DB	EPCT
	returning Plant and Materials to the Contractor.	returning Plant and Materials to the Contractor.	returning Plant and Materials to the Contractor

RB 49.4; YB 30.5; OB 12.4

What constitutes "reasonable", for the Contractor's remedial work and for the period prescribed by the notice, must depend on such factors as the proximity of the Site to the Contractor's Equipment and Personnel (who may have left the Country), the delivery periods for replacement Plant, and the operational status of the Works.

The first sentence applies even if the Contractor would have been entitled to be paid for the remedial work. In such a case, the Employer may be entitled to recover the difference (if any) between the amount to which the Contractor would have been entitled and the reasonable cost incurred by the Employer when carrying out the work himself or by others.

The Sub-Clause is only applicable if the Contractor "fails" to carry out the remedial work, and therefore does not apply if and to the extent that the Contractor has been prevented from so doing by the Employer's failure to grant right of access under Sub-Clause 11.7.

When giving the described notice, the Employer may (but is not bound to) indicate which of the sub-paragraphs will be applied.

If sub-paragraph (a) applies, the Employer should take account of any progress in manufacturing replacements, which the Contractor might be willing to supply but might find it difficult to install. The work is carried out at the Contractor's cost, but the Employer is responsible for the performance of the rectification. Therefore, the Employer's best interests lie in persuading the Contractor to remedy the defect or damage, in order to avoid dispute as to whether any element of under-performance of the Works is due to the Employer's own rectification works.

Sub-paragraph (c) describes a situation which is most unlikely to occur, namely when the defect or damage is so serious (and, presumably, irremediable) that the Employer cannot use and benefit from the whole, or major parts of, the Works. The Employer should seek legal advice before invoking this sub-paragraph.

11.5 Removal of Defective Work

	CONS	P&DB	EPCT
	If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.	If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.	If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

YB 30.6; OB 12.5

It may be necessary (for technical reasons) for the necessary remedial work to be carried out off the Site. If consent is sought under this Sub-Clause, the Employer may impose reasonable conditions for the consent, but must not withhold it unreasonably (Sub-Clause 1.3). In particular, the Employer may require the Contractor either to increase the amount of the Performance Security or (at the

Contractor's option) to provide another form of security. If the Contractor prefers to provide another security, the Employer is entitled to require it to cover the replacement cost of the items removed from the Site, and to be able to call the security under conditions as onerous as those described in the Performance Security.

11.6 Further Tests

CONS	P&DB	EPCT
<p>If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 28 days after the defect or damage is remedied.</p> <p>These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], for the cost of the remedial work.</p>	<p>If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract, including Tests on Completion and/or Tests after Completion. The requirement shall be made by notice within 28 days after the defect or damage is remedied.</p> <p>These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], for the cost of the remedial work.</p>	<p>If the work of remedying of any defect or damage may affect the performance of the Works, the Employer may require the repetition of any of the tests described in the Contract, including Tests on Completion and/or Tests after Completion. The requirement shall be made by notice within 28 days after the defect or damage is remedied.</p> <p>These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], for the cost of the remedial work.</p>

YB 30.7; OB 12.6

If repetition of tests is instructed, the Contractor must carry out such work. If he considers that none of the sub-paragraphs of Sub-Clause 11.2 applies and that he is therefore entitled to be paid for repeating a test, he should promptly

respond to (and comply with) the instruction by giving notice and detailed particulars of his claim in accordance with the procedure specified in Sub-Clause 20.1.

11.7 Right of Access

CONS	P&DB	EPCT
<p>Until the Performance Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to</p>	<p>Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation</p>	<p>Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation</p>

	CONS	P&DB	EPCT
	comply with this Clause, except as may be inconsistent with the Employer's reasonable security restrictions.	and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.	and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.

YB 30.8; OB 12.7

The Employer must grant right of access for the Contractor to remedy defects and damage, or Sub-Clause 11.4 may be inapplicable. The technological development of certain types of Plant can only be maintained by utilising feedback from operational records.

11.8 Contractor to Search

	CONS	P&DB	EPCT
	The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Cost of the search plus reasonable profit shall be agreed or determined by the Engineer in accordance with Sub-Clause 3.5 [<i>Determinations</i>] and shall be included in the Contract Price.	The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Cost of the search plus reasonable profit shall be agreed or determined by the Engineer in accordance with Sub-Clause 3.5 [<i>Determinations</i>] and shall be included in the Contract Price.	The Contractor shall, if required by the Employer, search for the cause of any defect, under the direction of the Employer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>], the Cost of the search plus reasonable profit shall be agreed or determined in accordance with Sub-Clause 3.5 [<i>Determinations</i>] and shall be added to the Contract Price.

RB 50; YB 30.10; OB 12.8

If the defect is to be remedied at the cost of the Contractor, he should be consulted regarding (or allowed to choose) the search methods which are appropriate for finding the cause.

11.9 Performance Certificate

	CONS	P&DB	EPCT
	Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to	Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to	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, stating the date on which the Contractor completed his obligations under the Contract.

The Engineer 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. A copy of the Performance Certificate shall be issued to the Employer.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

The Engineer 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. A copy of the Performance Certificate shall be issued to the Employer.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

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:

- (a) 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, as required by this Sub-Clause, and
- (b) Sub-Clause 11.11 [*Clearance of Site*] and sub-paragraph (a) of Sub-Clause 14.14 [*Cessation of Employer's Liability*] shall be inapplicable.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

RB 61 & 62.1; YB 30.11; OB 12.9

The Performance Certificate provides written confirmation that the Engineer (under CONS or P&DB) or the Employer (under EPCT):

- considers that the Contractor has completed his performance of obligations under the Contract, and
- accepts the Works.

The Performance Certificate should be issued within 28 days after the latest of the expiry dates of the Defects Notification Periods (a phrase which takes account of the effect of Sub-Clause 11.3 on different Periods), unless the Contractor is then known to have outstanding obligations. For example, these obligations may

include further Contractor's Documents to be supplied, tests to be passed, searches to be completed under Sub-Clause 11.8, and/or defects to be remedied. Typically, it may not be possible for the Contractor to have remedied, within these 28 days, all defects notified under Sub-Clause 11.1 during the last few days of a Defects Notification Period.

Under EPCT, the Employer should ensure that the Performance Certificate is issued within the specified period, so as to avoid Sub-Clause 11.11 and sub-paragraph (a) of Sub-Clause 14.14 becoming inapplicable.

The Performance Certificate does not need to refer to anybody's opinion or satisfaction, because of the terms of Sub-Clause 11.10. Certificates issued under

the Contract comprise statements describing facts which the signatory of the certificate believes to be true, but which may of course not be wholly true. No certificate issued under the Contract constitutes absolutely conclusive evidence of the facts certified. The Performance Certificate may be in the form of a letter:

Sample Form of Performance Certificate

We hereby certify, in the terms of Sub-Clause 11.9 of the Conditions of Contract, that the Contractor completed his obligations under the Contract on ... [date]

11.10 Unfulfilled Obligations

CONS	P&DB	EPCT
After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.	After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.	After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

RB 62.2; YB 30.12, 33.11 & 39.3; OB 12.10

At the time when the Performance Certificate is issued, each Party may have outstanding obligation(s), and the Contract must therefore remain in force. The Employer will probably not have made all the payments due under the Contract, nor released the Performance Security. The Contractor may not have complied with Sub-Clause 14.12, and/or it may subsequently be discovered that the Works do not wholly comply with the Contract (because of latent defects for example).

Suppliers of Plant may feel it unfair that their liability does not expire at the time when they are entitled to receive the Performance Certificate. Clearly, problems may occur thereafter, particularly if the Plant has not been operated and/or maintained in accordance with the manufacturers' instructions. No limitation on the duration of liability is contained in the General Conditions, but such a limitation may be prescribed by applicable Laws. See also Sub-Clause 17.6.

11.11 Clearance of Site

CONS	P&DB	EPCT
Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the 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.	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 receives a copy of the Performance Certificate, the Employer may sell or	If all these items have not been removed within 28 days after the Employer receives a copy of the Performance Certificate, the Employer may sell or	If all these items have not been removed within 28 days after the Employer issues the Performance Certificate, the Employer may sell or otherwise

CONS

otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

P&DB

otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

EPCT

dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

OB 4.21

Although it is not an obligation under this Sub-Clause, the Employer should give reasonable notice to the Contractor of his intention to apply the last sentence of this Sub-Clause. 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.

Under EPCT 11.9, if the Employer fails to issue the Performance Certificate within the specified period, Sub-Clause 11.11 is inapplicable.

Clause 12 CONS: Measurement and Evaluation

Clause 12 is based upon the principle that the Works are to be valued by measuring the quantity of each item of work under Sub-Clause 12.2, and applying the appropriate rate per unit quantity or the appropriate lump-sum

price under Sub-Clause 12.3. Alternatively, GPPC 14 refers to the possibility of replacing Clause 12 by appropriate Particular Conditions, for a lump-sum contract or a cost-plus contract.

12.1 Works to be Measured

CONS

The Works shall be measured, and valued for payment, in accordance with this Clause.

Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

- (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and
- (b) supply any particulars requested by the Engineer.

If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be

CONS

inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

RB 56

Sub-Clause 12.1 describes the procedure for measuring the quantity of each item of work. Quantities should preferably be agreed between the representatives of the Engineer and the Contractor, as a continuing process, and as the execution of the Works proceeds. Although the second paragraph empowers the Engineer to take the initiative in requiring a measurement to be made, this activity should be regarded as a joint activity.

The "Schedules" are defined as including a "Bill of Quantities". It should prescribe the basis for measuring each item of the Permanent Works, whether from the

Drawings, on-Site measurement or from records. The Contractor may be required (by the Specification, typically) to prepare detailed records, and the Contract may state that the quantities shall be based upon such records except to the extent of any errors therein. If the Bill of Quantities indicates that quantities are to be based upon records, but there is no indication as to who should prepare these records, they must be prepared by the Engineer in accordance with the penultimate paragraph of Sub-Clause 12.1.

12.2 Method of Measurement

CONS

Except as otherwise stated in the Contract and notwithstanding local practice:

- (a) measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- (b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

RB 57.1

These two sub-paragraphs describe what is typically referred to as the "method of measurement" applicable to the Works. This method relates primarily to what

quantities are to be applicable to the evaluation, rather than to the measuring techniques (although they may also be described), and plays an important part in

the whole evaluation of the Contract Price. This method (or principles) of measurement may comprise:

- principles for measurement which are specified in a preamble to the Bill of Quantities,
- a publication which specifies principles of measurement and which is incorporated (by reference) into the Bill of Quantities, or
- for a contract which does not contain many or complex items of work, principles included in each of the item descriptions in the Bill of Quantities.

Each item of the Works is to be measured in accordance with such principles/method of measurement, which take precedence over the general principle described in sub-paragraph (a) of this Sub-Clause. Sub-paragraph (a) specifies that, unless such specified principles (or other provisions in the Contract) state otherwise, measurement shall be made of the net actual quantity of each item of work, notwithstanding local practice.

It may be unfair to assume that an international contractor is familiar with all aspects of local practice on these matters.

It is important to verify, before the Bill of Quantities is issued to tenderers, that it includes the correct quantities and item descriptions of the work defined in the Drawings and Specification. Clause 12 requires the work to be measured and valued, based upon the Bill of Quantities and/or other appropriate Schedules. Generally, tenderers will have limited opportunity to verify the correctness of the Bill of Quantities which they receive.

However, during the measurement of the completed works, omissions in the original Bill of Quantities may be discovered, or be alleged by a Party. In such a case, a dispute may arise as to whether an additional Bill item will be required, or as to whether the work is covered by another item in the Bill of Quantities. Although resolution of the matter may need to take account of various provisions in the Contract and of the applicable Laws, it is suggested that the effect of this Clause 12 would typically be as follows:

- If the Bill of Quantities includes (either incorporated by reference or specified) principles of measurement which clearly require that an item of work be measured, and if the Bill of Quantities contains is no such item, then an additional Bill item will required in order to satisfy the requirement for measurement in accordance with such principles.
- If the Bill of Quantities includes (either incorporated by reference or specified) principles of measurement which do not clearly require that a particular item of work be measured, and the work was as described in the Contract and did not arise from a Variation, then measurement in accordance with such principles does not require the addition of a new Bill item.
- If the Bill of Quantities does not include principles of measurement for a particular item of work, and the work was as described in the Contract and did not arise from a Variation, then measurement in accordance with such principles does not require the addition of a new Bill item.

12.3 Evaluation

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Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.

For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work. However, a new rate

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or price shall be appropriate for an item of work if:

- (a)
 - (i) the measured quantity of the item is changed by more than 10% from the quantity of this item in the Bill of Quantities or other Schedule,
 - (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.01% of the Accepted Contract Amount,
 - (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
 - (iv) this item is not specified in the Contract as a “fixed rate item”;

or

- (b)
 - (i) the work is instructed under Clause 13 [*Variations and Adjustments*],
 - (ii) no rate or price is specified in the Contract for this item, and
 - (iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with reasonable profit, taking account of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall determine

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a provisional rate or price for the purposes of Interim Payment Certificates.

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The Engineer is required to agree or determine the value of each item of work, applying measured quantities to rates and prices in accordance with this Sub-Clause. Most measured quantities should be agreed without resorting to the determination referred to in the first sentence.

The principles/method of measurement will, by defining what is to be measured, define what is appropriate for valuing each item in the Bill of Quantities:

- a "rate" per unit quantity (such as \$4/m³ for work measured by volume), which in some languages is referred to as a "unit price" or
- a lump sum "price" (such as \$4000 for an item of work which is not to be measured).

The second paragraph confirms that, for each item, the appropriate rate or price shall be that stated in the Contract, either for such item or for "similar" work. The question as to the similarity of work may be resolved by referring to the description in sub-paragraph (b)(iii), which refers to similarity in terms of work being of similar character and executed under similar conditions.

Sub-paragraph (a) specifies four criteria which are applicable without reference to Clause 13, and a new rate shall only be appropriate if all four criteria are satisfied. The first two criteria relate to the change in quantity; the third criterion relates to its effect on Costs; and the fourth criterion allows adjustment of some items to be precluded.

- (i) The measured quantity ("QM") of the work must be less than 90%, or more than 110%, of the quantity stated in the Bill of Quantities ("QB"). This criterion is consistent with the principle that QB is only an estimate, as stated in Sub-Clause 14.1(c).
- (ii) When the difference in quantity (namely, the difference between QM and QB) is multiplied by the rate per unit quantity stated in the Bill of Quantities, the product must be more than 0.01% of the Accepted Contract Amount. This criterion is specified in order to avoid adjusting a rate if the adjustment will have little effect on the final Contract Price.

(iii) The difference in quantity (namely the change from QB to QM only and excluding other matters) must have affected the "Cost per unit quantity", which is the Cost incurred executing the work covered by the item, divided by the quantity of the item as measurable in accordance with the applicable method of measurement. This criterion relates firstly to the Cost actually incurred ("Cqm") in the execution of the measured quantity QM; and secondly to what the Cost would have been ("Cqb") if the measured quantity had been equal to QB. Under this criterion, the Cost actually incurred divided by the measured quantity (Cqm/QM) must be less than 99%, or more than 101%, of the cost per unit quantity (Cqb/QB) which the Contractor would have incurred if he had executed QB. Note that "Cqb" is the Cost which the Contractor would actually have incurred if QM=QB; and not (for example) his foreseen or estimated cost, or any amount included in (or otherwise derived from) the Bill of Quantities. This criterion is specified in order to avoid adjusting a rate by less than 1%. As noted below, adjustments are based upon the proportion (Cqm/QM) / (Cqb/QB).

(iv) The Contract must not have used phrase "fixed rate item" in relation to the item in the Bill. This criterion is specified in order to allow for some Bill items having very provisional quantities. Alternatively, if the Bill includes items which have no quantity QB (the phrase "rate only item" might have been used, for example), there will be no "quantity of this item in the Bill of Quantities or other Schedule" and the rates for these items would not be adjusted under this Sub-Clause.

If the four criteria in sub-paragraph (a) are satisfied, the Bill rate would typically be changed in proportion to such change in Cost per unit quantity which was the direct result of the change in quantity. In other words, the rate per unit quantity would be adjusted pro rata to the proportion (Cqm/QM) / (Cqb/QB). Having passed the three criteria which specify percentages, the new rate should not take account of the criterion percentages in (a)(i), (ii) and (iii). Although these percentages preclude adjustment of some items, changes to the rates should not be based upon differences between actual and criterion percentages.

Typically, (C_{qm}/Q_M) would be expected to be equal to (C_{qb}/Q_B) and criterion (a)(iii) would not be satisfied. For example, mass excavation Costs are typically proportional to the quantity excavated, so $(C_{qm}/Q_M)=(C_{qb}/Q_B)$. For some other construction operations, the Costs (C_{qm} and C_{qb}) may include an element which is fixed and does not depend upon the quantity executed; so if $Q_M > Q_B$ then $(C_{qm}/Q_M) < (C_{qb}/Q_B)$. The fixed element might be the provision of Temporary Works or the assembly of Contractor's Equipment, unless the Cost of such operations is included in other Bill items and not in C_{qm} and C_{qb} .

Sub-paragraph (b) specifies criteria relating to work instructed under Clause 13, which includes Variations, work under Provisional Sums, and (possibly) some types of work valued under the provisions in the Daywork Schedule. In these cases, a new rate or price will be considered appropriate if there is no Bill rate or price for work of similar character and executed under similar conditions.

If a new rate or price is to be assessed, it may be derived from relevant rates and/or prices in the Bill of Quantities or other appropriate Schedules, and/or from reasonable Costs.

12.4 Omissions

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Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- (a) the Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- (b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- (c) this cost is not deemed to be included in the evaluation of any substituted work;

then the Contractor shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine this cost, which shall be included in the Contract Price.

Since Sub-Clause 13.3 concludes by referring to Variations being valued under Clause 12, and the quantity (for the purposes of Sub-Clause 12.3) of an omitted item is zero, Clause 12 concludes by entitling the Contractor to compensation for the costs reasonably incurred in the expectation of carrying out work subsequently omitted under the Variation.

The Sub-Clause refers to the word "cost" in its usual usage, rather than to "Cost".

The significance of this point is best illustrated by a typical example. If the Contractor had ordered formwork for work which was subsequently omitted by Variation, the Accepted Contract Amount would typically have included direct cost plus profit in respect of this formwork. The Contractor would then be entitled to recover cost and profit. However, if the Employer was thus required to pay for the full cost of an item, he may also be entitled to recover it as his property.

Clause 12 P&DB/EPCT: Tests After Completion

The Tests after Completion are the tests which need to be defined in the Employer's Requirements, and may be elaborated in P&DB's Contractor's Proposal or EPCT's Tender. These Tests are required to be carried out as soon as possible after taking over, in order to determine whether the Works (or a Section, if any) comply with specified performance criteria. The Books provide alternative procedures, depending upon who performs Tests after Completion:

- Under P&DB, the Employer carries out Tests after Completion in accordance with the operation and maintenance manuals and such guidance as the Contractor may be required to give during these Tests, and in the presence of such Contractor's Personnel as either Party may reasonably request.

- Under EPCT, the Contractor carries out Tests after Completion, providing all plant, equipment and staff necessary to carry out these Tests efficiently, in the presence of such Personnel as either Party may reasonably request. These Personnel would typically include the Employer's operating personnel.

However, these alternatives have been published on the basis of providing alternatives after an informed choice has been made (before writing the Contract), not because FIDIC considers that one procedure is preferable for a P&DB contract and the other is preferable for an EPCT contract.

12.1 Procedure for Tests after Completion

	P&DB	EPCT
	<p>If Tests after Completion are specified in the Contract, this Clause shall apply. Unless otherwise stated in the Particular Conditions, the Employer shall:</p> <ul style="list-style-type: none"> (a) provide all electricity, equipment, fuel, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the Tests after Completion efficiently, and (b) carry out the Tests after Completion in accordance with the manuals supplied by the Contractor under Sub-Clause 5.7 [<i>Operation and Maintenance Manuals</i>] and such guidance as the Contractor may be required to give during the course of these Tests; and in the presence of such Contractor's Personnel as either Party may reasonably request. <p>The Tests after Completion shall be carried out as soon as is reasonably practicable after the Works</p>	<p>If Tests after Completion are specified in the Contract, this Clause shall apply. Unless otherwise stated in the Particular Conditions:</p> <ul style="list-style-type: none"> (a) the Employer shall provide all electricity, fuel and materials, and make the Employer's Personnel and Plant available; (b) 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; and (c) 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. <p>The Tests after Completion shall be carried out as soon as is reasonably practicable after the Works</p>

or Section have been taken over by the Employer. 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.

If the Contractor does not attend at the time and place agreed, the Employer may proceed with the Tests after Completion, which shall be deemed to have been made in the Contractor's presence, and the Contractor shall accept the readings as accurate.

The results of the Tests after Completion shall be compiled and evaluated by both Parties. Appropriate account shall be taken of the effect of the Employer's prior use of the Works

or Section have been taken over by the Employer. 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.

The results of the Tests after Completion shall be compiled and evaluated by the Contractor, who shall prepare a detailed report. Appropriate account shall be taken of the effect of the Employer's prior use of the Works.

OB 11.1

For some types of Works, it may be appropriate for the Tests after Completion to include the repetition of some of the Tests on Completion, possibly with more onerous acceptance criteria.

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.

Typically, the provisions might have to take account of the quality and availability of feedstock and other materials, the quality and production rates of the output (product) and of by-products (including treatment and disposal

of effluent and by-products), and efficiency in the use of power, materials and other resources.

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.

12.2 Delayed Tests

P&DB	EPCT
<p>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 Engineer and (ii) be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine this Cost and profit.</p> <p>If, for reasons not attributable to the Contractor, a Test after Completion on the Works or any Section cannot be completed during the Defects Notification Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed this Test after Completion.</p>	<p>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 Sub-Clause 20.1 [<i>Contractor's Claims</i>] to payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.</p> <p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine this Cost and profit.</p> <p>If, for reasons not attributable to the Contractor, a Test after Completion on the Works or any Section cannot be completed during the Defects Notification Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed this Test after Completion.</p>
OB 11.2	

The Contractor might be reluctant to enter into a contract which allowed the Employer to postpone the Tests after Completion unreasonably, because of the Cost of financing the delayed repayment of the first half of the Retention Money under Sub-Clause 14.9. However, the Employer might be reluctant to enter into a P&DB contract which required him to carry out the Tests after Completion immediately after taking over, before his operational personnel had familiarised themselves with the plant.

Sub-Clause 12.2 therefore protects the Contractor from undue delay, and entitles him to recover the Cost caused by the delay, plus reasonable profit. What constitutes "unreasonable delay" must depend on the nature of the Works and on any indications of timing specified in the Employer's Requirements. P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

12.3 Retesting

P&DB	EPCT
<p>If the Works, or a Section, fail to pass the Tests after Completion:</p> <p>(a) sub-paragraph (b) of Sub-Clause 11.1 [<i>Completion of Outstanding Work and</i></p>	<p>If the Works, or a Section, fail to pass the Tests after Completion:</p> <p>(a) sub-paragraph (b) of Sub-Clause 11.1 [<i>Completion of Outstanding Work and</i></p>

	P&DB	EPCT
	<p><i>Remedying Defects</i>] shall apply, and</p> <p>(b) 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.</p> <p>If and to the extent that this failure and retesting are attributable to any of the matters listed in subparagraphs (a) to (d) of Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>] and cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay these costs to the Employer.</p>	<p><i>Remedying of Defects</i>] shall apply, and</p> <p>(b) 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.</p> <p>If and to the extent that this failure and retesting are attributable to any of the matters listed in subparagraphs (a) to (d) of Sub-Clause 11.2 [<i>Cost of Remedying Defects</i>] and cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [<i>Employer's Claims</i>] pay these costs to the Employer.</p>
	OB 11.3	

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.

12.4 Failure to Pass Tests after Completion

	P&DB	EPCT
	<p>If the following conditions apply, namely:</p> <p>(a) the Works, or a Section, fail to pass any or all of the Tests after Completion,</p> <p>(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</p> <p>(c) the Contractor pays this relevant sum to the Employer during the Defects Notification Period,</p>	<p>If the following conditions apply, namely:</p> <p>(a) the Works, or a Section, fail to pass any or all of the Tests after Completion,</p> <p>(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</p> <p>(c) the Contractor pays this relevant sum to the Employer during the Defects Notification Period,</p>

then the Works or Section shall be deemed to have passed these Tests after Completion.

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. The Contractor shall then remain liable to carry out the adjustments or modifications and to satisfy this Test, within a reasonable period of receiving notice by (or on behalf of) the Employer of the time that is convenient to the Employer. However, if the Contractor does not receive this notice during the relevant Defects Notification Period, the Contractor shall be relieved of this obligation and the Works or Section (as the case may be) shall be deemed to have passed this Test after Completion.

If the Contractor incurs additional Cost as a result of any unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor, either to investigate the causes of a failure to pass a Test after Completion or to carry out any adjustments or modifications, the Contractor shall (i) give notice to the Engineer and (ii) be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine this Cost and profit.

then the Works or Section shall be deemed to have passed these Tests after Completion.

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. The Contractor shall then remain liable to carry out the adjustments or modifications and to satisfy this Test, within a reasonable period of receiving notice by (or on behalf of) the Employer of the time that is convenient to the Employer. However, if the Contractor does not receive this notice during the relevant Defects Notification Period, the Contractor shall be relieved of this obligation and the Works or Section (as the case may be) shall be deemed to have passed this Test after Completion.

If the Contractor incurs additional Cost as a result of any unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor, either to investigate the causes of a failure to pass a Test after Completion or to carry out any adjustments or modifications, the Contractor shall (i) give notice to the Employer and (ii) be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to 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 this Cost and profit.

OB 11.4

The first part of this Sub-Clause provides a mechanism to compensate the Employer for a failure to pass any one of the Tests after Completion, unless the Contract does not define how these non-performance damages are to be determined for the particular failure. If these non-performance damages are not ascertainable, this first part and its sub-paragraphs are inapplicable.

When preparing the tender documents, the Employer should define minimum acceptable criteria (the maximum permissible extent of the test failure), and not mistakenly define it as a limit to these non-performance damages. The latter limit would only provide a limitation on the payment by the Contractor and may not impose any restriction on what is acceptable. The importance of assessing these

non-performance damages carefully cannot be over-emphasised, because of the eventual possibility that the Employer will find that he has taken over non-compliant Works, paid the Contract Price and only been able to deduct these non-performance damages.

The second paragraph covers the practical difficulty which the Employer may have in giving the Contractor access to overcome a failure. The Contractor remains liable to carry out the work, unless he is instructed that right of access cannot be given until a convenient time and he does not receive reasonable notice of such time during the Defects Notification Period.

Clause 13 Variations and Adjustments

Although Variations are a source of many disputes, Employers are generally unwilling to enter into contracts which prevent them from requiring changes to be made, other than after the taking-over. Variations can be initiated by any of three ways:

- The Variation may be instructed without prior agreement as to feasibility or price, which may be appropriate for urgent work, or in respect of CONS' Works which are designed by (or on behalf of) the Employer.
- The Contractor may (at his option) initiate his own proposals, which may be

approved as a Variation, or he may be given other instructions which constitute a Variation.

- A proposal may be requested, in an endeavour to reach prior agreement on its effect and thereby minimise dispute. This "request" would typically not constitute a Variation, and is not mentioned in Sub-Clause 13.2 (which is not intended to be applicable to requested proposals). Again, the proposal may be approved as a Variation, or other instructions may be issued which constitute a Variation.

13.1 Right to Vary

CONS	P&DB	EPCT
<p>Variations may be initiated by the Engineer 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.</p> <p>The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that the Contractor cannot readily obtain the Goods required for the Variation. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.</p> <p>Each Variation may include:</p> <ul style="list-style-type: none"> (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation), (b) changes to the quality and other characteristics of any item of work, (c) changes to the levels, positions and/or dimensions of any part of the Works, 	<p>Variations may be initiated by the Engineer 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.</p> <p>The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer 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 Schedule of Guarantees. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.</p>	<p>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.</p> <p>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.</p>

- (d) omission of any work unless it is to be carried out by others,
- (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- (f) changes to the sequence or timing of the execution of the Works.

The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation.

RB 18 & 51; YB 31; OB 14.1

Having received an instruction to execute a Variation, the Contractor must comply with it unless he promptly gives the notice described in the second paragraph of this Sub-Clause. He may be unable readily to obtain the Goods, which are the Contractor's Equipment, Materials, Plant and Temporary Works required for the Variation. Under P&DB/EPCT, he may have concerns regarding his design responsibilities, such as safety, suitability or achievement of performance criteria. Under EPCT, the instruction should state that it is a Variation, because of EPCT 3.4.

If the Contractor gives notice under the second paragraph, the notice and supporting particulars should be studied carefully, by CONS' or P&DB's Engineer or EPCT's Employer, before the Variation is cancelled, confirmed or varied:

- If the Variation is confirmed and not varied, the confirmation should be in writing and address the issues raised in the Contractor's notice.
- If the Variation is itself varied, it may be a new "Variation", to which the Contractor may respond by giving a new notice under the second paragraph.

CONS 13.1 continues by listing the broad extent to which the Engineer may instruct Variations. Under sub-paragraph (a), Variations may involve changes in quantities, but a change in the quantity of an item in the Bill of Quantities does not necessarily constitute a Variation. For example, the final volume of general

excavation is typically not exactly identical to the Bill quantity for this work, without there having been any Variation. See also CONS 12.3(a).

CONS 13.1(d) empowers the Engineer to instruct omissions, to which CONS 12.4 refers, unless the work is to be carried out by others. A similar provision and restriction are contained in the first paragraph of P&DB/EPCT 13.1.

CONS 13.1(f) empowers the Engineer to instruct "changes to the sequence or timing of the execution of the Works". However, "changes to the ... timing of the execution" only empowers the Engineer to instruct changes to the timing of execution operations, not to the timing of completion. In other words, the Engineer is not empowered to instruct the Contractor to complete major parts (or all) of the Works or any Section before the relevant Time for Completion expires.

Acceleration to complete within the Time for Completion is covered in Sub-Clause 8.6. Acceleration to complete prior to the Time for Completion is covered in the first sentence of Sub-Clause 13.2. This "Time for Completion" is defined in Sub-Clause 1.1.3.3 as including extensions of time due under Sub-Clause 8.4. If the Engineer (under CONS or P&DB) or Employer (under EPCT) fails to determine extensions of time in accordance with Sub-Clauses 8.4 and 20.1:

- there would thereafter be no "Time for Completion" (time is said to be "at large"),

- the Contract would be construed accordingly (Sub-Clause 8.6 may be inapplicable, for example), and
- the Contractor's obligation would be to complete within a time which was reasonable in all the circumstances.

Under P&DB or EPCT, and in respect of Contractor-designed works under CONS (if any), 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 thus

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.

CONS 13.1 concludes by denying the Contractor the right to alter or modify the Permanent Works except in accordance with Variations.

Under P&DB or EPCT, there is no such constraint against altering or modifying the Permanent Works, because such a constraint would have been ambiguous. The Works must comply with the Contract, and such compliance may involve alterations or modifications in accordance with P&DB/EPCT 5.8.

13.2 Value Engineering

CONS	P&DB	EPCT
<p>The Contractor may, at any time, submit to the Engineer 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.</p> <p>The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [<i>Variation Procedure</i>].</p> <p>If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:</p> <ul style="list-style-type: none"> (a) the Contractor shall design this part, (b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [<i>Contractor's General Obligations</i>] shall apply, and (c) if this change results in a reduction in the contract value of this part, the Engineer shall 	<p>The Contractor may, at any time, submit to the Engineer 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.</p> <p>The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [<i>Variation Procedure</i>].</p>	<p>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.</p> <p>The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [<i>Variation Procedure</i>].</p>

proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:

- (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*],and
- (ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

YB 26.3 & 31.1; OB 14.2

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 in (for example) the following situations:

- The proposal may 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 (especially if the proposal would not otherwise appear to be of benefit to the Employer).
- The proposal 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.

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". Under Sub-Clause 13.3, he may be requested to do so, in which case Sub-Clause 13.2 would typically not

apply to the proposal (in particular, CONS 13.2(c) may be inappropriate). In either case, Sub-Clause 13.3 then requires that work should not be delayed whilst he awaits a response. The latter requirement (for work not being delayed) is not repeated in relation to proposals which do not "include the items listed in Sub-Clause 13.3", because he would generally not be entitled to claim compensation in respect of a period waiting for a response to a non-compliant proposal which he had submitted on his own initiative.

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. Alternative suggestions for reimbursement may be made, depending upon whether the outcome of the next stage is acceptable to the Employer. This initial stage would

typically be more economical for the Contractor but, if he submits initial proposals on this basis, the Employer may be less likely to proceed to the next stage.

Sub-Clause 13.2 does not require the Employer to devote the considerable resources which may be required in order 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.

CONS 13.2 concludes with sub-paragraphs covering the possibility that the value engineering proposal may involve a change in the Employer's (or Engineer's) design of the Permanent Works. Problems sometimes arise in these situations, usually because the Parties failed to agree (or even consider) aspects such as design liability. They are entitled to agree what they wish, but the sub-paragraphs define the position if they fail to reach and record their agreement.

CONS 13.2(c) describes how any saving in the part's "contract value" is to be shared. It is preferable to agree such matters before each value engineering proposal is adopted. The "contract value", which is also mentioned in CONS 14.3(a), relates to the part's value under the Contract: typically under CONS 12.3.

P&DB and EPCT do not contain any provisions describing how any contract value saving is to be shared, because they do not contain contract value provisions similar to CONS 12.

It is preferable for the Parties to reach agreement on the sharing of contract value saving, arising from a value engineering proposal, before the Variation is put into effect. If agreement is not reached, CONS 13.2(c) or the last sentence of P&DB/EPCT 13.3 will be applicable.

13.3 Variation Procedure

CONS	P&DB	EPCT
<p>If the Engineer 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:</p> <ul style="list-style-type: none"> (a) a description of the proposed work to be performed and a programme for its execution, (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [<i>Programme</i>] and to the Time for Completion, and (c) the Contractor's proposal for evaluation of the Variation. <p>The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [<i>Value Engineering</i>] or otherwise), respond with</p>	<p>If the Engineer 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:</p> <ul style="list-style-type: none"> (a) a description of the proposed design and/or work to be performed and a programme for its execution, (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [<i>Programme</i>] and to the Time for Completion, and (c) the Contractor's proposal for adjustment to the Contract Price. <p>The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [<i>Value Engineering</i>] or otherwise), respond with</p>	<p>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:</p> <ul style="list-style-type: none"> (a) a description of the proposed design and/or work to be performed and a programme for its execution, (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [<i>Programme</i>] and to the Time for Completion, and (c) the Contractor's proposal for adjustment to the Contract Price. <p>The Employer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [<i>Value Engineering</i>] or otherwise), respond with</p>

CONS

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 Engineer to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [*Measurement and Evaluation*], unless the Engineer instructs or approves otherwise in accordance with this Clause.

P&DB

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 Engineer to the Contractor, who shall acknowledge receipt.

Upon instructing or approving a Variation, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [*Value Engineering*] if applicable.

EPCT

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. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [*Value Engineering*] if applicable.

RB 52; YB 31.2-31.5; OB 14.3

As noted previously, Variations can be initiated by any of three ways:

- The Variation may be instructed without prior agreement as to feasibility or price, which may be appropriate for urgent work, or in respect of CONS' Works which are designed by (or on behalf of) the Employer.
- The Contractor may (at his option) initiate his own proposals, which may then be approved as a Variation, or he may be given other instructions which constitute a Variation.
- A proposal under Sub-Clause 13.3(a)-(c) may be requested, in an endeavour to reach prior agreement on its effect and thereby minimise dispute. This "request" would typically not constitute a Variation, unless it is an "instruction". Again, the proposal may be approved as a Variation, or other instructions may be issued which constitute a Variation.

Unlike "instructions" (see CONS/P&DB 3.3 and EPCT 3.4), the Contractor is not obliged to comply with a "request". He is required to respond, but his response may:

- be in the form described in sub-paragraphs (a) to (c) inclusive of Sub-Clause 13.3,

- be in the form of a reasoned explanation of his inability to comply, or
- comprise some documents in the form described in sub-paragraphs (a) to (c), together with an explanation of his inability to provide the other requested submittals. For example, the Engineer or Employer might have requested detailed design drawings of a potential major Variation.

Since the Contractor's obligation to comply with a request is limited to such an explanation and/or to the listed documents, he is not stated as having any entitlement to payment. He may be unwilling to incur much Cost, such as by undertaking detailed design, for the purpose of complying with the request. Typically, those preparing an offer are not paid for doing so, but payment may be appropriate if detailed design is involved.

The request should be in writing (Sub-Clause 1.3), refer to the sub-paragraphs of Sub-Clause 13.3, and use the word "request". Otherwise, there is a risk that a request may appear to be an instruction, and thus as a Variation, entitling the Contractor to payment for complying with it. Although EPCT 3.4 requires each instruction to state the obligation to which it relates, other instructions which the Contractor obeys may nevertheless entitle him to payment.

The request may also include some wording derived from Sub-Clause 13.2, although such wording was only intended to be applicable to proposals which were not so requested. In particular, CONS 13.2(c) assumes that the Contractor should benefit from having initiated a reduction in the contract value.

The second paragraph of Sub-Clause 13.3 then requires the Engineer under CONS/P&DB or the Employer under EPCT to respond to the Contractor's proposals as soon as practicable. This paragraph only applies to "such proposal", which means the proposal mentioned in the first paragraph, namely:

- a requested proposal, which is mentioned in the first line of Sub-Clause 13.3 and which should include the items listed in sub-paragraphs (a) to (c), or
- any proposal which includes the items listed in sub-paragraphs (a) to (c), namely a proposal which includes "the items listed in Sub-Clause 13.3" (in accordance with the second paragraph of Sub-Clause 13.2).

In either case, the Contractor must proceed with the Works ("with due expedition and without delay": see Sub-Clause 8.1) unless and until he receives a response or is instructed otherwise. For example, he may be instructed under Sub-Clause 8.8 not to proceed with a part of the Works, whilst his proposal is being considered.

The Engineer under CONS/P&DB or the Employer under EPCT should take account of the consequences of the Contractor's obligation to proceed as though

the proposal had been rejected. For example, certain aspects of the proposal may have a limited period of validity, depending on the nature of the proposed Variation and on the work with which the Contractor proceeds after submitting his proposal. The Contractor may therefore wish to define the validity of any offered adjustments to the Contract Price and Time for Completion.

Responses are to be made "as soon as practicable" under the first and second paragraphs. No period is specified as to what constitutes "as soon as practicable", but the period will probably be affected by the amount of documentation which constitutes the proposal.

The last paragraph describes the evaluation of Variations: namely in accordance with CONS 12 (and CONS 13.2 may also be applicable), or with Sub-Clause 3.5 of the lump sum contracts P&DB/EPCT.

P&DB/EPCT 13.3 concludes by requiring Variation adjustments to the Contract Price to take account of any value engineering submissions under Sub-Clause 13.2, if the Variation arose from any such submissions from the Contractor. No specific mention is made of him receiving any special benefit from having thought up the proposed variation, because of the difficulty of preventing such entitlement arising in situations where he did little to develop his initial ideas. Therefore, the sentence only requires account to be taken of his submissions. His endeavours in seeking improvements beneficial to the Employer must be taken into account in the valuation of a Variation which he initiated under Sub-Clause 13.2.

13.4 Payment in Applicable Currencies

CONS	P&DB	EPCT
<p>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. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.</p>	<p>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. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.</p>	<p>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. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.</p>

YB 35; OB 14.4

This Sub-Clause applies whenever an adjustment is agreed, approved or determined under Clause 13. The contract currency proportions (in which payment of the Contract Price is made) may be appropriate for the Variation. Even

if such contract currency proportions are inappropriate, they are nevertheless as relevant as the currency proportions in which the Contractor incurs Cost, and so both such proportions must be taken into account.

13.5 Provisional Sums

CONS	P&DB	EPCT
<p>Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer'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 Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:</p>	<p>Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer'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 Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:</p>	<p>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:</p>
<ul style="list-style-type: none"> (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [<i>Variation Procedure</i>]; and/or (b) Plant, Materials or services to be purchased by the Contractor, from a nominated Sub-contractor (as defined in Clause 5 [<i>Nominated Subcontractors</i>]) or otherwise; and for which there shall be included in the Contract Price: <ul style="list-style-type: none"> (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 appropriate Schedule. If there is no such rate, the percentage rate stated in the Appendix to Tender shall be applied. 	<ul style="list-style-type: none"> (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [<i>Variation Procedure</i>]; and/or (b) Plant, Materials or services to be purchased by the Contractor, for which there shall be included in the Contract Price: <ul style="list-style-type: none"> (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 appropriate Schedule. If there is no such rate, the percentage rate stated in the Appendix to Tender shall be applied. 	<ul style="list-style-type: none"> (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [<i>Variation Procedure</i>]; and/or (b) 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: <ul style="list-style-type: none"> (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.

CONS

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

P&DB

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

EPCT

The Contractor shall, when required by the Employer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

RB 58 & 59.4; YB 36; OB 14.5

Under CONS, Provisional Sums are often included in the Bill of Quantities for parts of the Works which are not required to be priced at the risk of the Contractor. For example, Provisional Sums may be appropriate for any Materials which the Engineer is to select, or for any uncertain parts of the Works. Such arrangements provide considerable flexibility, because the work may be executed by a nominated Subcontractor, or by the Contractor and valued under Clause 12 or on a Cost-plus basis.

Provisional Sums may also be included in a P&DB contract, and even (occasionally) in a EPCT 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 similar to CONS 12.

It is important to define the scope of each Provisional Sum precisely, because the scope will be excluded from the other elements of the Contract Price. It might also

be necessary to clarify the timing of any relevant instructions related to the work covered in a Provisional Sum.

Provisional Sums are defined as any sums specified in the Contract as provisional sums, so the Engineer or 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 Engineer or Employer cannot increase the amount of a Provisional Sum (by Variation or otherwise).

Under CONS or P&DB, if the amount stated in a Provisional Sum is exceeded, the Contractor must still comply with the Engineer's instructions which he received under sub-paragraph (a) and/or (b), but he may not be bound by the financial consequences under this Sub-Clause in respect of the excess.

The amount to be included in each Provisional Sum should therefore include a realistic estimate of the final amount which is anticipated to be used.

13.6 Daywork

CONS

For work of a minor or incidental nature, the Engineer 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 Engineer. When

P&DB

For work of a minor or incidental nature, the Engineer 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 Engineer. When

EPCT

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

CONS

P&DB

EPCT

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 Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [*Application for Interim Payment Certificates*].

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 Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [*Application for Interim Payment Certificates*].

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:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) 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 under Sub-Clause 14.3 [*Application for Interim Payments*].

RB 52.4

Under CONS, daywork, which is sometimes called "time-work", is typically necessary for minor or contingent work paid a Cost-plus basis.

Daywork may also be required under a P&DB contract, and even (occasionally) a EPCT contract, for such minor or contingent work.

Sub-Clause 13.6 sets out the procedures to be followed, based upon the use of a daywork schedule included in the Contract. If there is no such schedule, the Sub-Clause is of no effect. The daywork schedule to be priced by tenderers and included in the Contract should define:

- (a) a time charge rate for each person or category (money per person per hour, for example),
- (b) a time charge rate for each category of Contractor's Equipment (money per hour per item, for example), and
- (c) the payment due for each category of Materials. This is usually on a basis similar to that described in Sub-Clause 13.5(b). However, for some Materials (for example, natural Materials and Materials manufactured on Site), it may be appropriate to provide items for pricing on a money per unit quantity basis.

Sub-Clause 13.6 empowers the Engineer under CONS/P&DB and the Employer under EPCT to instruct that "a Variation shall" be executed on a daywork basis. Unless the Parties agree otherwise, the provisions in the Sub-Clause do not therefore apply to work which is not "a Variation", nor to work which the

Contractor executed prior to receiving an instruction that it "shall" (in the future) be executed on a daywork basis. However, 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.

13.7 Adjustment for Changes in Legislation

CONS	P&DB	EPCT
<p>The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.</p>	<p>The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.</p>	<p>The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.</p>
<p>If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	<p>If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>	<p>If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p>
<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price.</p>	<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price.</p>	<p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be added to the Contract Price.</p>
<p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>

RB 70.2 & 71.1; YB 35.2 & 47.2; OB 13.16

This Sub-Clause protects the Parties from the consequences of changes in legislation in the Country, made after the Base Date. No protection is provided in respect of changes in the laws of other countries. It may be necessary to obtain legal advice as to whether a particular event constitutes a "change:

- in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or
- in the judicial or official governmental interpretation of such Laws".

Under the first paragraph, the Contract Price is to be adjusted to take account of any such change. If the change delays the Contractor and/or increases his Cost, he is required to give notice under the second paragraph. The notice should be given within 28 days after he became aware of the circumstances, in accordance with the first paragraph of Sub-Clause 20.1. If the change decreases the Contractor's Cost and the Employer considers himself to be entitled to a reduction in the Contract Price, the Employer is required to give notice under Sub-Clause 2.5.

Notices should be given "as soon as practicable". CONS/P&DB 1.3 requires the Contractor to send a copy of his notices to the Employer.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

Under sub-paragraph (b), the final Contract Price is to include the "additional Cost as a result of these changes in the Laws or in such interpretations". As with other provisions which describe the Contractor's entitlements, such additional Cost must only be included once, namely without duplication. In this case, it would be inappropriate for the final Contract Price to include a specific element of additional Cost under Sub-Clause 13.7(b), if and to the extent that such additional Cost has already been included in the adjustments made in accordance with Sub-Clause 13.8.

13.8 Adjustment for Changes in Cost

CONS	P&DB	EPCT
<p>In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data included in the Appendix to Tender. If there is no such table of adjustment data, this Sub-Clause shall not apply.</p> <p>If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.</p> <p>The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in</p>	<p>In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data included in the Appendix to Tender. If there is no such table of adjustment data, this Sub-Clause shall not apply.</p> <p>If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.</p> <p>The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in</p>	<p>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.</p>

accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

"P_n" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Tender;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"L_n", "E_n", "M_n", ... are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"L_o", "E_o", "M_o", ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which

accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

"P_n" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Tender;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"L_n", "E_n", "M_n", ... are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"L_o", "E_o", "M_o", ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which

is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the "currency of index" (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer.

The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the "currency of index" (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer.

The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

RB 70.1; YB 47.1

This Sub-Clause provides formulae to adjust the contract values to reflect escalation of costs due to inflation. No such formulae are included in EPCT, which is intended to place greater risk on the Contractor. If an EPCT contract is to include the formulae, the provisions in P&DB 13.8 may be incorporated, by reference, with appropriate adjustments to the wording in respect of defined words and phrases: "Engineer" and "Appendix to Tender", for example. The remaining comments on this Sub-Clause apply to CONS and P&DB only.

Under CONS or P&DB, the formulae require data which is to be specified in a table of adjustment data for each payment currency, the tables being included in the Appendix to Tender. For a fixed-price contract where no adjustments are to be made for escalation of costs, it is only necessary for there to be no such table in the Appendix to Tender. However, it is better to include a statement like "Sub-Clause 13.8 not applicable", in order to clarify the Parties' intentions.

The example Appendix to Tender published at the end of CONS and P&DB illustrates the format of each table of adjustment data. It must define the coefficients (proportions) and cost indices (reference prices) which are to be used to adjust the other amounts included in each currency in each Payment Certificate. Typically, the Employer will have defined the fixed (non-adjustable) coefficient "a" before the tender documents are issued to tenderers, but may prefer each tenderer to define the other coefficients and all the sources of the cost indices in the table for each currency, so that they can fairly reflect:

- the proportions of Cost (for example, different tenderers may anticipate different percentages for labour and equipment), and
- the sources of the cost indices (each of which should relate to the currency of Cost, which may also differ between tenderers).

The total of the proportions (b + c + d + ... etc.) in each table of adjustment data must be checked mathematically to ensure that it does not exceed (1 - a).

For each index, the source and title/definition should be stated in each table. Typically, tenderers will not know the value as at the Base Date, unless (unusually) its value is published immediately before the tender submission date. Therefore, the fourth column of the table may be used to define the value of the index at another recent date, which is then inserted in the fifth column. This "recent date" does not become a substitute Base Date, and is only used as a reference linked to the index's value which is stated in the fourth column. Knowing that the index had a certain value on a certain date, the Engineer should be able to examine the published "source of index" and determine the index which has the published "title/definition" stated in the table and had such value on such date. This purpose is clarified in the fifth from last paragraph of the Sub-Clause, which follows immediately after the definitions of the expressions used in the formula.

For each index, the "country of origin" and "currency of index" should be stated in each table. Typically, this country will be that of the "currency of index" but may not be the same as the particular currency of payment to which the table relates. For example, the Contractor may incur Costs in many currencies but only be paid in one Foreign Currency. Bearing in mind that each index reflects costs in a particular currency, it is necessary to convert indices from the "currency of index" to the "currency of payment" (unless these currencies are the same) in accordance with the fourth from last paragraph of the Sub-Clause.

The adjustment multiplier "P_n" is "to be applied to the estimated contract value". Note that P_n will usually exceed "1" and is a multiplier. In order to calculate an amount to be added, as indicated in Sub-Clause 14.3(b), then the mathematical expression (P_n - 1) must be multiplied by the estimated "contract value" of the work carried out in period "n". This "contract value" is the value in accordance with the Contract, namely the applicable part of the Contract Price defined in Sub-Clause 14.1(a). The expression "contract value" is also used in Sub-Clause 14.3(a) and at the end of CONS/P&DB 14.5.

Clause 14 Contract Price and Payment

14.1 The Contract Price

CONS	P&DB	EPCT
<p>Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [<i>Evaluation</i>] and be subject to adjustments in accordance with the Contract;</p> <p>(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 as stated in Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>];</p> <p>(c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:</p> <p>(i) of the Works which the Contractor is required to execute, or</p> <p>(ii) for the purposes of Clause 12 [<i>Measurement and Evaluation</i>]; and</p> <p>(d) the Contractor shall submit to the Engineer, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.</p>	<p>Unless otherwise stated in the Particular Conditions:</p> <p>(a) the Contract Price shall be the lump sum Accepted Contract Amount and be subject to adjustments in accordance with the Contract;</p> <p>(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 as stated in Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>];</p> <p>(c) any quantities which may be set out in a Schedule are estimated quantities and are not to be taken as the actual and correct quantities of the Works which the Contractor is required to execute; and</p> <p>(d) any quantities or price data which may be set out in a Schedule shall be used for the purposes stated in the Schedule and may be inapplicable for other purposes.</p> <p>However, if any part of the Works is to be paid according to quantity supplied or work done, the provisions for measurement and evaluation shall be as stated in the Particular Conditions. The Contract Price shall be determined accordingly, subject to adjustments in accordance with the Contract.</p>	<p>Unless otherwise stated in the Particular Conditions:</p> <p>(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</p> <p>(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 as stated in Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>].</p>

RB 55 & 57.2; YB 33.8 & 48.1; OB 13.1

This Sub-Clause sets out the fundamental principles of the Contract as regards money, which differ between the three Books.

Under CONS or P&DB, Sub-Clause 1.1.4.2 states that the Contract Price is defined in Sub-Clause 14.1. CONS 14.1(a) defines the Contract Price by reference to Sub-Clause 12.3, to the effect that the Works are to be valued by measurement. P&DB 14.1(a) defines the Contract Price as being the same as the (lump sum) Accepted Contract Amount. In both Books, the definitions are subject to any contrary provisions contained in the Particular Conditions, and the Contract Price includes adjustments under other Sub-Clauses. Under CONS or P&DB, which define a fixed "Accepted Contract Amount", the General Conditions describes the Contractor's entitlements to additional Costs in terms of such adjustments being "included in the Contract Price".

The Contractor's entitlements are briefly summarised in a Table in this Guide, at the end of the commentary on Clause 3.

Under EPCT, Sub-Clause 1.1.4.1 defines the Contract Price as the agreed amount stated in the Contract, subject to adjustments in accordance with the Contract, without any reference to Sub-Clause 14.1. EPCT 14.1(a) does not therefore define the Contract Price, but simply refers to it being the lump sum upon which payments are based. EPCT refers to the accepted contract amount as the "Contract Price stated in the Contract Agreement" and describes the Contractor's entitlements to additional Costs in terms of such adjustments being "added to the Contract Price".

Sub-paragraph (b) confirms that 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.

CONS 14.1(c) states that the quantities in the Bill of Quantities are only estimates. They do not define the extent of the Contractor's obligations to execute the Works, and they are not to be assumed to be correct for the purposes of final measurement. However, if the final measurement results in a quantity which is less than 90%, or more than 110%, of the quantity stated in the Bill of Quantities included in the Contract, the criterion in Sub-Clause 12.3(a)(i) is satisfied and either Party should consider whether the criteria in Sub-Clause 12.3(a)(ii) to (iv) have also been satisfied.

P&DB 14.1(c) similarly states that quantities (if any) which may be stated in a Schedule are only estimates and do not define the extent of the Contractor's obligations. Under this lump sum form of Contract, the Contractor bears the risk of the quantities being different to his estimates. If any quantities are included in a Schedule, it should be clear as to who estimated the quantities and for what purpose they are included in the Contract. Sub-paragraph (d) prevents them being used for unintended purposes, such as when either Party seeks to adjust the Contract Price because of an increase or decrease in a quantity.

Under P&DB, the contract documents should therefore not include a Bill of Quantities unless its purpose is clearly stated. If a Bill of Quantities is included, so that part of the Works can be paid according to quantity supplied or work done, the provisions for measurement and evaluation must be stated in the Particular Conditions, in accordance with the final paragraph of P&DB 14.1.

Under EPCT, the contract documents do not include "Schedules", so EPCT does not contain provisions similar to P&DB 14.1(c)&(d). If part of the Works is to be paid according to quantity supplied or work done, appropriate provisions must be included in the Particular Conditions.

14.2 Advance Payment

	CONS	P&DB	EPCT
	The Employer shall make an advance payment, as an interest-free loan for mobilisation, when the Contractor submits a guarantee in accordance with	The Employer shall make an advance payment, as an interest-free loan for mobilisation and design, when the Contractor submits a guarantee in	The Employer shall make an advance payment, as an interest-free loan for mobilization and design, when the Contractor submits a guarantee in

this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [*Application for Interim Payment Certificates*]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [*Performance Security*] and (ii) 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, and shall be in the form annexed to the Particular Conditions or in another form 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 as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not

accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [*Application for Interim Payment Certificates*]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [*Performance Security*] and (ii) 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, and shall be in the form annexed to the Particular Conditions or in another form 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 as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not

accordance with this Sub-Clause including the details stated in the Particular Conditions. If the Particular Conditions does not state:

- (a) the amount of the advance payment, then this Sub-Clause shall not apply;
- (b) the number and timing of instalments, then there shall be only one;
- (c) the applicable currencies and proportions, then they shall be those in which the Contract Price is payable; and/or
- (d) the amortisation rate for repayments, then it shall be calculated by dividing the total amount of the advance payment by the Contract Price stated in the Contract Agreement less Provisional Sums.

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, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer. Unless and until the Employer receives this guarantee, this Sub-Clause shall not apply.

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,

CONS

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.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment, until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [*Termination by Employer*], Clause 16 [*Suspension and Termination by Contractor*] or Clause 19 [*Force Majeure*] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

P&DB

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.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment, until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [*Termination by Employer*], Clause 16 [*Suspension and Termination by Contractor*] or Clause 19 [*Force Majeure*] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

EPCT

the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through proportional deductions in interim payments. Deductions shall be made at the amortization rate stated in the Particular Conditions (or, if not so stated, as stated in sub-paragraph (d) above), which shall be applied to the amount otherwise due (excluding the advance payment and deductions and repayments of retention), until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [*Termination by Employer*], Clause 16 [*Suspension and Termination by Contractor*] or Clause 19 [*Force Majeure*] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

OB 13.2

For this Sub-Clause to be applicable, the amount of the advance(s) must be specified in:

- CONS' or P&DB's Appendix to Tender, either as a sum or as a percentage of the Accepted Contract Amount; or
- EPCT's Particular Conditions, either as a sum or as a percentage of "the Contract Price stated in the Contract Agreement", including currencies and proportions. Note that reference cannot only be made to EPCT's "Contract Price" because it may be adjusted (under Clause 13, for example) during the contract period.

Although the Sub-Clause states that it does not apply if the amount is not so specified, it is preferable for the words "not applicable" to be stated in CONS' or P&DB's Appendix to Tender or in EPCT's Particular Conditions, if the Contractor is not to receive any advance payment.

If the number and timing of instalments is not mentioned, all the advance will be paid in one instalment, and in accordance with Sub-Clause 14.7(a).

Whenever the Contractor is required to be paid prior to the Employer having received anything in return, the Employer will probably (as here) require some security for his outlay. This security is to be in the form of a guarantee, which is to be issued by an entity approved by the Employer. It is required to be in the form annexed to the Particular Conditions, or in another form approved by the Employer. The Particular Conditions should therefore include details of the Employer's requirements regarding the entity, and the details (in an annex) of the specified form.

Sub-Clause 1.3 requires approvals to be given in writing and not unreasonably withheld. The reasonableness of withholding an approval will depend upon the extent to which the guarantee, and the guarantor which issued it, comply with the requirements specified in or annexed to the Particular Conditions. If a form was annexed, the Employer cannot insist upon "another form approved by the Employer". This "another form" is an alternative option for the Contractor. If the Contractor opts to seek the Employer's approval of a form other than that which is annexed to the Particular Conditions, it may be reasonable for the Employer to withhold approval of a form which is less favourable to the Employer than the annexed form.

FIDIC's example form of advance payment guarantee (see Annex E to each GPPC) is a conditional demand form of independent guarantee, which is similar to one of

the forms of Performance Security considered in the commentary on Sub-Clause 4.2. The example form incorporates (by reference) Uniform Rules prepared for the International Chamber of Commerce ("ICC", 38 Cours Albert 1er, 75008 Paris, France) which has issued the following publications:

- 458: Uniform Rules for Demand Guarantees ("URDG", 1992), and
- 510: Guide to the ICC Uniform Rules for Demand Guarantees (Professor Roy Goode, 1992).

However, Sub-Clause 14.2 is considered appropriate for use with any form of advance payment guarantee, and not just with FIDIC's example form.

Guarantees and other forms of security must be drafted with care, taking account of the law by which they will be governed, and preferably by lawyers familiar with such law.

Sub-Clause 14.7(a) specifies when the first instalment of the advance is to be paid. When entering into the Contract, the Employer will typically be able to calculate the amount of this first payment, and should immediately initiate arrangements for making prompt payment.

The guarantee is required to be valid until the advance payment has been repaid. Whilst the Employer may prefer it not to state its expiry date, the issuing entity may seek to insist on a stated expiry date. Sub-Clause 14.2 therefore requires the guarantee to be extended if, 28 days before its expiry date, the advance has not been repaid in full. When it is originally issued, and whenever it is eventually extended, the expiry date should take account of possible delays to completion.

If the advance has not been repaid by the date 28 days before the guarantee expires, and the Contractor fails to extend it, Sub-Clause 14.2 entitles the Employer to call the guarantee. This entitlement is of no effect unless the wording of the actual guarantee, as originally procured by the Contractor and approved by the Employer, itself imposes an obligation on the guarantor to pay the Employer. The period of 28 days is specified so as to allow the Employer a reasonable period within which to make the necessary arrangements for the call (including, possibly, giving the Contractor a few days' grace).

If the Employer becomes entitled to call the guarantee by reason of this failure to extend it, the Employer may be entitled to claim its current amount, namely the unpaid balance of the advance, and then proceed on the basis that the advance has been repaid by the guarantor.

14.3 Application for Interim Payment Certificates

CONS

The Contractor shall submit a Statement in six copies to the Engineer after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [*Progress Reports*].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Appendix to Tender to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Appendix to Tender;
- (d) any amounts to be added and deducted for

14.3 Application for Interim Payments

P&DB

The Contractor shall submit a Statement in six copies to the Engineer 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 Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [*Progress Reports*].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Appendix to Tender to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Appendix to Tender;
- (d) any amounts to be added and deducted for

EPCT

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 documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [*Progress Reports*].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (f) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Particular Conditions to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Particular Conditions;
- (d) any amounts to be added and deducted for

	CONS	P&DB	EPCT
	the advance payment and repayments in accordance with Sub-Clause 14.2 [<i>Advance Payment</i>];	the advance payment and repayments in accordance with Sub-Clause 14.2 [<i>Advance Payment</i>];	the advance payment and repayments in accordance with Sub-Clause 14.2 [<i>Advance Payment</i>];
(e)	any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [<i>Plant and Materials intended for the Works</i>];	(e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [<i>Plant and Materials intended for the Works</i>];	
(f)	any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [<i>Claims, Disputes and Arbitration</i>]; and	(f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [<i>Claims, Disputes and Arbitration</i>]; and	(e) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [<i>Claims, Disputes and Arbitration</i>]; and
(g)	the deduction of amounts certified in all previous Payment Certificates.	(g) the deduction of amounts certified in all previous Payment Certificates.	(f) the deduction of amounts included in previous Statements.
RB 60.1 & 60.2; YB 33.2; OB 13.3			

This Sub-Clause entitles the Contractor to a payment for the work executed during each period of payment. The period is to be each calendar month, except that P&DB/EPCT refers to the option of other periods being stated in the Contract. For example, Sub-Clause 14.4 describes schedules of payments, which may define longer periods of payment.

Each application is to be sent to the Engineer under CONS/P&DB or to the Employer under EPCT, in the form which he has previously approved. When considering what form to approve, he should take account of the need to facilitate his rapid checking of the various amounts, and take account of the financial provisions in the Contract on which the amounts are to be based. He should allow the Contractor to utilise any computerised system with which the Contractor's staff are familiar, provided it produces clear and comprehensible Statements.

Each Statement must be accompanied (or preceded) by supporting documents, which also need to take account of these financial provisions. These documents are required to include the progress report specified in Sub-Clause 4.21, for the relevant period. In other words, a Statement covering work executed up to the end of a month must be accompanied or preceded by reports which contain all the data specified in Sub-Clause 4.21.

Unless and until the Contractor submits the Statement, progress report and other necessary supporting documents, the period within which payment is to be made does not commence: see Sub-Clause 14.7(b). However, Sub-Clause 14.6 does not permit certification or payment to be withheld if the Contractor has not provided the appropriate document in support of part of his Statement. In these circumstances, the Engineer (under CONS/P&DB) or Employer (under EPCT) should immediately request prompt submission of the appropriate supporting document. Unless it is submitted promptly, certification or payment should then proceed, excluding the items in the Statement for which such documents have not been submitted.

Most of the payment will typically be due under sub-paragraph (a), for the "contract value" of the Works executed to date. This "contract value" is their value in accordance with the Contract, namely the applicable part of the Contract Price, in accordance with Sub-Clause 14.1(a). The expression "contract value" is also used in CONS/P&DB 13.8 (fourth paragraph) and 14.5 (last paragraph).

Under CONS, the contract value is thus determined in accordance with Sub-Clause 12.3, by measurement of the quantities of the work executed to date, unless a schedule of payments brings Sub-Clause 14.4(a) into effect. As regards the accuracy of calculation of these quantities, there seems little point in

calculating to an accuracy much better than the contract value of the work executed per week, in view of the duration of the payment procedures.

Under P&DB or EPCT, the contract value will typically be the applicable parts of various lump sums. The difficulty, which has to be addressed when preparing tender documents for a lump sum contract, is the determination of such a contract value. Clearly, estimating cannot be left to be determined by one of the Parties; and it should not be left to be determined by P&DB's Engineer because tenderers cannot then predict cash flow and consequential financing costs with any degree of reliability. The tender documents should define how interim

payments are to be assessed. It is preferable, but not essential, for lump sum contracts to include a Schedule of Payments, specifying the amounts due based upon the actual progress achieved in executing the Works.

Under EPCT, the final deduction is described as being the total of previous Statements. The Contractor might prefer to deduct the total of previous payments, but in practice he may not have received payment under the most recent previous Statement. In any event, it should be self-evident that he will actually be applying for a further payment which would bring the total of all payments up to his requested total, before the final deduction.

14.4 Schedule of Payments

CONS	P&DB	EPCT
<p>If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:</p>	<p>If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this Schedule:</p>	<p>If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this Schedule:</p>
<p>(a) the instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>];</p> <p>(b) Sub-Clause 14.5 [<i>Plant and Materials intended for the Works</i>] shall not apply; and</p> <p>(c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which this schedule of payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.</p>	<p>(a) the instalments quoted in this Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>];</p> <p>(b) Sub-Clause 14.5 [<i>Plant and Materials intended for the Works</i>] shall not apply; and</p> <p>(c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which this Schedule of Payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.</p>	<p>(a) the instalments quoted in the Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [<i>Application for Interim Payments</i>], subject to Sub-Clause 14.5 [<i>Plant and Materials intended for the Works</i>]; and</p> <p>(b) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which the Schedule of Payments was based, then the Employer may proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.</p>

CONS

If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

P&DB

If the Contract does not include a Schedule of Payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

EPCT

If the Contract does not include a Schedule of Payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

RB 14.3; OB 13.4

Except for its last paragraph, this Sub-Clause only becomes applicable if interim payments are to be based on a Schedule of Payments. No such Schedule is defined under CONS 1.1.1, because interim payments under such a contract are typically based upon monthly measurement of quantities of work, applying the rates and prices from a Bill of Quantities. However, a schedule of payments may sometimes be considered appropriate for a contract under CONS.

Under P&DB or EPCT, the Schedule of Payments could be in one of the following forms:

- An amount (or percentage of the estimated final Contract Price) could be entered for each month or other period of payment, during the Time for Completion. However, this principle is not recommended, because payment instalments can become unreasonable if the Contractor's progress differs significantly from the expectation on which the Schedule was based. The final sub-paragraph of Sub-Clause 14.4 therefore specifies that this type of Schedule can be adjusted to take account of actual progress.
- The Schedule could be based on actual progress achieved in executing the Works, i.e., on completion of defined milestones. This method is considered preferable, but it necessitates careful definition of the payment milestones. Disagreements may arise when the work required for a payment milestone is nearly achieved but the balance cannot be completed until some months later.

In the first case, where there is an amount for each period of payment, if progress

falls behind (but not if it is ahead of) the programme on which the Schedule was based, it may be amended subject to Sub-Clause 3.5. With the exception of self-evident errors in the original Schedule, these amendments should only "take account of the extent to which progress is less than that on which the instalments were previously based".

Sub-Clause 14.4(a) clarifies that the figures in the schedule of payments are to be used to determine the "contract value" under Sub-Clause 14.3(a). This contract value is thus subject to additions and deductions under the other sub-paragraphs of Sub-Clause 14.3, including the deduction of retention under 14.3(c).

A schedule of payments allows both Parties to plan their likely cash flow. Therefore, CONS/P&DB 14.4(b) invalidates Sub-Clause 14.5, which would otherwise have introduced a variable aspect of cash flow. However, the schedule of payments may state that Sub-Clause 14.5 will apply.

If there is no such schedule of payments, the last paragraph requires the Contractor to submit non-binding estimates every three months. They should tabulate his estimate of the payment to which he expects to become entitled during each quarterly period for the duration of the Contract. Unless instructed otherwise, the Contractor would be entitled to assume that "quarterly period" means January-March, April-June, July-September and October-December. Neither Party will be bound by the Contractor's estimates, so there is no reason for him to be required to amend them.

14.5 Plant and Materials Intended for the Works

CONS	P&DB	EPCT
<p>If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>].</p>	<p>If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>].</p>	<p>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:</p>
<p>If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Appendix to Tender, this Sub-Clause shall not apply.</p>	<p>If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Appendix to Tender, this Sub-Clause shall not apply.</p>	<p>(a) the relevant Plant and Materials are in the Country and have been marked as the Employer's property in accordance with the Employer's instructions; or</p>
<p>The Engineer shall determine and certify each addition if the following conditions are satisfied:</p>	<p>The Engineer shall determine and certify each addition if the following conditions are satisfied:</p>	<p>(b) the Contractor has delivered, to the Employer, evidence of insurance and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to such payment. This guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [<i>Advance Payment</i>] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration.</p>
<p>(a) the Contractor has:</p> <ul style="list-style-type: none"> (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; 	<p>(a) the Contractor has:</p> <ul style="list-style-type: none"> (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; 	
<p>and either:</p>	<p>and either:</p>	
<p>(b) the relevant Plant and Materials:</p> <ul style="list-style-type: none"> (i) are those listed in the Appendix to Tender for payment when shipped, (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and 	<p>(b) the relevant Plant and Materials:</p> <ul style="list-style-type: none"> (i) are those listed in the Appendix to Tender for payment when shipped, (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and 	

(iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [*Advance Payment*] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

or

(c) the relevant Plant and Materials:

- (i) are those listed in the Appendix to Tender for payment when delivered to the Site, and
- (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3

(iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [*Advance Payment*] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

or

(c) the relevant Plant and Materials:

- (i) are those listed in the Appendix to Tender for payment when delivered to the Site, and
- (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3

[Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

[Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

RB 60.1(c); YB 33.2(b); OB 13.5

EPCT 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 (see the last paragraph of this commentary on Sub-Clause 14.5).

Under CONS or P&DB, this Sub-Clause will not apply if it is rendered inapplicable by:

- a statement to this effect in the Appendix to Tender, in lieu of the lists referred to in sub-paragraph (b)(i) and (c)(i) of Sub-Clause 14.5, or
- Sub-Clause 14.4(b), because the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid.

The purpose of these CONS/P&DB provisions is to minimise the Contractor's financing costs. These costs will have been included in the Accepted Contract Amount and will reflect the extent to which he can maintain a positive cash flow. Cash flow is affected by these and other interim payment procedures.

Under CONS or P&DB, payment is only due when the Contractor has satisfied all the requirements listed in sub-paragraph (a), and those listed in sub-paragraph (b) or (c), as appropriate. Although some of these requirements could give rise to disagreement as to whether they have been complied with, and no mention is made of the opinion or satisfaction of the Engineer, it is he who "fairly determines [the amount] to be due" under the first paragraph of Sub-Clause 14.6.

In CONS/P&DB 14.5 (c)(ii), the Plant and Materials on Site must "appear" to be in accordance with the Contract. They are not stated as having to be

compliant, because such a provision could, in effect, require the Engineer to be satisfied that they do comply, contrary to the last sentence of Sub-Clause 14.6. However, Plant and Materials shipped and en route to the Site (under (b)) do not have to "appear" to be in accordance with the Contract, because they may not have been inspected by the Engineer. Therefore, the Contractor has to provide security under sub-paragraph (b)(iii), because the shipped Plant and Materials may not become the Employer's property until the time defined in Sub-Clause 7.7.

The penultimate paragraph of CONS/P&DB 14.5 defines the amount to be included in an Interim Payment Certificate, namely 80% of the cost of the Plant and Materials. This "cost" is to include delivery to the Site although, for the items shipped and en route to the Site (under (b)), such delivery may not be complete until after the Payment Certificate has been issued. When determining this "cost", based upon the documents mentioned in this Sub-Clause, the Engineer must also take account of the contract value of the Plant and Materials. This "contract value" is their value in accordance with the Contract, namely the applicable part of the Contract Price as defined in Sub-Clause 14.1(a). The expression "contract value" is also used in the fourth paragraph of CONS/P&DB 13.8 and in Sub-Clause 14.3(a).

Under all three Books, the bank guarantee to be provided under sub-paragraph (b) is stated to be provided by an entity, and in a form, as approved by the Employer. Sub-Clause 1.3 requires approvals to be given in writing and not unreasonably withheld. The reasonableness of withholding an approval will depend upon the extent to which the guarantee and the guarantor which issued it comply with any requirements specified in the Particular Conditions. If the security is "in a similar form to the form referred to in Sub-Clause 14.2", the Employer cannot insist upon a more onerous form.

14.6 Issue of Interim Payment Certificates

CONS

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with supporting particulars.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Appendix to Tender. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A

14.6 Interim Payments

P&DB

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with supporting particulars.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Appendix to Tender. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A

EPCT

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, with supporting particulars. Payments due shall not be withheld, except that:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Employer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Employer may, by any payment, make any correction or modification that should properly be made to any amount previously considered due.

CONS

P&DB

EPCT

Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

Payment shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction.

RB 60.2 & 60.4; YB 33.3 & 33.4; OB 13.6

The Contractor is to be notified of the payment which he is to receive, without being requested to amend his Statement. Such a request would typically be inconsistent with the procedures for payment specified in Clause 14. CONS/P&DB 1.3 states that the Engineer's certificates shall not be unreasonably withheld or delayed and that, when sending a certificate to one Party, the Engineer shall send a copy of the certificate to the other Party.

The Contractor is to be notified within 28 days after his Statement and supporting documents have been received. These supporting documents are required to include the progress report specified in Sub-Clause 4.21, for the relevant period. In other words, a Statement covering work executed up to the end of a month must be accompanied (or preceded) by reports which include the matters listed in Sub-Clause 4.21.

Under CONS or P&DB, the Contractor receives a copy of an Interim Payment Certificate which notifies him of the payment to which he is entitled, as fairly determined by the Engineer. The Employer is thereafter bound by the Certificate, and must make payment in full, irrespective of any entitlement to compensation arising from any claim which the Employer may have against the Contractor. If the Employer considers himself entitled to claim against the Contractor, notice and particulars must first be submitted under Sub-Clause 2.5. The Employer's entitlement is then to be agreed or determined, and incorporated as a deduction in a Payment Certificate. This procedure, as prescribed in Sub-Clause 2.5 (notice, particulars, and agreement or determination), may require less time than the 28 days mentioned in the first paragraph of Sub-Clause 14.6.

Under EPCT, 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. However, the Sub-Clause does not refer to the notice in terms of defining the payment to which the Contractor is entitled under the Contract, because it would be unreasonable to empower either Party to define this entitlement. Under EPCT 14.7(b), the Employer's obligation is stated as being to pay the amount which "is due",

irrespective of the Employer's notice under EPCT 14.6.

Under CONS or P&DB, the Engineer may decline to issue an Interim Payment Certificate in an amount which would be less than a "minimum amount of Interim Payment Certificates" which may be stated in the Appendix to Tender. However, the Engineer should not regard his duty as being to endeavour to minimise certification, and therefore declining to certify whenever he is entitled to do so. Withholding of certification may be of benefit to neither Party.

The sub-paragraphs describe the only other circumstances when certification and/or payment may be withheld. Although the Retention Money retained under Sub-Clause 14.3(c) may be sufficient to cover these circumstances, the withholdings described in the sub-paragraphs are not subject to the amount of Retention Money retained. Certification and payment may be withheld as described in Sub-Clause 14.6(a)&(b), as well as under Sub-Clause 14.3(c).

Sub-paragraph (a) describes the situation when an item of work is not in accordance with the Contract, in which event the cost of rectification or replacement may be deducted. In effect, this withholding entitlement expresses the reality that the "contract value" of the item (as described in Sub-Clause 14.3(a)) is typically the value prescribed by the Contract less the anticipated cost of making it comply with the Contract. If an item of work is so non-compliant that its contract value is zero, there would typically be no payment due and therefore nothing from which a deduction for withholding may be effected.

Sub-paragraph (b) similarly covers a failure to perform any work or obligation in accordance with the Contract.

Under CONS or P&DB, the final paragraph allows an Interim Payment Certificate to be corrected or modified in any subsequent Payment Certificate. Although the title of the Sub-Clause only mentions Interim Payment Certificates, the last sentence of Sub-Clause 1.2 expands the provision to allowing the correction or modification to be made in the Final Payment Certificate. Whilst it could be argued that the provision could be expanded further, to the effect that the Final Payment

Certificate could be corrected or modified, such a misinterpretation would be inconsistent with Sub-Clauses 1.1.4.4, 14.11 and 14.13.

Sub-Clause 14.6 concludes with a sentence confirming that certification or payment is not to be taken as indicating "acceptance, approval, consent or satisfaction". This sentence is required so as to discourage:

- the Employer from withholding an interim payment if he feels entitled to withhold acceptance, approval, consent or satisfaction; and

- the Contractor from relying upon certificates or payments as evidence of acceptance, approval, consent or satisfaction in respect of paid work.

14.7 Payment

14.7 Timing of Payments

CONS	P&DB	EPCT
<p>The Employer shall pay to the Contractor:</p> <p>(a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [<i>Performance Security</i>] and Sub-Clause 14.2 [<i>Advance Payment</i>], whichever is later;</p> <p>(b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents; and</p> <p>(c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate.</p> <p>Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.</p>	<p>The Employer shall pay to the Contractor:</p> <p>(a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [<i>Performance Security</i>] and Sub-Clause 14.2 [<i>Advance Payment</i>], whichever is later;</p> <p>(b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents; and</p> <p>(c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate.</p> <p>Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.</p>	<p>Except as otherwise stated in Sub-Clause 2.5 [<i>Employer's Claims</i>], the Employer shall pay to the Contractor:</p> <p>(a) the first instalment of the advance payment 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 documents in accordance with Sub-Clause 4.2 [<i>Performance Security</i>] and Sub-Clause 14.2 [<i>Advance Payment</i>], whichever is later;</p> <p>(b) 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</p> <p>(c) the final amount due, within 42 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [<i>Application for Final Payment</i>] and Sub-Clause 14.12 [<i>Discharge</i>].</p> <p>Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.</p>

RB 60.10; YB 33.5; OB 13.7

The Employer is required to pay the first instalment of the advance payment (or the whole payment, if it is made in one instalment) within six weeks of entering into the Contract, or within three weeks of receiving the securities described in Sub-Clauses 4.2 and 14.2. When entering into the Contract, the Employer will typically be able to calculate the amount of this first payment, and should immediately initiate arrangements for making prompt payment.

Under EPCT, the Employer's obligation is stated in sub-paragraph (b) as being to pay the amount which "is due", subject to Sub-Clause 2.5 but irrespective of the Employer's notice under EPCT 14.6 and irrespective of any non-binding determinations under EPCT 3.5. This amount due may incorporate reductions to which the Employer is entitled, having claimed compensation from the Contractor in accordance with Sub-Clause 2.5 and having received no notice of dissatisfaction. If the Contractor notifies dissatisfaction with the Employer's determination under the last paragraph of EPCT 3.5:

- the determination is of no effect, and the Employer cannot rely upon it as entitling him to recover such compensation,
- he must still pay the amount which "is due", irrespective of the Employer's own determination under Sub-Clause 3.5, and
- the answer to the question as to what amount "is due" may be determined by reference to the provisions on which the Employer based his claim, either by agreement or under the dispute resolution procedures described in Clause 20. For example, the DAB may decide the amount which was due, having been informed of the (lesser or greater) amount actually paid by the Employer. If the DAB decides that the Employer had paid less than the amount which was due under EPCT 14.7(b), the Contractor would be entitled to financing charges under EPCT 14.8.

Under CONS or P&DB, the Contractor's entitlement under sub-paragraph (b) is payment of the amount stated in the Engineer's Interim Payment Certificate. The

Employer must make payment in full, irrespective of any entitlement to compensation arising from any claim which the Employer may have against the Contractor. If the Employer considers himself entitled to claim against the Contractor, notice and particulars must first be submitted under Sub-Clause 2.5. The Employer's entitlement is then to be agreed or determined, and incorporated as a deduction in a Payment Certificate. This procedure, as prescribed in Sub-Clause 2.5 (notice, particulars, and agreement or determination), may require less time than the 28 days mentioned in the first paragraph of Sub-Clause 14.6.

By not timing payment to the date when the Engineer issues the Interim Payment Certificate, the Employer has more time to pay if the Certificate is issued promptly. The Contractor has some degree of protection under Sub-Clauses 14.8 and 16.1 if certification is delayed. Note that his entitlement to financing charges under Sub-Clause 14.8 is calculated for a period which is "deemed to commence on the date for payment specified in Sub-Clause 14.7 [...], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued". For example, if the Certificate is a week late, the Contractor will be entitled to financing charges under Sub-Clause 14.8 unless the Employer manages to accelerate his procedures and comply with Sub-Clause 14.7.

The Employer is required to make payment into the Contractor's bank account(s), with provision being made for the Contract to have specified the country or countries of the Contractor's bank(s). For each of the currencies of payment, a "payment country" may have been specified, which might be the country of the currency of payment. Alternatively, all payments may have been specified as being made into the Contractor's bank in his country or the "Country".

When pricing their tenders, tenderers will take account of the option to specify a payment country, and of the periods for payment. Longer periods for payment increase the Contractor's financing costs, so tenderers would wish to increase their prices accordingly.

14.8 Delayed Payment

	CONS	P&DB	EPCT
	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [<i>Payment</i>], the Contractor shall be entitled to receive financing	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [<i>Payment</i>], the Contractor shall be entitled to receive financing	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [<i>Timing of Payments</i>], the Contractor shall be entitled to

CONS

P&DB

EPCT

charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [*Payment*], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [*Payment*], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

receive financing charges compounded monthly on the amount unpaid during the period of delay.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice, and without prejudice to any other right or remedy.

RB 60.10; YB 33.6; OB 13.8

The Contractor is entitled to financing charges (in some countries called "interest") if he does not receive payment in accordance with the appropriate sub-paragraph of Sub-Clause 14.7. Its sub-paragraph (b) entitles the Contractor to payment of:

- under CONS/P&DB, the amount certified by the Engineer, irrespective of any claim which the Employer may have against the Contractor, or
- under EPCT, the amount which is actually due. See the commentary on Sub-Clause 14.7, above.

Under CONS/P&DB, the date on which the Interim Payment Certificate is issued is not relevant when calculating these financing charges. Financing charges are calculated for a period which is "deemed to commence on the date for payment specified in Sub-Clause 14.7", even if the Engineer had not issued an Interim Payment Certificate by such "date for payment". This period applies

even if no Interim Payment Certificate is issued, although it would then be difficult to establish the amount to which the "annual rate" is to be applied. If the Certificate is a week late and the Employer accelerate his procedures and complies with Sub-Clause 14.7, the Contractor will not be entitled to financing charges.

The Contractor is entitled to these financing charges without being required to give notice and, under CONS/P&DB, without a Payment Certificate. However, it may be preferable for financing charges to be included in Payment Certificates under CONS/P&DB, for accounting purposes. Financing charges are to be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment. If this rate is considered inappropriate when tender documents are being prepared, a new rate may be defined in the Particular Conditions.

14.9 Payment of Retention Money

CONS

When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be two-fifths (40%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be two-fifths (40%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

However, if any work remains to be executed under Clause 11 [*Defects Liability*], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*].

P&DB

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 certified by the Engineer for payment 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 certified and paid when the Section passes all tests.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section.

However, if any work remains to be executed under Clause 11 [*Defects Liability*] or Clause 12 [*Tests after Completion*], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Appendix to Tender. If the percentage value of a Section is not stated in the Appendix to Tender, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

EPCT

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.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be paid promptly after the expiry date of the Defects Notification Period for the Section.

However, if any work remains to be executed under Clause 11 [*Defects Liability*] or Clause 12 [*Tests after Completion*], the Employer shall be entitled to withhold the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Contract. If the percentage value of a Section is not stated in the Contract, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

RB 60.3; OB 13.9

Retention Money is retained under Sub-Clause 14.3(c) and is released in instalments based upon the Taking-Over Certificates issued under Clause 10.

Under CONS, the first releases are made when Taking-Over Certificates are issued for Sections and/or parts of the Works, under Sub-Clause 10.1 and/or Sub-Clause 10.2 respectively. The release is defined as two-fifths of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price. Only two-fifths (not half) of this proportion are stated as being released at this stage. If half had been released, there might be very little balance (of the half of Retention Money) to be released on completion of the Works, because of the arithmetical possibilities attributable to Variations.

Under P&DB or EPCT, the first releases are made when Taking-Over Certificates are issued under Sub-Clause 10.1 for Sections which have passed all tests, including Tests after Completion (if any). The release is defined as the relevant percentage of the first half of Retention Money, such percentage being defined in the last paragraph as the percentage value of the Section as stated in the Appendix to Tender (under P&DB) or as stated in the Contract (under EPCT). Retention Money is not released when a Taking-Over Certificate is issued for a part of the Works, because it might be difficult to define an amount to be released. Also, the taking over of a part of the Works is inconsistent with EPCT 10.2 and seems unlikely to be a frequent occurrence under P&DB 10.2.

The balance of the first half of the Retention Money is released when the Taking-Over Certificate is issued for the Works. Under P&DB or EPCT, the Works must also have passed all tests, including Tests after Completion. If Tests after Completion are unduly delayed by the Employer, P&DB/EPCT 12.2 would apply, entitling the Contractor to the financing cost attributable to the delayed release of Retention Money.

The date on which each Section is completed is to be stated in its Taking-Over Certificate. On this date, the Defect Notification Period commences, the duration of which is to be stated in the Appendix to Tender (under CONS or P&DB) or in the Particular Conditions (under EPCT). For each Section, the relevant CONS proportion, or P&DB/EPCT percentage, of the second half of the Retention Money is to be released. As for the first instalment, the CONS proportion is calculated based upon estimated values, and the P&DB/EPCT percentage value of the Section is to be stated in P&DB's Appendix to Tender or in EPCT's Contract.

Retention Money is not stated as being released at the expiry of the Defect Notification Period for a part of the Works for which a Taking-Over Certificate was issued. Defect Notification Periods are only defined in the Contract in respect of the Works and Sections.

The balance of the second half of the Retention Money is released promptly after the latest of the expiry dates of the Defect Notification Periods. The word "promptly" indicates that it may be inappropriate to await the next application under Sub-Clause 14.3. The phrase "latest of the expiry dates" is used, because of the possibility of a Defect Notification Period (which is not the last to commence) being extended under Sub-Clause 11.3 and becoming the Period with the latest expiry date.

The penultimate paragraph refers to the entitlement to withhold the estimated cost of any work which remains to be executed under Clause 11 or under P&DB/EPCT 12, consistent with the sub-paragraphs of Sub-Clause 14.6. This entitlement applies to any release of Retention Money, but is typically of greatest importance at the latest of the expiry dates of the Defect Notification Periods. In order to protect the Employer's interests, the amount withheld should be sufficient to cover the cost of another contractor completing the work, but must be reasonable and not penalise the Contractor.

14.10 Statement at Completion

	CONS	P&DB	EPCT
	Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [<i>Application for</i>	Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [<i>Application for</i>	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, in accordance with Sub-Clause 14.3 [<i>Application for</i>

CONS	P&DB	EPCT
<p><i>Interim Payment Certificates</i>], showing:</p> <p>(a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,</p> <p>(b) any further sums which the Contractor considers to be due, and</p> <p>(c) 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.</p> <p>The Engineer shall then certify in accordance with Sub-Clause 14.6 [<i>Issue of Interim Payment Certificates</i>].</p>	<p><i>Interim Payment Certificates</i>], showing:</p> <p>(a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,</p> <p>(b) any further sums which the Contractor considers to be due, and</p> <p>(c) 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.</p> <p>The Engineer shall then certify in accordance with Sub-Clause 14.6 [<i>Issue of Interim Payment Certificates</i>].</p>	<p><i>Interim Payments</i>], showing:</p> <p>(a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,</p> <p>(b) any further sums which the Contractor considers to be due, and</p> <p>(c) 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.</p> <p>The Employer shall then give notice to the Contractor in accordance with Sub-Clause 14.6 [<i>Interim Payments</i>] and make payment in accordance with Sub-Clause 14.7 [<i>Timing of Payments</i>].</p>

RB 60.5; OB 13.10

Since the Statement at completion has to comply with Sub-Clause 14.3, it has to have supporting documents which shall include the detailed progress report complying with Sub-Clause 4.21, unless all the reports required by the Contract have already been submitted.

Sub-Clause 14.14, and encourages the early settlement of financial aspects. The Contractor should therefore prepare this Statement with these aspects in mind, even though it is initially only processed like other interim Statements, as described in the last paragraph of Sub-Clause 14.10.

The Statement at completion is the basis of the cessation of liability specified in

14.11 Application for Final Payment Certificate

14.11 Application for Final Payment

CONS	P&DB	EPCT
<p>Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:</p>	<p>Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:</p>	<p>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:</p>

CONS

- (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 Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer 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 Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] or Sub-Clause 20.5 [*Amicable Settlement*], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

P&DB

- (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 Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer 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 Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] or Sub-Clause 20.5 [*Amicable Settlement*], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

EPCT

- (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".

However if, following discussions between the Parties and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Employer shall pay the agreed parts of the draft final statement in accordance with Sub-Clause 14.6 [*Interim Payments*] and Sub-Clause 14.7 [*Timing of Payments*]. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] or Sub-Clause 20.5 [*Amicable Settlement*], the Contractor shall then prepare and submit to the Employer a Final Statement.

RB 60.6; YB 33.9; OB 13.11

This Sub-Clause sets out the procedure for settling the financial aspects of the Contract. The Contractor must initiate the procedure by the date eight weeks after the issue of the Performance Certificate under Sub-Clause 11.9. He may feel able to initiate it as soon as the Defect Notification Periods have all expired.

If agreement is not achieved and a dispute exists, the Contractor is entitled to prompt payment in respect of the agreed parts of his draft final statement. If the dispute is then resolved under Sub-Clause 20.4 (by the DAB's decision) or under Sub-Clause 20.5 (by amicable settlement), a Final Statement is to be prepared in accordance with the outcome, so that the following Sub-Clauses can then be applicable.

If the dispute is not resolved under Sub-Clause 20.4 or 20.5, it would probably need to be resolved under Sub-Clause 20.6: by arbitration. After resolution by arbitration, which may be considerably later, there may be no need for a Final Statement, so Sub-Clause 14.11 does not require it to be prepared. For example,

the only necessary documentation may have been prepared or defined by the arbitrator(s). If there is no Final Statement, Sub-Clause 14.12, Sub-Clause 14.13 and sub-paragraph (a) of Sub-Clause 14.14 cannot apply.

14.12 Discharge

CONS	P&DB	EPCT
<p>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. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total in which event the discharge will be effective on such date.</p>	<p>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. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total in which event the discharge will be effective on such date.</p>	<p>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. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total in which event the discharge will be effective on such date.</p>

RB 60.7; OB 13.12

When submitting the "Final Statement" defined in Sub-Clause 14.11, after agreement or after resolution of all disputes under Sub-Clause 20.4 or 20.5, the Contractor confirms his agreement in this written discharge.

Under CONS or P&DB, the Engineer's agreement is confirmed in the Final Payment Certificate.

Sample Form of Discharge

We ... hereby confirm, in the terms of Sub-Clause 14.12 of the Conditions of Contract, that the total of the attached Final Statement, namely ..., represents the full and final settlement of all moneys due to us under or in connection with the Contract. This discharge shall only become effective when we have received the Performance Security and the outstanding balance of this total of the attached Final Statement.

14.13 Issue of Final Payment Certificate

14.13 Final Payment

CONS	P&DB	EPCT
<p>Within 28 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [<i>Application for Final Payment Certificate</i>] and Sub-Clause 14.12 [<i>Discharge</i>], the Engineer shall issue, to the Employer, the Final Payment Certificate which shall state:</p>	<p>Within 28 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [<i>Application for Final Payment Certificate</i>] and Sub-Clause 14.12 [<i>Discharge</i>], the Engineer shall issue, to the Employer, the Final Payment Certificate which shall state:</p>	<p>In accordance with sub-paragraph (c) of Sub-Clause 14.7 [<i>Timing of Payments</i>], the Employer shall pay to the Contractor the amount which is finally due, less all amounts previously paid by the Employer and any deductions in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>].</p>
<p>(a) the amount which is finally due, and</p> <p>(b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.</p>	<p>(a) the amount which is finally due, and</p> <p>(b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.</p>	
<p>If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [<i>Application for Final Payment Certificate</i>] and Sub-Clause 14.12 [<i>Discharge</i>], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.</p>	<p>If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [<i>Application for Final Payment Certificate</i>] and Sub-Clause 14.12 [<i>Discharge</i>], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.</p>	

RB 60.8; YB 33.10; OB 13.13

The Contractor should submit the Final Statement and discharge in accordance with Sub-Clauses 14.11 and 14.12, in order to be paid in accordance with Sub-Clauses 14.7(c) and 14.13.

Under CONS or P&DB, the Engineer then issues the Final Payment Certificate. The last paragraph of CONS/P&DB 14.13 provides for the possibility that the Contractor fails to apply for a Final Payment Certificate. In this event, the Engineer should request the Contractor to submit his application within 28 days. Unless it is received within 28 days, the Engineer is required to issue the Final Payment

Certificate without further delay. Under Sub-Clause 1.3, certificates shall not be unreasonably withheld or delayed.

Under EPCT, the Employer may await the Final Statement and discharge before paying under Sub-Clause 14.7(c), but must comply with Sub-Clause 14.7(b).

Unless and until the Contractor has submitted a Final Statement, Sub-Clause 14.12, Sub-Clause 14.13 and sub-paragraph (a) of Sub-Clause 14.14 cannot apply, but he is nevertheless entitled to payment in accordance with the third paragraph of Sub-Clause 14.11.

14.14 Cessation of Employer's Liability

CONS	P&DB	EPCT
<p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:</p> <p>(a) in the Final Statement and also</p> <p>(b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [<i>Statement at Completion</i>].</p> <p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>	<p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:</p> <p>(a) in the Final Statement and also</p> <p>(b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [<i>Statement at Completion</i>].</p> <p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>	<p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:</p> <p>(a) in the Final Statement and also</p> <p>(b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [<i>Statement at Completion</i>].</p> <p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>

RB 60.9; YB 33.11; OB 13.14

This Sub-Clause provides a reasonable constraint on the Contractor's entitlements to initiate claims at a late stage in the Contract.

With the exception of matters arising after the Taking-Over Certificate for the Works, the Statement at completion under Sub-Clause 14.10 must include "an amount expressly for" any matter for which the Contractor wishes to be paid by the Employer. Thus, for a claim to be valid, the Statement at completion must include an amount "expressly" stated to be for the matter or thing covered by the claim, and the Employer is not liable "except to the extent" of such amount. If such amount in a document calling itself a "Statement at completion" grossly exceeds the sum to which the Contractor appears to consider himself to be entitled, the document might be regarded as not complying with Sub-Clause 14.10 and therefore as not being a Statement at completion.

Briefly summarising the situation in respect of his claims, the Contractor is required to submit:

- the notice in respect of each claim, within four weeks after he should have become aware of the relevant event or circumstance giving rise to the claim,
- the Statement at completion, stating the actual or estimated amount of each claim, within twelve weeks after receiving the Taking-Over Certificate for the Works, and
- particulars of each claim, within periods proposed and approved in accordance with the procedures described in Sub-Clause 20.1.

Under EPCT 11.9, if the Employer fails to issue the Performance Certificate within the specified period, Sub-Clause 11.11 and sub-paragraph (a) of Sub-Clause 14.14 are inapplicable.

14.15 Currencies of Payment

CONS	P&DB	EPCT
<p>The Contract Price shall be paid in the currency or currencies named in the Appendix to Tender. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:</p>	<p>The Contract Price shall be paid in the currency or currencies named in the Appendix to Tender. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:</p>	<p>The Contract Price shall be paid in the currency or currencies named in the Contract Agreement. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:</p>
<p>(a) if the Accepted Contract Amount was expressed in Local Currency only:</p> <ul style="list-style-type: none"> (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Appendix to Tender, except as otherwise agreed by both Parties; (ii) payments and deductions under Sub-Clause 13.5 [<i>Provisional Sums</i>] and Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>] shall be made in the applicable currencies and proportions; and (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above; <p>(b) payment of the damages specified in the Appendix to Tender shall be made in the currencies and proportions specified in the Appendix to Tender;</p> <p>(c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the</p>	<p>(a) if the Accepted Contract Amount was expressed in Local Currency only:</p> <ul style="list-style-type: none"> (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Appendix to Tender, except as otherwise agreed by both Parties; (ii) payments and deductions under Sub-Clause 13.5 [<i>Provisional Sums</i>] and Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>] shall be made in the applicable currencies and proportions; and (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [<i>Application for Interim Payment Certificates</i>] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above; <p>(b) payment of the damages specified in the Appendix to Tender shall be made in the currencies and proportions specified in the Appendix to Tender;</p> <p>(c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the</p>	<p>(a) if the Contract Price was expressed in Local Currency only:</p> <ul style="list-style-type: none"> (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Contract Agreement, except as otherwise agreed by both Parties; (ii) payments and deductions under Sub-Clause 13.5 [<i>Provisional Sums</i>] and Sub-Clause 13.7 [<i>Adjustments for Changes in Legislation</i>] shall be made in the applicable currencies and proportions; and (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [<i>Application for Interim Payments</i>] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above; <p>(b) payment of the damages specified in the Particular Conditions shall be made in the currencies and proportions specified in the Particular Conditions;</p> <p>(c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the</p>

	CONS	P&DB	EPCT
	Employer, or in such currency as may be agreed by both Parties;	Employer, or in such currency as may be agreed by both Parties;	Employer, or in such currency as may be agreed by both Parties;
(d)	if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and	(d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and	(d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
(e)	if no rates of exchange are stated in the Appendix to Tender, they shall be those prevailing on the Base Date and determined by the central bank of the Country.	(e) if no rates of exchange are stated in the Appendix to Tender, they shall be those prevailing on the Base Date and determined by the central bank of the Country.	(e) if no rates of exchange are stated in the Contract, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

RB 72; YB 35.1 & 35.3; OB 13.15

This Sub-Clause prescribes the currencies in which payments are to be made, subject to the provisions which may be contained in the Contract Agreement or (under CONS or P&DB) in the Appendix to Tender. If these provisions state that all payments are to be made in one named currency, this Sub-Clause becomes inapplicable, subject to any Particular Conditions.

Sub-paragraph (a) only applies if payments are expressed in Local Currency but are to be made (partly or wholly) in other currencies, applying agreed proportions and rates of exchange. This method of payment is often considered appropriate for a CONS contract, where the alternative of a multi-currency Bill of Quantities

may be unduly complicating, and may also give an unrealistic indication of the proportions of Cost in the various currencies.

For a lump sum contract under P&DB or EPCT, it may be considered preferable to define each of the amounts due in each of the currencies in which payment is to be made. In this event, payments will be due in such currencies, and sub-paragraph (a) will not apply.

When tender documents are being prepared, the effect of this Sub-Clause should be reviewed in the light of the intended method of defining payments in applicable currencies.

Clause 15 Termination by Employer

15.1 Notice to Correct

CONS	P&DB	EPCT
If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.	If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.	If the Contractor fails to carry out any obligation under the Contract, the Employer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

YB 45.1; OB 15.1

Although this Sub-Clause is referred to in Sub-Clause 15.2(a), there is no obligation for notice to be given under this Sub-Clause before the Employer terminates the Contract. Also, the Contractor cannot rely on an absence of notice under this Sub-Clause as indicating that the Contractor is carrying out his obligations, or that the Works are being, or have been, executed in accordance with the Contract.

If the Employer believes that the Contractor's failure is sufficiently serious to merit termination under Sub-Clause 15.2, the Employer should, before any notice is issued under Sub-Clause 15.1, consider whether termination appears to be the most appropriate course of action and take legal advice.

If the Employer intends to rely on a notice under this Sub-Clause, the notice should:

- state that it is given under this Sub-Clause,
- describe the nature of the Contractor's failure, and
- specify a reasonable time within which the Contractor is to remedy the failure.

If the Time for Completion expired before the notice is issued, but the Works have not been completed, and the notice requires the Contractor to make good this failure and to complete the Works within a specified reasonable time, it may be desirable for the notice to state that it is given without prejudice to the Employer's rights under the Contract or otherwise. If the notice does not mention this matter, it may be construed as indicating that the Employer is waiving his entitlement to delay damages in respect of the period up to the expiry of the "specified reasonable time". Sub-Clause 8.7 does not mention this aspect, so as to avoid any effect on the applicability of Clause 15.

15.2 Termination by the Employer

CONS	P&DB	EPCT
The Employer shall be entitled to terminate the Contract if the Contractor: (a) fails to comply with Sub-Clause 4.2 [<i>Performance Security</i>] or with a notice under Sub-Clause 15.1 [<i>Notice to Correct</i>],	The Employer shall be entitled to terminate the Contract if the Contractor: (a) fails to comply with Sub-Clause 4.2 [<i>Performance Security</i>] or with a notice under Sub-Clause 15.1 [<i>Notice to Correct</i>],	The Employer shall be entitled to terminate the Contract if the Contractor: (a) fails to comply with Sub-Clause 4.2 [<i>Performance Security</i>] or with a notice under Sub-Clause 15.1 [<i>Notice to Correct</i>],

	CONS	P&DB	EPCT
(b)	abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,	(b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,	(b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
(c)	without reasonable excuse fails:	(c) without reasonable excuse fails:	(c) without reasonable excuse fails to proceed with the Works in accordance with Clause 8 [<i>Commencement, Delays and Suspension</i>],
	(i) to proceed with the Works in accordance with Clause 8 [<i>Commencement, Delays and Suspension</i>], or	(i) to proceed with the Works in accordance with Clause 8 [<i>Commencement, Delays and Suspension</i>], or	[<i>Commencement, Delays and Suspension</i>],
	(ii) to comply with a notice issued under Sub-Clause 7.5 [<i>Rejection</i>] or Sub-Clause 7.6 [<i>Remedial Work</i>], within 28 days after receiving it,	(ii) to comply with a notice issued under Sub-Clause 7.5 [<i>Rejection</i>] or Sub-Clause 7.6 [<i>Remedial Work</i>], within 28 days after receiving it,	
(d)	subcontracts the whole of the Works or assigns the Contract without the required agreement,	(d) subcontracts the whole of the Works or assigns the Contract without the required agreement,	(d) subcontracts the whole of the Works or assigns the Contract without the required agreement,
(e)	becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or	(e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or	(e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
(f)	gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:	(f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:	(f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
	(i) for doing or forbearing to do any action in relation to the Contract, or	(i) for doing or forbearing to do any action in relation to the Contract, or	(i) for doing or forbearing to do any action in relation to the Contract, or
	(ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,	(ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,	(ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site.

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site.

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Employer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any sub-contract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site.

CONS

The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

P&DB

The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

EPCT

The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

RB 63.1 & 63.4; YB 45.2; OB 15.2 & 15.5

If the Employer believes that the Contractor's failure of performance is sufficiently serious to merit termination under this Sub-Clause, the Employer should take legal advice before giving notice under this Sub-Clause. A notice of termination that is subsequently decided to be unjustified would constitute a breach of contract by the Employer. It may also be prudent for the legal adviser to prepare the notice of termination.

The notice of termination may specify the Contractor's failures, although it may not be essential to classify them under the listed items (a) to (f).

If the Employer gives notice and then wishes to withdraw it, the Parties may agree that the notice shall be of no effect and that the Contract is not terminated.

If the notice only takes effect 14 days later, and not "immediately", it may be necessary for the Contractor to be instructed (for example) to make the Works

safe and secure. In some cases, the Contractor's compliance with these instructions may be required by the Country's safety laws.

The Sub-Clause does not mention assignment of subcontracts to the Employer, who may want to continue construction of the Works using the same subcontractors. The Employer should start considering, before notifying termination, whether he would wish (after termination) to seek agreement to assignments, or to renegotiate direct contracts with any previous subcontractors. In either case, it may be preferable to achieve each arrangement with the agreement of the subcontractor, rather than relying on a term of the Contract (see CONS 4.4(d)) to impose assignment on an unwilling subcontractor.

Under Sub-Clause 1.10, the Employer is entitled to use the existing Contractor's Documents for the purposes of completing and altering the Works.

15.3 Valuation at Date of Termination

CONS

As soon as practicable after a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the

P&DB

As soon as practicable after a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the

EPCT

As soon as practicable after a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the

CONS

P&DB

EPCT

Contractor for work executed in accordance with the Contract.

Contractor for work executed in accordance with the Contract.

Contractor for work executed in accordance with the Contract.

RB 63.2; YB 45.3; OB 15.3

Following termination, the value of the Contractor's work is to be determined, although the Employer is not obliged to make immediate payment: see Sub-Clause 15.4. Sub-Clause 14.2 requires the advance payment to be repaid

immediately upon termination. If the Contractor fails to do so, the Employer may call (cash) the advance payment guarantee. It should be promptly returned to the Contractor, as soon as the advance payment has been repaid in full.

15.4 Payment after Termination

CONS

P&DB

EPCT

After a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 [*Employer's Claims*],
- (b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [*Valuation at Date of Termination*]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

After a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 [*Employer's Claims*],
- (b) withhold further payments to the Contractor until the costs of design, execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [*Valuation at Date of Termination*]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

After a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 [*Employer's Claims*],
- (b) withhold further payments to the Contractor until the costs of design, execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [*Valuation at Date of Termination*]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

RB 63.3; YB 45.4; OB 15.4

After termination, the Employer would probably have had to make other arrangements for the completion of the Works, including the rectification of any defects. If these arrangements include the appointment of a new contractor, the

costs described in sub-paragraph (b) may not be ascertainable until he has submitted his final statement, and until all other costs incurred by the Employer have been established.

15.5 Employer's Entitlement to Termination

CONS	P&DB	EPCT
<p>The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.</p> <p>After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>] and shall be paid in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>].</p>	<p>The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.</p> <p>After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>] and shall be paid in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>].</p>	<p>The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.</p> <p>After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>] and shall be paid in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>].</p>

OB 2.4

Before entering into the Contract, the Employer should ensure that, to the best of his knowledge, there are no matters which seem likely to prevent him complying with his contractual obligations. However, he may wish to have the entitlement under this Sub-Clause to bring the Contract to an end. For example, he may not wish to rely on any of the other termination procedures if he encounters unexpected financial or other difficulties. Although tenderers and the Contractor

may consider that the Employer should also reimburse the Contractor for all losses and damages attributable to the termination, such a provision may be inconsistent with applicable law, or with the requirements of a public authority Employer or of an international financial institution.

In the rare event of having to invoke this Sub-Clause, the Employer should take prior legal advice.

Clause 16 Suspension and Termination by Contractor

16.1 Contractor's Entitlement to Suspend Work

CONS	P&DB	EPCT
<p>If the Engineer fails to certify in accordance with Sub-Clause 14.6 [<i>Issue of Interim Payment Certificates</i>] or the Employer fails to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>] or Sub-Clause 14.7 [<i>Payment</i>], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.</p> <p>The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [<i>Delayed Payment</i>] and to termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p> <p>If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.</p> <p>If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p>	<p>If the Engineer fails to certify in accordance with Sub-Clause 14.6 [<i>Issue of Interim Payment Certificates</i>] or the Employer fails to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>] or Sub-Clause 14.7 [<i>Payment</i>], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.</p> <p>The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [<i>Delayed Payment</i>] and to termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p> <p>If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.</p> <p>If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p>	<p>If the Employer fails to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>] or Sub-Clause 14.7 [<i>Timing of Payments</i>], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the reasonable evidence or payment, as the case may be and as described in the notice.</p> <p>The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [<i>Delayed Payment</i>] and to termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>].</p> <p>If the Contractor subsequently receives such evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.</p> <p>If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p>

CONS	P&DB	EPCT
<p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>(b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.</p> <p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>

RB 69.4 & 69.5; YB 27.2 & 33.7; OB 16.1

Under CONS or P&DB, if the Engineer fails to issue an Interim Payment Certificate within the period specified in Sub-Clause 14.6, the Contractor may notify the Employer that he will be suspending (or reducing the rate of) work on a stated date. This date cannot be less than 21 days after the Employer receives the notice. This period specified in Sub-Clause 14.6 commences when the Engineer receives the Contractor's Statement and supporting documents which shall include the progress report in accordance with Sub-Clause 4.21. There may thus be disagreement as regards the date on which the period specified in Sub-Clause 14.6 commenced. If the Engineer receives (in accordance with the last sentence of Sub-Clause 1.3) a copy of such a notice before the expiry of this period, he should promptly advise the Contractor that his notice is unjustified and therefore of no effect.

Under all Books, if the Employer fails to provide reasonable evidence, within the period specified in Sub-Clause 2.4, that financial arrangements have been made which will enable the Employer to pay the estimated Contract Price, the Contractor may similarly notify the Employer that he will be suspending (or reducing the rate of) work on a stated date, which shall be not less than 21 days after the Employer receives the notice. In this case, there may thus be disagreement as to whether the evidence reasonably demonstrates that such financial arrangements are effective and being maintained.

If the Employer fails to make payment of the amount, and within the period, specified in Sub-Clause 14.7, the Contractor may similarly notify the Employer that he will be suspending (or reducing the rate of) work on a stated date, which shall be not less than 21 days after the Employer receives the notice. In this case, there may thus be disagreement as to the payment due; and/or as to the specified period, which commences on receipt of the Statement and all supporting documents including the progress report.

Under CONS or P&DB, the Employer is required to pay the amount actually certified by the Engineer, without deductions. If the Employer considers himself entitled to claim from the Contractor, he should proceed in accordance with Sub-Clause 2.5 and the deduction should be incorporated in the Payment Certificate.

Under EPCT 14.7(b), the Employer is required to pay "the amount which is due", subject to Sub-Clause 2.5 but irrespective of the Employer's notice under EPCT 14.6 and irrespective of any non-binding determinations under EPCT 3.5. This amount due may incorporate reductions to which the Employer is entitled, having claimed compensation from the Contractor in accordance with Sub-Clause 2.5 and having received no notice of dissatisfaction. If the Contractor notifies dissatisfaction with the Employer's determination under the last paragraph of EPCT 3.5:

- the determination is of no effect, and the Employer cannot rely upon it as entitling him to recover such compensation,
- he must still pay the amount which "is due", irrespective of the Employer's own determination under Sub-Clause 3.5, and
- the answer to the question as to what amount "is due" may be determined by reference to the provisions on which the Employer based his claim.

If the Contractor intends to rely on a notice as having been issued under this Sub-Clause 16.1, the notice should:

- state that it is given under this Sub-Clause,
- describe the nature of the failure, including the appropriate description used in the first sentence of this Sub-Clause, and

- state that he will be suspending work not less than 21 days later because of the failure.

Note that the Contractor cannot anticipate a failure, in order to reduce the minimum period between the date by which the Engineer or Employer was required to act (making payment, for example) and the date on which the Contractor suspends work. He must await the date by which the Engineer or Employer was required to act, and only give notice based upon an actual failure. Having given a valid notice that he will be suspending work not less than 21 days later because of the stated failure, the Contractor will only be entitled to do so if the failure is not remedied. If the failure is remedied before the Contractor has actually suspended (or reduced the rate of) work, he is then not entitled to do so.

Under the second paragraph of Sub-Clause 16.1, the Contractor's entitlement to financing charges due to the Employer's failure to comply with Sub-Clause 14.7

remains unaffected by the Contractor's election to suspend work. Typically, the Contractor would be entitled to financing charges with effect from a date prior to that on which he gives notice under Sub-Clause 16.1.

Under the third paragraph of Sub-Clause 16.1, if the failure is remedied after the Contractor has suspended (or reduced the rate of) work, he must resume normal working as soon as reasonably practicable. However, if he has already given a notice of termination under Sub-Clause 16.2 before the failure is remedied, the Contract is terminated, unless the Parties agree that the notice shall be of no effect.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

16.2 Termination by Contractor

CONS	P&DB	EPCT
<p>The Contractor shall be entitled to terminate the Contract if:</p> <ul style="list-style-type: none"> (a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>] in respect of a failure to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>], (b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate, (c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [<i>Payment</i>] within 	<p>The Contractor shall be entitled to terminate the Contract if:</p> <ul style="list-style-type: none"> (a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>] in respect of a failure to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>], (b) the Engineer fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate, (c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [<i>Payment</i>] within 	<p>The Contractor shall be entitled to terminate the Contract if:</p> <ul style="list-style-type: none"> (a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [<i>Contractor's Entitlement to Suspend Work</i>] in respect of a failure to comply with Sub-Clause 2.4 [<i>Employer's Financial Arrangements</i>], (b) the Contractor does not receive the amount due within 42 days after the expiry of the time stated in Sub-Clause 14.7 [<i>Timing of Payments</i>] within which payment is to be

	CONS	P&DB	EPCT
	which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>]),	which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>]),	made (except for deductions in accordance with Sub-Clause 2.5 [<i>Employer's Claims</i>]),
(d)	the Employer substantially fails to perform his obligations under the Contract,	(d) the Employer substantially fails to perform his obligations under the Contract,	(c) the Employer substantially fails to perform his obligations under the Contract,
(e)	the Employer fails to comply with Sub-Clause 1.6 [<i>Contract Agreement</i>] or Sub-Clause 1.7 [<i>Assignment</i>],	(e) the Employer fails to comply with Sub-Clause 1.6 [<i>Contract Agreement</i>] or Sub-Clause 1.7 [<i>Assignment</i>],	(d) the Employer fails to comply with Sub-Clause 1.7 [<i>Assignment</i>],
(f)	a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [<i>Prolonged Suspension</i>], or	(f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [<i>Prolonged Suspension</i>], or	(e) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [<i>Prolonged Suspension</i>], or
(g)	the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.	(g) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.	(f) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
	In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.	In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.	In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (e) or (f), the Contractor may by notice terminate the Contract immediately.
	The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.	The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.	The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

RB 69.1; YB 33.7 & 46.1; OB 16.2

If the Contractor believes that the Employer's failure of performance is sufficiently serious to merit termination under this Sub-Clause, the Contractor should take legal advice before giving notice under this Sub-Clause. A notice of termination

that is subsequently decided to be unjustified would constitute a breach of contract by the Contractor. It may also be prudent for the legal adviser to prepare the notice of termination.

The notice of termination may specify the Employer's failures, although it may not be essential to classify them under the items listed in the sub-paragraphs.

If the Contractor gives notice and then wishes to withdraw it, the Parties may agree that the notice shall be of no effect and that the Contract is not terminated.

If the notice only takes effect 14 days later, and not "immediately", it may be necessary for the Contractor to be instructed (for example) to make the Works safe and secure: see Sub-Clause 16.3(a)). In some cases, the Contractor's compliance with these instructions may be required by the Country's safety laws.

16.3 Cessation of Work and Removal of Contractor's Equipment

CONS	P&DB	EPCT
<p>After a notice of termination under Sub-Clause 15.5 [<i>Employer's Entitlement to Termination</i>], Sub-Clause 16.2 [<i>Termination by Contractor</i>] or Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>] has taken effect, the Contractor shall promptly:</p> <ul style="list-style-type: none"> (a) cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works, (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site. 	<p>After a notice of termination under Sub-Clause 15.5 [<i>Employer's Entitlement to Termination</i>], Sub-Clause 16.2 [<i>Termination by Contractor</i>] or Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>] has taken effect, the Contractor shall promptly:</p> <ul style="list-style-type: none"> (a) cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works, (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site. 	<p>After a notice of termination under Sub-Clause 15.5 [<i>Employer's Entitlement to Termination</i>], Sub-Clause 16.2 [<i>Termination by Contractor</i>] or Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>] has taken effect, the Contractor shall promptly:</p> <ul style="list-style-type: none"> (a) cease all further work, except for such work as may have been instructed by the Employer for the protection of life or property or for the safety of the Works, (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

RB 69.2; YB 46.2; OB 16.3

After termination, for the Employer's convenience or because of default, the Contractor is required to hand over the things for which the Employer has paid, and the parts of the Works executed on the Site. Whilst it may seem unrealistic

to expect the Contractor to be willing to carry out much of the work described in sub-paragraph (a), the Contractor's compliance with these instructions may be required by the Country's safety laws.

16.4 Payment on Termination

	CONS	P&DB	EPCT
	After a notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>] has taken effect, the Employer shall promptly:	After a notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>] has taken effect, the Employer shall promptly:	After a notice of termination under Sub-Clause 16.2 [<i>Termination by Contractor</i>] has taken effect, the Employer shall promptly:
(a)	return the Performance Security to the Contractor,	(a) return the Performance Security to the Contractor,	(a) return the Performance Security to the Contractor,
(b)	pay the Contractor in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>], and	(b) pay the Contractor in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>], and	(b) pay the Contractor in accordance with Sub-Clause 19.6 [<i>Optional Termination, Payment and Release</i>], and
(c)	pay to the Contractor the amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination.	(c) pay to the Contractor the amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination.	(c) pay to the Contractor the amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination.

RB 69.3; YB 46.3; OB 16.4

The Contractor is entitled to receive the Performance Security, and to payment of an amount to be determined as described in Sub-Clause 19.6 and of the amount of any loss or damage which he suffered.

Sub-Clause 14.2 requires the Contractor to repay the advance payment

immediately upon termination. The advance payment guarantee should be returned to the Contractor as soon as the advance payment has been repaid in full. If the Contractor fails to repay the advance payment, the Employer may call (cash) the advance payment guarantee.

Clause 17 Risk and Responsibility

17.1 Indemnities

CONS	P&DB	EPCT
<p>The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:</p>	<p>The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:</p>	<p>The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:</p>
<p>(a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and</p> <p>(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:</p> <p>(i) arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, and</p> <p>(ii) is attributable to any negligence, wilful act or breach of the Contract by the Contractor, the Contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.</p>	<p>(a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and</p> <p>(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:</p> <p>(i) arises out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, and</p> <p>(ii) is attributable to any negligence, wilful act or breach of the Contract by the Contractor, the Contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.</p>	<p>(a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and</p> <p>(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:</p> <p>(i) arises out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, and</p> <p>(ii) is not attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.</p>
<p>The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their</p>	<p>The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their</p>	<p>The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their</p>

CONS

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, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [*Insurance Against Injury to Persons and Damage to Property*].

P&DB

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, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [*Insurance Against Injury to Persons and Damage to Property*].

EPCT

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, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [*Insurance Against Injury to Persons and Damage to Property*].

RB 22 & 24.1; YB 40 & 41; OB 17.1

Each Party is required to protect the other Party from claims, including those from third parties, arising out of the Contractor's execution of the Works. These indemnities apply widely, but may not cover every type of claim. In other words, there may be claims for which neither Party is entitled to indemnity under this Sub-Clause.

Claims for personal injury are to be borne by the Contractor, if they are attributable to his execution of the Works, and are not attributable to any act or negligence of the Employer or Employer's Personnel. These claims may arise without any act or negligence by the Contractor, and may be covered by the insurance specified in Sub-Clause 18.3.

The Employer bears the cost of claims for personal injury which are attributable to any act or negligence of the Employer or Employer's Personnel.

Under EPCT, claims for property damage are similarly to be borne by the Contractor, unless attributable to the Employer or Employer's Personnel.

Under CONS or P&DB, claims for property damage are to be borne by the Contractor to the extent that they are attributable to any act or negligence of the Contractor or Contractor's Personnel, and by the Employer to the extent that they are attributable to any act or negligence of the Employer or Employer's Personnel.

Other claims for property damage may be covered by the insurance specified in Sub-Clause 18.3, subject to the last three paragraphs of Sub-Clause 18.1.

Finally, the Employer is required to bear the cost of claims in respect of the matters described in Sub-Clause 18.3(d), namely:

- (i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,
- (ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and
- (iii) a cause listed in Sub-Clause 17.3, except to the extent that insurance cover is available at commercially reasonable terms.

Under Sub-Clauses 17.1 and 18.3(d)(ii), the Employer indemnifies the Contractor from claims in respect of "damage which is an unavoidable result of the Contractor's obligations", but not in respect of any other damage which is a result of the particular arrangements and methods which the Contractor elected to adopt in order to perform his obligations. The Contractor should adopt appropriate arrangements and methods so as to minimise claims from third parties due to the performance of his obligations under the Contract.

17.2 Contractor's Care of the Works

CONS	P&DB	EPCT
<p>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 [<i>Taking Over of the Works and Sections</i>]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.</p>	<p>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 [<i>Taking Over of the Works and Sections</i>]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.</p>	<p>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 [<i>Taking Over of the Works and Sections</i>]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section of the Works, responsibility for the care of the Section shall then pass to the Employer.</p>
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.</p>	<p>If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.</p>	<p>If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.</p>
<p>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.</p>	<p>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.</p>	<p>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.</p>

RB 20.1, 20.2 & 54.2; YB 38 & 39; OB 17.2

The Contractor is responsible for the care of the Works and Goods, until the Employer takes over the Works in accordance with Clause 10. With effect from the date on which the Taking-Over Certificate is issued, the liability for the Works or Section described in the Certificate transfers to the Employer.

Typically, the Certificate may record that the Works (or a Section) were completed a few days previously. If the Employer wishes to effect insurance in respect of the liability transferred to him, he should arrange for such insurance to have become effective by the date on which the Taking-Over Certificate is issued, although this must not delay certification: see Sub-Clause 1.3. CONS/P&DB 1.3 also requires the Contractor to send a copy of his notice under Sub-Clause 10.1 to the Employer, who will thus be aware that the Works or a Section are nearly ready for taking over and transfer of liability.

Difficulties may arise in respect of a Taking-Over Certificate for a Section or part of the Works, if the physical extent of the Section or part is not adequately defined. When preparing the tender documents, any Section must be clearly defined. Precise geographical definitions are advisable. Defining a Section in terms of a construction milestone may not be sufficiently precise for the purposes of defining the extent of liability which will be transferred upon the issue of the Taking-Over Certificate. For example, a construction milestone might be defined in terms of completing a certain percentage of the bulk excavation required for the Works, without any need for the milestone to define the geographical extent of this percentage of bulk excavation. If this type of construction stage/milestone had

been defined as a Section, it would be impossible to determine the geographical extent of anything which the Contract requires the Employer to take over.

The first paragraph refers to Works and Goods, but not to Contractor's Documents. Under Sub-Clause 1.8, the Contractor is responsible for the care of each Contractor's Document until it is taken over by the Employer. Typically, each item of Contractor's Documents will be "taken over" when issued by the Contractor to the Employer or (under CONS or P&DB) to the Engineer. Contractor's Documents are thus taken over on dates other than those which are to be stated in Taking-Over Certificates, issued under the procedure specified in Clause 10.

The third paragraph requires the Contractor to rectify any loss or damage to the Works, Goods or Contractor's Documents which is not due to any of the Employer's risks listed in Sub-Clause 17.3. There is no need to demonstrate what caused the loss or damage and, in many cases, the cause may be uncertain. The Contractor must rectify loss or damage at his own cost, or at the cost of his insurers, except to the extent that he can demonstrate that the loss or damage was due to any of the Employer's risks listed in Sub-Clause 17.3.

The Contractor is also responsible for the care of any work which he executes after the Taking-Over Certificate is issued. This work includes completing the outstanding work and remedying any defects, both of which are mentioned in Sub-Clauses 10.1 and 11.1.

17.3 Employer's Risks

	CONS	P&DB	EPCT
The risks referred to in Sub-Clause 17.4 below are:	The risks referred to in Sub-Clause 17.4 below are:	The risks referred to in Sub-Clause 17.4 below are:	The risks referred to in Sub-Clause 17.4 below are:
(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,	(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,	(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,	(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,	(b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country,	(b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country,	(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	(c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees	(c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees	(c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees

	CONS	P&DB	EPCT
	of the Contractor and Subcontractors,	of the Contractor and Subcontractors,	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,	(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,	(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,	(e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,	(e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.
(f)	use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,	(f) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,	
(g)	design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and	(g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, if any, and	
(h)	any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.	(h) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.	

RB 20.4; YB 37; OB 17.3

International projects can be subject to various risks, many unforeseen. Contracts should provide mechanisms for the possible occurrence of the most common types of risk. Although this list of Employer's risks takes account of the extent to which insurance cover is available in many countries, the list is not intended to reflect insurance practice.

Unlike the marginal words, which are subject to the last sentence of Sub-Clause 1.2, the main texts do not use the phrase "Employer's risks", because the Employer is not wholly liable for all the consequences of the events listed in Sub-Clause 17.3. Sub-Clause 17.4 only entitles the Contractor to compensation for rectifying loss or damage attributable to these Employer's risks.

Some of these risks may also constitute Force Majeure events under Clause 19, depending on their exceptional severity and adverse consequences. Conversely, certain actions of the Country's government (under Sub-Clause 13.7 or otherwise) might constitute events of Force Majeure, but are not listed as Employer's risks for the purposes of Sub-Clause 17.4.

CONS/P&DB 17.3(h) refers to an Unforeseeable operation of the forces of nature. The adjective "Unforeseeable" is defined in Sub-Clause 1.1.6.8 as meaning "not reasonably foreseeable by an experienced contractor by the date for submission of the Tender". The question whether a natural event is Unforeseeable may be resolved by reference to the duration of the Time for Completion of the Works and to the

statistical frequency of the event, based upon historic records. For example, if the Time for Completion is three years, an experienced contractor might be expected to foresee an event which occurs (on average) once in every six years, but an event which occurs only once in every ten years might be regarded as Unforeseeable.

EPCT omits three of the Employer's risks listed in CONS and P&DB:

- use or occupation by the Employer of any part of the Permanent Works, which

would be a deliberate breach by the Employer of EPCT 10.2 and not a "risk";

- design of any part of the Works, which is intended to be wholly the Contractor's risk under EPCT; and
- unforeseeable operations of the forces of nature, which are also intended to be Contractor's risks under EPCT, except to the extent that they may be so adverse and exceptional as to constitute Force Majeure as defined in Clause 19.

17.4 Consequences of Employer's Risks

CONS	P&DB	EPCT
<p>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 Engineer and shall rectify this loss or damage to the extent required by the Engineer.</p> <p>If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [<i>Employer's Risks</i>], reasonable profit on the Cost shall also be included.</p> <p>After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>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 Engineer and shall rectify this loss or damage to the extent required by the Engineer.</p> <p>If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [<i>Employer's Risks</i>], reasonable profit on the Cost shall also be included.</p> <p>After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>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.</p> <p>If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) payment of any such Cost, which shall be added to the Contract Price.</p> <p>After receiving this further notice, the Employer shall proceed in accordance with Sub Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>

RB 20.3 & 65.5; YB 39.2(b); OB 17.4

If the Contractor wishes to rely upon this Sub-Clause, he must first give the notice described in its first paragraph. The notice should identify the Employer's risk and the resulting loss or damage to the Works, Goods and/or Contractor's Documents. Having issued this notice, the Contractor is then entitled to receive instructions on the extent to which he is required to rectify the loss or damage. Delay in the issue of these instructions may entitle the Contractor to an extension of time under the last sub-paragraph of Sub-Clause 8.4. CONS/P&DB 1.3 requires the Contractor to send a copy of the notice to the Employer.

Having received the notice, CONS/P&DB's Engineer or EPCT's Employer should monitor the effect of the Employer's risk and may instruct the Contractor to rectify any loss or damage. If he does not instruct rectification, the Contractor is not obliged by this Sub-Clause to carry it out. However, depending on the nature and extent of the loss or damage, the Contractor may be entitled and/or obliged to do so, under the applicable law and/or other provisions of the Contract.

If compliance with these instructions causes the Contractor to suffer delay and/or incur Cost, he should give the further notice in order to obtain relief. This notice should state that it is given under Sub-Clauses 17.4 and 20.1, and should refer to the previous notice. If there was no previous notice and no responding instructions as described above, the Contractor may not be able to rely upon a notice asserting that an Employer's risk has already caused him to suffer delay and/or incur Cost.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1. Under CONS or P&DB, he is also entitled to the addition of profit in respect of two of the Employer's risks, because the Employer is regarded as being directly responsible for these matters.

Sub-Clause 17.4 only entitles the Contractor to compensation for rectifying loss or damage, but does not limit his entitlements under Sub-Clause 19.4.

17.5 Intellectual and Industrial Property Rights

CONS	P&DB	EPCT
<p>In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.</p>	<p>In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.</p>	<p>In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.</p>
<p>Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.</p>	<p>Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.</p>	<p>Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.</p>
<p>The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:</p>	<p>The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:</p>	<p>The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:</p>

CONS

- (a) an unavoidable result of the Contractor's compliance with the Contract, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

P&DB

- (a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the Contractor's design, manufacture, construction or execution of the Works, (ii) the use of Contractor's Equipment, or (iii) the proper use of the Works.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

EPCT

- (a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the Contractor's design, manufacture, construction or execution of the Works, (ii) the use of Contractor's Equipment, or (iii) the proper use of the Works.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

RB 28.1; YB 16; OB 5.9

This Sub-Clause provides appropriate protection to each Party in respect of any breaches of copyright or of other intellectual or industrial property right. If a third party makes a claim in respect of any of the matters mentioned in this Sub-Clause, the Parties should each consider taking advice from a lawyer familiar with

the applicable intellectual or industrial property right law. The Sub-Clause deals with many types of infringements, but does not attempt to cover all types. In other words, there may be claims for which neither Party is entitled to indemnity under this Sub-Clause.

In particular, the Sub-Clause does not cover the situation where the Employer is prevented by a competent court from operating the Works by reason of an alleged infringement.

When preparing tender documents for a process plant or other Works involving

design by the Contractor, the Employer may need to consider what procedures are relevant to the continuing operation of the Works, since they may not be covered by this Sub-Clause. In particular, further wording may be required if the Works include process plant and some form of operational licence is required for its use. Process plants which manufacture products from raw materials are usually protected by intellectual property rights, the owner of which would grant a licence (sometimes referred to as a process licence) to the Employer, entitling him to use (and benefit from) the protected process. If a licence will be required, the Employer should take appropriate legal advice before entering into the Contract.

17.6 Limitation of Liability

CONS	P&DB	EPCT
<p>Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than under Sub-Clause 16.4 [<i>Payment on Termination</i>] and Sub-Clause 17.1 [<i>Indemnities</i>].</p>	<p>Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than under Sub-Clause 16.4 [<i>Payment on Termination</i>] and Sub-Clause 17.1 [<i>Indemnities</i>].</p>	<p>Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than under Sub-Clause 16.4 [<i>Payment on Termination</i>] and Sub-Clause 17.1 [<i>Indemnities</i>].</p>
<p>The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], Sub-Clause 17.1 [<i>Indemnities</i>] and Sub-Clause 17.5 [<i>Intellectual and Industrial Property Rights</i>], shall not exceed the sum stated in the Particular Conditions or (if a sum is not so stated) the Accepted Contract Amount.</p>	<p>The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], Sub-Clause 17.1 [<i>Indemnities</i>] and Sub-Clause 17.5 [<i>Intellectual and Industrial Property Rights</i>], shall not exceed the sum stated in the Particular Conditions or (if a sum is not so stated) the Accepted Contract Amount.</p>	<p>The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [<i>Electricity, Water and Gas</i>], Sub-Clause 4.20 [<i>Employer's Equipment and Free-Issue Material</i>], Sub-Clause 17.1 [<i>Indemnities</i>] and Sub-Clause 17.5 [<i>Intellectual and Industrial Property Rights</i>], shall not exceed the sum stated in the Particular Conditions or (if a sum is not so stated) the Contract Price stated in the Contract Agreement.</p>
<p>This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.</p>	<p>This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.</p>	<p>This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.</p>

YB 42.1 & 42.2; OB 17.6

When preparing Tenders, tenderers will wish to assess their potential liability to the Employer, and include in their prices some allowance for their risks. The basis of this Sub-Clause is to maintain a reasonable balance between the differing objectives of the Parties, each of whom will wish to limit his own liability whilst being entitled to receive full compensation for default by the other Party.

Under the first paragraph, neither Party is to be liable for certain types of loss. However, this paragraph will affect each Party differently. For example, delay damages under Sub-Clause 8.7 shall be the sums stated in CONS/P&DB's Appendix to Tender or in the Particular Conditions. The first paragraph therefore limits liability under Sub-Clause 15.4(c) (following default by the Contractor), but does not limit liability under Sub-Clause 16.4 (following default by the Employer).

The Employer's liability is subject to Sub-Clause 14.14.

The Contractor's liability is limited to an amount which is to be stated in the Particular Conditions, unless the words at the end of the second paragraph are to be applicable. Liabilities under the following Sub-Clauses are excluded from this limitation of liability:

- Sub-Clauses 4.19 and 4.20, for payments for services actually used by the Contractor,
- Sub-Clause 17.1, for indemnity against claims from third parties generally, and

- Sub-Clause 17.5, for indemnity against claims from third parties in respect of intellectual or industrial property rights.

Sub-Clause 17.6 may be affected by the applicable law, which may limit a Party's liability to a greater or lesser amount, and/or may limit the duration of its liability. Although the General Conditions do not specify any limit to the duration of the Contractor's liability:

- Under some common law jurisdictions, a period of liability may not begin until the Employer ought reasonably to have been aware of the Contractor's defective work.
- Under some civil law jurisdictions, the Contractor will be liable absolutely (i.e., without proof of fault) for hidden defects for ten years from completion (which is called decennial liability).
- Unless the Works include major items of Plant, it may be inappropriate for the Contract to limit the duration of the Contractor's liability.
- If the Works include major items of Plant, it is usually appropriate for the Contract to limit the duration of the Contractor's liability for such Plant; for example, to a stated number of years after the completion date stated in the Taking-Over Certificate. After a few years' operation, it becomes increasingly difficult to establish whether any alleged defects are attributable to the Plant's design, manufacture, manuals, operation, maintenance, or a combination of these and/or other matters.

Clause 18 Insurance

Insurance is generally advisable to protect both Parties from the financial consequences of unexpected loss, damage or liability. At any given time, it is difficult for any published form of contract to define the precise extent of insurance cover which will be reasonably available for all Works for which the publication may be used. Clause 18 specifies insurance requirements in terms of the cover which is typically available, but the Contract may have to take account of the cover which is actually available.

The primary purpose of insurance is to ensure that the Contractor has the financial capability to execute the Works irrespective of fortuitous loss or damage. Where a risk is allocated to the Employer, the insurance should (wherever possible) enable the Employer to pay for the rectification of damage caused by an Employer's risk. Additionally, if the Contractor fails to complete the Works, the insurance should enable the Employer to pay another contractor to rectify loss or damage to incomplete works.

The liabilities of the Parties, other than in relation to effecting insurance, are not to be interpreted from this Clause 18. It is these liabilities, in accordance with the other terms of the Contract, which will be relevant whenever an element of loss or damage is not covered by insurance. For example, an insurer may bear the amount of a claim except for the deductible. The latter would be borne by the Employer if the claim arose from an Employer's risk, or by the Contractor if it arose from a Contractor's risk.

Although the listing of Employer's risks takes account of the extent to which insurance cover is available in many countries, the listing is not intended to reflect insurance practice. In some cases, those risks which may be uninsurable are included as Employer's risks, although they are to be insured wherever possible. However, the availability or otherwise of insurance does not determine a Party's risks.

18.1 General Requirements for Insurances

Typically, insurances are obtained by the Contractor, often from insurers with whom he maintains a continuous commercial relationship and who therefore may be able to offer competitive terms. Sometimes, however, the Employer elects to obtain insurance for all the contracts for a particular project, with a view to achieving competitive terms due to economies of scale and reduced duplication of insurance.

The General Conditions assume that the Contractor is to be required to effect insurances, but facilitate amendment (as described in the GPPC) to cover the alternative of Employer-provided insurance. This flexibility is achieved by the use of the phrase "insuring Party", whom the General Conditions state shall be the Contractor. Whoever is to be the insuring Party under the Contract, the other Party will need to know, before entering into the Contract, the general terms of the insurances which the insuring Party will be obliged to effect under the Contract.

Wherever the Contractor is to be required to effect insurance, in accordance with the unaltered provisions in the General Conditions, the Employer may wish to obtain details of such arrangements and agree the main operative terms of the insurance policies in accordance with the second paragraph of Sub-Clause 18.1. The Instructions to Tenderers may request tenderers to submit details of their insurer(s) and of the insurances which they will provide under this Clause: including conditions, limits, exclusions and deductibles/excesses. The Employer's particular requirements may be included in the Particular Conditions. Insurers and their terms are subject to the Employer's approval, which shall not be unreasonably withheld or delayed: see Sub-Clause 1.3.

Wherever the Employer is to be required to effect insurance, in accordance with an appropriate Particular Condition, tenderers need to know the general terms of such insurance. The Employer should annex details to the Particular Conditions, in accordance with the third paragraph of Sub-Clause 18.1.

CONS

In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms consistent with the details annexed to the Particular Conditions.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

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.

The relevant insuring Party shall, within the

P&DB

In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms consistent with the details annexed to the Particular Conditions.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

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.

The relevant insuring Party shall, within the

EPCT

In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before they signed the Contract Agreement. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms consistent with the details annexed to the Particular Conditions.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

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.

The relevant insuring Party shall, within the

respective periods stated in the Appendix to Tender (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [*Insurance for Works and Contractor's Equipment*] and Sub-Clause 18.3 [*Insurance against Injury to Persons and Damage to Property*].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

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. The insuring

respective periods stated in the Appendix to Tender (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [*Insurance for Works and Contractor's Equipment*] and Sub-Clause 18.3 [*Insurance against Injury to Persons and Damage to Property*].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

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. The insuring

respective periods stated in the Particular Conditions (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [*Insurance of Works and Contractor's Equipment*] and Sub-Clause 18.3 [*Insurance against Injury to Persons and Damage to Property*].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

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. The insuring

CONS

Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [*Employer's Claims*] or Sub-Clause 20.1 [*Contractor's Claims*], as applicable.

P&DB

Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [*Employer's Claims*] or Sub-Clause 20.1 [*Contractor's Claims*], as applicable.

EPCT

Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [*Employer's Claims*] or Sub-Clause 20.1 [*Contractor's Claims*], as applicable.

RB 21.3 & 25; YB 43.5-43.8; OB 18.5

Comments on the first three paragraphs are included before the text: see above.

The fourth paragraph refers to "joint insured", including the jointly-insured Parties in accordance with sub-paragraph (b) of Sub-Clauses 18.2 and 18.3. The fourth paragraph continues by referring to the situation when "a policy indemnifies additional joint insured". If the Contractor is the insuring Party, he may wish to extend insurance cover so that a Subcontractor is indemnified. If the Employer is the insuring Party, he may wish to extend insurance cover so that another occupant of the Site is indemnified.

Typically, when an insurance policy indemnifies joint insured, they are jointly entitled to receive payment from the insurer in respect of an insurance claim. The

insurer should regard them as joint clients, make payment to both (or all) of them, and leave them to determine their respective entitlements under the policy. If the only insured are the Parties themselves, the insurer should pay them both and will then have no obligation to monitor how the payment is held or allocated between them, or how it is used to rectify the consequences of the insured circumstances. The insurer may wish to do so, in order to minimise the insurance claim. See the fifth paragraph of this Sub-Clause, and Sub-Clause 18.2(b).

This situation is reasonable with only two joint insured, namely the Parties, but could be wholly unreasonable if the insuring Party arranged for the policy to indemnify other joint insured. Therefore, the fourth paragraph prevents additional joint insured from claiming or receiving monies directly from the insurer, and

defines who is to claim for and receive these insurance monies on behalf of a claimant joint insured.

The insuring Party is required, within the prescribed periods, to submit to the other Party:

- (a) evidence, which could be in the form of appropriate certificates from the insurers, that the insurances described in Clause 18 have been effected; and, in particular, that the insurances mentioned in the first paragraph of Sub-Clause 18.2 (see below) become fully effective by the date by which this evidence was required to be submitted; and
- (b) copies of the policies for the insurances described in Sub-Clauses 18.2 and 18.3.

If a Party fails to comply with a condition of an insurance policy, he will be in breach of the eighth paragraph of Sub-Clause 18.1. No mention is made of the consequences, the most serious being the possibility of the insurer becoming entitled to withhold cover under the policy in respect of such Party's losses.

The third from last (i.e., the tenth) paragraph of Sub-Clause 18.1 prescribes the consequences of the insuring Party's failure:

- to effect and keep in force any of the insurances it is required to effect and maintain, or
- to provide the documentation described in sub-paragraphs (a) and (b).

The other Party may (but is not bound to) effect and maintain insurance, up to the extent prescribed by the Contract, and recover the premiums from the insuring Party: subject to the last paragraph of Sub-Clause 18.1, namely the appropriate claim procedure. Such other Party does not have to ascertain whether insurance cover is actually in force. This entitlement to effect insurance only depends on the lack of evidence from the insuring Party. Although not a requirement of Sub-Clause 18.1, the insuring Party should first be given notice of the evidence required, of the reasonable date by which the other Party must receive it, and of the intention to effect insurance if the evidence is not received by that date. In most countries, this other Party would be obliged to act reasonably in issuing this notice to the insuring Party and in subsequently procuring economical insurance.

However, the other Party may, without actually approving the omission, elect not to effect and maintain an insurance which the insuring Party has failed to effect or failed to evidence. This situation is addressed in the second half of the eleventh

(i.e., the penultimate) paragraph of Sub-Clause 18.1. It allows for the possibility of the other Party approving the omission, or effecting insurance itself. Although it might seem strange for the other Party to have approved the omission of a specified insurance, this necessarily includes approving a policy which (as is usually the case) is subject to exclusions and deductibles/excesses.

If the insuring Party fails to effect insurance, the other Party would usually not approve but might not wish to effect insurance itself. In this case, the insuring Party is liable for any monies which (following, and because of, the occurrence of an insurable event) should have been recoverable under the insurance which the insuring Party failed to effect and maintain.

The first half of the penultimate (i.e., the eleventh) paragraph of Sub-Clause 18.1 addresses the typical situation when:

- the insuring Party is maintaining insurance in accordance with the Contract, other than (possibly) to the extent of any approved exclusions, deductibles or other limits in the cover; and subsequently
- a Party incurs cost which is not recoverable from the insurer, possibly because of an exclusion, deductible or other limit in the cover.

In this typical situation, liability in respect of the amounts not insured or not recoverable from insurers is to be determined by reference to the other provisions of the Contract, and not by reference to the obligation to insure under Clause 18. It is not intended to impose, on either Party, an obligation to insure all risks under the Contract. The Clause only requires certain insurances to be effected, each of which will apply in accordance with the actual terms of the policy. Actual terms will probably include conditions, limits, exclusions and deductibles/excesses.

The liabilities of the Parties, other than in relation to effecting insurance, are not to be interpreted from this Clause 18. It is these liabilities, in accordance with the other terms of the Contract, which will be relevant whenever an element of loss or damage is not covered by insurance. For example, an insurer may bear the amount of a claim except for the deductible. The latter would be borne by the Employer if the claim arose from an Employer's risk, or by the Contractor if it arose from a Contractor's risk.

Under P&DB or EPCT, or under CONS if the Contractor designs major parts of the Works, the Contractor may also be required to effect professional indemnity insurance, example text for which is published in P&DB's GPPC. When preparing the tender documents, the Employer should consider whether he requires this insurance, taking account of the status of the prequalified tenderers and their apparent ability to self-insure.

18.2 Insurance for Works and Contractor's Equipment

CONS	P&DB	EPCT
<p>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. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [<i>General Requirements for Insurances</i>], until the date of issue of the Taking-Over Certificate for the Works.</p>	<p>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. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [<i>General Requirements for Insurances</i>], until the date of issue of the Taking-Over Certificate for the Works.</p>	<p>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. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [<i>General Requirements for Insurances</i>], until the date of issue of the Taking-Over Certificate for the Works.</p>
<p>The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [<i>Defects Liability</i>]).</p>	<p>The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [<i>Defects Liability</i>] and Clause 12 [<i>Tests after Completion</i>]).</p>	<p>The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor or Subcontractors in the course of any other operations (including those under Clause 11 [<i>Defects Liability</i>] and Clause 12 [<i>Tests after Completion</i>]).</p>
<p>The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. 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.</p>	<p>The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. 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.</p>	<p>The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. 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.</p>
<p>Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:</p>	<p>Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:</p>	<p>Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:</p>
<p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments</p>	<p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments</p>	<p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments</p>

from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,

- (c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [*Employer's Risks*],
- (d) shall also cover loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [*Employer's Risks*], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Appendix to Tender (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- (e) may however exclude loss of, damage to, and reinstatement of:
 - (i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - (ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - (iii) a part of the Works which has been taken over by the Employer, except to the extent

from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,

- (c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [*Employer's Risks*],
- (d) shall also cover loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [*Employer's Risks*], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Appendix to Tender (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- (e) may however exclude loss of, damage to, and reinstatement of:
 - (i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - (ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - (iii) a part of the Works which has been taken over by the Employer, except to the extent

from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,

- (c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [*Employer's Risks*],
- (d) shall also cover loss or damage from the risks listed in sub-paragraph (c) of Sub-Clause 17.3 [*Employer's Risks*], with deductibles per occurrence of not more than the amount stated in the Particular Conditions (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- (e) may however exclude loss of, damage to, and reinstatement of:
 - (i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - (ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - (iii) a part of the Works which has been taken over by the Employer, except to the extent

CONS

that the Contractor is liable for the loss or damage, and

- (iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [*Plant and Materials intended for the Works*].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [*General Requirements for Insurances*].

P&DB

that the Contractor is liable for the loss or damage, and

- (iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [*Plant and Materials intended for the Works*].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [*General Requirements for Insurances*].

EPCT

that the Contractor is liable for the loss or damage, and

- (iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [*Plant and Materials intended for the Works*].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [*General Requirements for Insurances*].

RB 21; YB 43.1, 43.2 & 43.6; OB 18.2

This Sub-Clause specifies the insurance of the Works, Goods and Contractor's Documents, which is typically regarded as an essential part of any major engineering or construction project. Unless the Particular Conditions state otherwise, these insurances are arranged by the Contractor, who may wish to consult insurance experts.

The insurance of the Works, Plant, Materials and Contractor's Documents is to be effective by the date by which evidence is to be submitted, as defined in Sub-Clause 18.1(a), and is to be effective until the Taking-Over Certificate has been issued for the Works. This first date should be specified with care, in order to reduce the likelihood of work proceeding before insurances are effective. Under a CONS contract, insurances may need to be effective from the Commencement Date. Under P&DB or EPCT, this may be unnecessary because no insurable activities may be initiated for some time.

The insurance of each item of the Contractor's Equipment is to be effective "while

it is being transported to the Site" under the third paragraph, but may exclude items "while they are not in the Country" under sub-paragraph (e)(iv) of Sub-Clause 18.2 (although marine transit insurance may be advisable). In other words, each item is to be insured by the time it arrives in the Country. An item which was in the Country, either stored or on another site, is to be insured before it leaves storage or such other site. The insurance is then to continue "until it is no longer required as Contractor's Equipment". In other words, cover is to continue until the item is no longer "required for the execution and completion of the Works and the remedying of any defects": quoting the definition in Sub-Clause 1.1.5.1.

The insurance is required by sub-paragraph (b) to be in the joint names of the Parties, so that each Party is covered and can claim under the policy. Typically, the Contractor may submit the claim under the policy, because it is usually his Cost (in overcoming the risk which occurred) which is being claimed. However, the claim may relate to parts of the Works for which the Employer has paid, or to the risks mentioned in sub-paragraph (d). The policy is therefore required to entitle the

Employer to make a claim, in case the Contractor goes into liquidation or one of such sub-paragraph (d) risks occurs. See commentary on Sub-Clause 18.1, above.

The insurance required by sub-paragraph (d) extends the specified cover to include other risks for which insurance cover is usually available at commercially reasonable terms, namely some of the Employer's risks listed in Sub-Clause 17.3. For sub-paragraph (d) to be effective, the deductible must be stated in the Appendix to Tender under CONS or P&DB or in the Particular Conditions under EPCT. When preparing the tender documents for a Contract under which the Contractor is to be the insuring Party, the Employer should review these Employer's risks, take advice from insurance experts, and consider what deductible to specify. If no such deductible is specified, the insuring Party does not have to effect the insurance specified in sub-paragraph (d) of Sub-Clause 18.2.

However, cover under sub-paragraph (d) may exclude "risks which are not insurable at commercially reasonable terms". What constitutes "commercially reasonable" may be a matter of opinion, although the scope of the cover may be

clarified by referring to any terms agreed between the Parties, as mentioned in the second paragraph of Sub-Clause 18.1. Whether or not so agreed, these risks will be referenced in the copy of the insurance policy submitted under Sub-Clause 18.1(b), at which stage the Employer will verify that cover under the policy includes the risks mentioned in sub-paragraph (d) except for "risks which are not insurable at commercially reasonable terms". If the Employer suspects that the policy excludes risks which are insurable at commercially reasonable terms, he may need to consult insurance experts and consider whether to proceed as described in the third from last (i.e., the tenth) paragraph of Sub-Clause 18.1.

Although the Contractor (if he is insuring Party) is to insure the sub-paragraph (d) risks, there is a possibility that the cover described in sub-paragraph (d) may, for reasons which may not be attributable to the Contractor (and may not even be ascertained), cease to be available at "commercially reasonable terms". This is unlikely to occur during the first year's cover, but an insurer may insist upon it when demanding payment from the Contractor for the premium, which is typically an annual demand. This situation is resolved by the final paragraph, which should be deleted if the Employer is to be the insuring Party.

18.3 Insurance against Injury to Persons and Damage to Property

CONS	P&DB	EPCT
<p>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 [<i>Insurance for Works and Contractor's Equipment</i>]) or to any person (except persons insured under Sub-Clause 18.4 [<i>Insurance for Contractor's Personnel</i>]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.</p>	<p>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 [<i>Insurance for Works and Contractor's Equipment</i>]) or to any person (except persons insured under Sub-Clause 18.4 [<i>Insurance for Contractor's Personnel</i>]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.</p>	<p>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 [<i>Insurance for Works and Contractor's Equipment</i>]) or to any person (except persons insured under Sub-Clause 18.4 [<i>Insurance for Contractor's Personnel</i>]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.</p>
<p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Appendix to Tender, with no limit on the number of occurrences. If an amount is not stated in the Appendix to Tender, this Sub-Clause shall not apply.</p>	<p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Appendix to Tender, with no limit on the number of occurrences. If an amount is not stated in the Appendix to Tender, this Sub-Clause shall not apply.</p>	<p>This insurance shall be for a limit per occurrence of not less than the amount stated in the Particular Conditions, with no limit on the number of occurrences. If an amount is not stated in the Contract, this Sub-Clause shall not apply.</p>

CONS	P&DB	EPCT
<p>Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties,</p> <p>(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from:</p> <p style="padding-left: 20px;">(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,</p> <p style="padding-left: 20px;">(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and</p> <p style="padding-left: 20px;">(iii) a cause listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], except to the extent that cover is available at commercially reasonable terms.</p>	<p>Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties,</p> <p>(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from:</p> <p style="padding-left: 20px;">(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,</p> <p style="padding-left: 20px;">(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and</p> <p style="padding-left: 20px;">(iii) a cause listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], except to the extent that cover is available at commercially reasonable terms.</p>	<p>Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractor as insuring Party,</p> <p>(b) shall be in the joint names of the Parties,</p> <p>(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from:</p> <p style="padding-left: 20px;">(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,</p> <p style="padding-left: 20px;">(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and</p> <p style="padding-left: 20px;">(iii) a cause listed in Sub-Clause 17.3 [<i>Employer's Risks</i>], except to the extent that cover is available at commercially reasonable terms.</p>

RB 23; YB 43.3; OB 18.3

This Sub-Clause specifies the details of the required insurance against liability to third parties. Unless the Particular Conditions state otherwise, these insurances are arranged by the Contractor, who may wish to consult insurance experts.

The amount of the insurance must be stated in the Appendix to Tender under CONS or P&DB or in the Particular Conditions under EPCT. If not so stated, the Sub-Clause will not apply, and the Contract will not impose any obligation to effect this type of insurance cover.

In addition to liability to third parties, the insurance is required to cover loss or damage to any physical property, including that which is owned by a Party, except property insured under Sub-Clause 18.2. The insurance is also required to cover death or bodily injury to any person not insured under Sub-Clause 18.4.

Sub-paragraph (d) defines "the matters for which liability may be excluded from insurance cover", which are referred to in the final sentence of Sub-Clause 17.1.

Under Sub-Clauses 17.1 and 18.3(d)(ii), the Employer indemnifies the Contractor from claims in respect of "damage which is an unavoidable result of the Contractor's obligations", but not in respect of any other damage which is a result of the particular arrangements and methods which the Contractor elected to

adopt in order to perform his obligations. The Contractor should adopt appropriate arrangements and methods so as to minimise claims from third parties due to the performance of his obligations under the Contract.

18.4 Insurance for Contractor's Personnel

CONS	P&DB	EPCT
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>The Employer and the Engineer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.</p>	<p>The Employer and the Engineer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.</p>	<p>The Employer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.</p>
<p>The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.</p>	<p>The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.</p>	<p>The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.</p>

RB 24.2; YB 43.4; OB 18.4

In many countries, this type of insurance is required by law. If the law requires each employer of personnel to effect this insurance in respect of his employees, the law

may impose obligations in addition to those specified in this Sub-Clause. Its last sentence would be equally applicable to sub-subcontractors.

Clause 19 Force Majeure

19.1 Definition of Force Majeure

Under the laws of most countries, a Party may be relieved from its contractual obligations in a very narrow range of events. In the Books, the expression "Force Majeure" has a more-broadly defined meaning, namely an exceptional event or circumstance satisfying the criteria specified in sub-paragraphs (a) to (d) of this Sub-Clause.

CONS	P&DB	EPCT
<p>In this Clause, "Force Majeure" means an exceptional event or circumstance:</p> <ul style="list-style-type: none"> (a) which is beyond a Party's control, (b) which such Party could not reasonably have provided against before entering into the Contract, (c) which, having arisen, such Party could not reasonably have avoided or overcome, and (d) which is not substantially attributable to the other Party. <p>Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:</p> <ul style="list-style-type: none"> (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors, (iv) munitions of war, explosive materials, 	<p>In this Clause, "Force Majeure" means an exceptional event or circumstance:</p> <ul style="list-style-type: none"> (a) which is beyond a Party's control, (b) which such Party could not reasonably have provided against before entering into the Contract, (c) which, having arisen, such Party could not reasonably have avoided or overcome, and (d) which is not substantially attributable to the other Party. <p>Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:</p> <ul style="list-style-type: none"> (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors, (iv) munitions of war, explosive materials, 	<p>In this Clause, "Force Majeure" means an exceptional event or circumstance:</p> <ul style="list-style-type: none"> (a) which is beyond a Party's control, (b) which such Party could not reasonably have provided against before entering into the Contract, (c) which, having arisen, such Party could not reasonably have avoided or overcome, and (d) which is not substantially attributable to the other Party. <p>Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:</p> <ul style="list-style-type: none"> (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors, (iv) munitions of war, explosive materials,

CONS

ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and

(v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

P&DB

ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and

(v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

EPCT

ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and

(v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

RB 65.2 & 65.4; YB 44.1 & 44.10; OB 19.1

For an event or circumstance to constitute Force Majeure, five criteria need to be satisfied:

- It must be "exceptional", so the event or circumstance is not merely "unusual". Note the irrelevance of whether or not it is foreseeable.
 - (a) It must be beyond the control of the Party who has been affected by it and who, under Sub-Clause 19.2, will need to give due notice in order to be excused performance. For example, this may exclude most deliberate acts by this affected Party's personnel.
 - (b) This affected Party could not reasonably have provided against it before the Contract was made. For example, this may exclude foreseeable events which had a reasonable likelihood of occurring during the Time for Completion and in respect of which the affected Party could "reasonably have been expected to have taken adequate preventative precautions" (using the wording in CONS/P&DB 17.3(h)).
 - (c) This affected Party could not reasonably have avoided or overcome it. For example, this may exclude events or circumstances which may be avoided or overcome by making appropriate (but different) arrangements, with some extra cost, delay and/or inconvenience.
 - (d) It must not have been substantially attributable to the other Party. For example, this may exclude events or circumstances which would normally be a breach of the Contract by such other Party, entitling

the affected Party to the (more favourable) relief due to breach of contract. If an event is attributable to the other Party, it would be unreasonable for such other Party's liability to be limited to the consequences of Force Majeure.

There is in effect a sixth criterion, namely that it prevents the affected Party from performing any (one, more, or all) of its obligations. This criterion is not incorporated into the above definition in Sub-Clause 19.1, but is stated as a pre-condition in Sub-Clauses 19.2 and 19.4.

After defining Force Majeure by reference to sub-paragraphs (a) to (d), Sub-Clause 19.1 concludes with illustrative examples listed in sub-paragraphs (i) to (v). Note that they are only illustrative examples, some of which might occur and not be Force Majeure. Other events, which are not listed, may nevertheless constitute Force Majeure. The examples are comparable to the risks listed in Sub-Clause 17.3, but amended as appropriate to reflect the constraints imposed by the Force Majeure criteria (a) to (d). The examples therefore omit any reference to:

- the Employer's use, occupation or design, which are "substantially attributable to" him,
- aircraft's pressure waves, which typically would not be regarded as "exceptional", and
- events (ii) to (iv) being "in the Country", which is not a required criterion for Force Majeure. The location of an event does not affect the application of the criteria defining Force Majeure, although the location would affect the consequences under Sub-Clause 19.4(b).

19.2 Notice of Force Majeure

CONS	P&DB	EPCT
<p>If a Party is or will be prevented from performing any of its obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.</p> <p>The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.</p> <p>Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.</p>	<p>If a Party is or will be prevented from performing any of its obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.</p> <p>The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.</p> <p>Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.</p>	<p>If a Party is or will be prevented from performing any of its obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.</p> <p>The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.</p> <p>Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.</p>

RB 65.1; YB 44.2 & 44.3; OB 19.2-19.4

In order to be able to rely upon this Clause to excuse a failure to perform an obligation, the affected Party is required to notify the other Party within fourteen days of becoming aware of the event or circumstance. In practice, it may be easier to establish whether notice was given within fourteen days after the affected Party "should have become aware[,] of the relevant event or circumstance constituting Force Majeure." Fourteen days may seem a generous period within which to notify an exceptional event, but it may not be immediately apparent that it will affect a Party's performance. The notice must specify:

- the event or circumstance which is considered to constitute Force Majeure, and
- its effect, namely how will it prevent performance and of which obligations. These effects would typically not have to be listed in great detail, it being

preferable to describe them in suitably broad terms.

When preparing the notice, the affected Party should bear in mind that relief under this Clause is limited to the obligations and Force Majeure which are described in the affected Party's notice under this Sub-Clause. The affected Party may therefore wish to seek legal advice in order to ensure that the notice is worded appropriately. Under CONS/P&DB 1.3, a copy of the notice must be sent to the Engineer.

The final paragraph states that an event of Force Majeure does not excuse any failure or inability to make a payment which is due under the Contract. Typically, Force Majeure would not be expected to prevent a payment being made in some manner. It would usually be possible to make alternative payment arrangements.

19.3 Duty to Minimise Delay

CONS	P&DB	EPCT
Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.	Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.	Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

YB 44.4; OB 19.3 & 19.4

The first paragraph states that the Parties should firstly endeavour to overcome the adverse effects of the Force Majeure (which would be required by the laws of most countries).

The second paragraph states that the affected Party must give notice recording

when the effect of the Force Majeure ceases. Under CONS/P&DB 1.3, a copy of the notice must be sent to the Engineer. Although this provision could have been included in Sub-Clause 19.2, it was considered preferable for there to be only one type of notice to be issued under Sub-Clause 19.2, for ease of reference.

19.4 Consequences of Force Majeure

CONS	P&DB	EPCT
<p>If the Contractor is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [<i>Definition of Force Majeure</i>] and,</p>	<p>If the Contractor is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [<i>Definition of Force Majeure</i>] and,</p>	<p>If the Contractor is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [<i>Contractor's Claims</i>] to:</p> <p>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [<i>Extension of Time for Completion</i>], and</p> <p>(b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [<i>Definition of Force Majeure</i>] and,</p>

CONS	P&DB	EPCT
<p>in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost.</p> <p>After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>	<p>in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost.</p> <p>After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [<i>Determinations</i>] to agree or determine these matters.</p>
RB 65.5; YB 44.5 & 44.6; OB 19.5		

If the Contractor is the affected Party and gives notice under Sub-Clause 19.2, he is entitled to extension of time to the extent that completion is delayed by the notified Force Majeure. The Contractor is entitled to reimbursement of such Cost as is attributable to the prevention of performance by a notified Force Majeure:

- which "is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1", namely a man-made event and not any natural event or circumstance; and
- which either occurs in the Country or is of the kind described in sub-paragraph (i) of Sub-Clause 19.1, namely war, hostilities, invasion, or act of foreign enemies.

The event is only required to be "of the kind" described, and is not limited to the illustrative examples listed, in sub-paragraphs (i) to (iv) of Sub-Clause 19.1.

Sub-paragraphs (a) and (b) describe the Contractor's entitlements in terms which are used elsewhere in the General Conditions, but with particular limitations in respect of entitlement to reimbursement of Cost. See the Table in this Guide at the end of the commentary on Clause 3, and also the commentaries on Sub-Clauses 8.4 and 20.1.

Sub-Clause 19.4 does not limit the Contractor's entitlements under Sub-Clause 17.4.

19.5 Force Majeure Affecting Subcontractor

CONS	P&DB	EPCT
<p>If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.</p>	<p>If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.</p>	<p>If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.</p>

If the terms of a subcontract define *force majeure* in broader terms than those in Sub-Clause 19.1, entitling the Subcontractor to relief in a case when the Contractor is not entitled to relief under Clause 19, the Contractor is not entitled to rely upon the subcontract as providing relief under the main Contract.

As stated in Sub-Clause 4.4, the Subcontractor's acts or defaults are regarded as the Contractor's acts or defaults. In particular, the Subcontractor's unperformed obligation is regarded as the Contractor's unperformed obligation, and not as Force Majeure, even if it is attributable to an event or circumstance which may appear similar to *force majeure*.

Therefore, if performance of a Subcontractor's obligation is prevented by Force Majeure as defined in Sub-Clause 19.1, the prevented obligation would be regarded as that of the Contractor. He would then give notice under Sub-Clause 19.2, specifying the event or circumstance which is considered to constitute Force Majeure and also its effect, namely how it will prevent performance and of which obligations (including subcontracted obligations).

If any prospective nominated Subcontractor is to be entitled to relief from *force majeure* on terms additional to or broader than those specified in Clause 19, the Contractor may raise "reasonable objection by notice", in accordance with the first sentence of CONS 5.2 or the second sentence of P&DB/EPCT 4.5.

19.6 Optional Termination, Payment and Release

CONS	P&DB	EPCT
<p>If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>].</p> <p>Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:</p> <ul style="list-style-type: none"> (a) the amounts payable for any work carried out for which a price is stated in the Contract; (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal; 	<p>If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>].</p> <p>Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:</p> <ul style="list-style-type: none"> (a) the amounts payable for any work carried out for which a price is stated in the Contract; (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal; 	<p>If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [<i>Notice of Force Majeure</i>], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [<i>Cessation of Work and Removal of Contractor's Equipment</i>].</p> <p>Upon such termination, the Employer shall pay to the Contractor:</p> <ul style="list-style-type: none"> (a) the amounts payable for any work carried out for which a price is stated in the Contract; (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;

	CONS	P&DB	EPCT
(c)	any other Cost or liability which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works;	(c) any other Cost or liability which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works;	(c) any other Cost or liability which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works;
(d)	the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and	(d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and	(d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
(e)	the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.	(e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.	(e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

RB 65.6-65.8; YB 44.6-44.8; OB 19.6

Either Party is entitled to termination after the Contractor has been prevented from substantially all of his execution of the Works in progress for the stated period. In other words, he has been unable to progress the execution other than to an insubstantial extent. The pre-condition in the first sentence relates to impediment to progress, not to the extent to which the Works are substantially complete.

For some types of Force Majeure event, it may be immediately apparent that its effect will continue for the relevant period. In this case, Sub-Clause 19.7 may be applicable, or the Parties may agree an immediate termination. Note that Sub-

Clause 14.2 requires the advance payment to be repaid immediately upon termination, thereby reducing to zero the value of the advance payment guarantee, which should then be promptly returned to the Contractor.

Under sub-paragraph (a), the Contractor is entitled to payment for any work carried out "for which a price is stated in the Contract". In many cases, the work completed to date may not have been priced in the Contract, so sub-paragraphs (b) and (c) provide a method for determining a reasonable payment in respect of work carried out for which a price is not separately stated.

19.7 Release from Performance under the Law

	CONS	P&DB	EPCT
	Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be	Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be	Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be

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P&DB

EPCT

released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [*Optional Termination, Payment and Release*] if the Contract had been terminated under Sub-Clause 19.6.

released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [*Optional Termination, Payment and Release*] if the Contract had been terminated under Sub-Clause 19.6.

released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [*Optional Termination, Payment and Release*] if the Contract had been terminated under Sub-Clause 19.6.

RB 66; YB 44.9; OB 19.7

This Sub-Clause describes two extreme situations, both irrespective of whether Force Majeure occurred and (if it did occur) of whether notice was given in accordance with Sub-Clause 19.2. These situations arise if an event or circumstance outside the control of both Parties occurs which:

- makes it impossible or unlawful for a Party to fulfil its contractual obligations, or

- under the applicable law, entitles the Parties to be released from further performance.

Sub-Clause 19.6 specifies the consequences, unless the applicable law compels another solution. Before invoking this Clause, a Party should seek legal advice.

Clause 20 Claims, Disputes and Arbitration

20.1 Contractor's Claims

This Sub-Clause prescribes the procedure to be followed by the Contractor if he considers himself to be entitled to an extension of time, to additional payment, or to both. The Table in this Guide, at the end of the commentary on Clause 3, lists the Sub-Clauses which are most relevant to claims.

In the various Sub-Clauses, the Contractor's entitlements to claim are expressed using similar wording, typically as follows:

"If the Contractor suffers delay and/or incurs Cost ..., the Contractor shall give notice ... and shall be entitled subject to Sub-Clause 20.1 [...] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [...], and
- (b) payment of any such Cost {plus reasonable profit}, which shall be included in {EPCT: which shall be added to} the Contract Price."

Note the following aspects of this typical wording:

- "... the Contractor shall give notice ...": which is obligatory, but a failure to notify may be due to him not having suffered delay and not having incurred Cost.
- "... the Contractor ... shall be entitled ...": which is not stated as being subject to anyone's opinion.
- "... subject to Sub-Clause 20.1 ...": the second and the final paragraphs of which may affect the Contractor's entitlements (see below).
- "... an extension ..., if completion is ... delayed ...": so it should be calculated by reference to the delay in completion (see Sub-Clause 8.4).
- "... payment of any such Cost ...": which is the Cost attributable to the event or circumstance, excluding Costs which are not attributable thereto.
- "... plus reasonable profit": this phrase is included in Sub-Clauses which relate to failures by (or on behalf of) the Employer, and not to other risks.
- EPCT: "... added to the Contract Price": which EPCT 1.1.4.1 says is stated in the Contract Agreement (see commentary on EPCT 14.1).

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 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 Engineer under CONS or P&DB (with a copy to the Employer under CONS/P&DB 1.3), or to the Employer under EPCT. 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-Clauses.

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. 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.

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. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

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 Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

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

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. 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.

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. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

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 Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

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

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any 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. 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.

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. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

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, after receiving any notice under this Sub-Clause, 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.

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

CONS

and approved by the Engineer, the Contractor shall send to the Engineer 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. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

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 Engineer and approved by the Contractor, the Engineer 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.

Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

P&DB

and approved by the Engineer, the Contractor shall send to the Engineer 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. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

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 Engineer and approved by the Contractor, the Engineer 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.

Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

EPCT

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. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Employer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Employer.

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.

Each interim payment shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

CONS

The Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [*Extension of Time for Completion*], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

P&DB

The Engineer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [*Extension of Time for Completion*], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

EPCT

The Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [*Extension of Time for Completion*], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

RB 44 & 53; YB 26 & 34; OB 8.3, 20.1 & 20.2

Comments on the first three paragraphs are included before the text: see above.

The fourth paragraph requires the Contractor to 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. However, CONS/P&DB's Engineer may be able to specify the form of records which he wishes to monitor on a routine basis.

The importance of good record-keeping cannot be over-emphasised. The resolution of disputes frequently rests on the adequacy of contemporaneous records. If a Party declines to agree matters for record purposes, on the spurious ground that agreement of facts indicates admission of liability, the DAB or arbitrator(s) may decide to rely upon the other Party's unchallenged contemporaneous records.

The fifth to penultimate paragraphs describe the detailed procedure for the

submission, substantiation and agreement or determination of each claim. The procedure specifies the periods within which the Contractor:

- is required to submit each detailed interim claim, for events having a continuing effect,
- is required to submit each detailed final claim, together with supporting particulars, and
- having submitted an interim or final claim, or further particulars supporting a previous claim, is entitled to receive from the Engineer (under CONS/P&DB) or the Employer (under EPCT):
 - (i) approval, or disapproval and detailed comments, and
 - (ii) any requests for further and better particulars.

All these periods for the issue of a submission are stated as being subject to the alternative of "such other period as may be proposed by ... (the entity by which it is to be issued) and approved by ..." (the entity to which it is to be issued). Under Sub-Clause 1.3, these approvals must not be unreasonably withheld or delayed.

Whether the requested additional time is "reasonable" must depend upon the circumstances, including the complexity of the matter. If the Contractor proposes an extended time for the preparation of a submission, he might not be surprised to receive a reply approving his proposal subject to the condition that the Contractor approves an equivalent extended time for the preparation of the response to his submission.

There is no restriction on the number of times the Contractor may receive, and respond to, requests for further and better particulars of a previous claim. However, he is entitled to prompt payment of "such amounts as have been reasonably substantiated as due", without waiting until he has submitted every element of substantiation of a particular claim. His claim would typically have arisen from an event or circumstance for which he was not blameworthy, so it would be unreasonable for him not to receive prompt payment, except as stated in the second or final paragraph of Sub-Clause 20.1.

The final paragraph of Sub-Clause 20.1 confirms that its requirements are in addition to those of any other Sub-Clause which may be applicable to a claim. For example, another Sub-Clause (e.g. 6.10) may impose general requirements; or another Sub-Clause may impose its own notification requirements, although it may be possible for one notice to satisfy the requirements of different Sub-

Clauses. Under this final paragraph, if the Contractor fails to comply with any such requirement, he runs the risk that any extension of time or additional payment may be reduced by reason of the failure having prevented or prejudiced proper investigation of the claim.

This final paragraph must not be regarded as allowing a penalty to be applied in some arbitrary manner. Rather, it should be recognised that the Contractor should have been able to comply with the requirements. If some doubt (in relation to the amount of his entitlement) arises as a result of the Contractor's failure, it is to be resolved in the Employer's favour. Such a doubt may be attributable to inadequacy in the extent, or verification, of contemporaneous record-keeping.

The Sub-Clause also imposes procedural obligations on the recipient of the Contractor's claims and other submissions, namely the Engineer (under CONS or P&DB) or the Employer (under EPCT). By comparison with the Contractor's procedural failures, it will be noted that no consequences are stated in respect of the failures of such recipient. If a dispute arises, the Contractor may draw the DAB's attention to the Engineer's or Employer's procedural failures. In some circumstances, the Contractor may have an entitlement under applicable law in respect of these failures.

20.2 Appointment of the Dispute Adjudication Board

When the tender documentation is being prepared, consideration should be given to the appropriate procedures for resolution of disputes, guidance for which is included in GPPC 20.2. The Books were prepared so as to facilitate the use of any of three procedures, two of which are based upon the use of a DAB (the dispute adjudication board defined in Sub-Clause 1.1.2.9). The three procedures are as follows:

- A "full-term" dispute adjudication board, which comprises one or three members who are appointed before the Contractor commences executing the Works, and who typically visit the Site on a regular basis thereafter. During these visits, the DAB would also be available to assist the Parties in avoiding a dispute, if they and the DAB all agree. CONS includes the wording required for this full-term DAB procedure, including: "If at any time the Parties so agree, they may jointly refer a matter to the DAB for it to give its opinion." CONS' wording necessarily refers to CONS' Engineer and may replace P&DB's provisions if a full-term DAB is considered appropriate

under a P&DB contract: see below. CONS' wording would have to be amended before it could be used in an EPCT contract.

- An "ad-hoc" dispute adjudication board, which comprises one or three members who are only appointed if and when a particular dispute arises, and whose appointment typically expires when the DAB has issued its decision on that dispute. P&DB and EPCT include the wording required for this ad-hoc DAB procedure, the difference between them being that P&DB refers to the Engineer, whereas EPCT has an Employer's Representative but no Engineer. Therefore, P&DB's provisions may replace CONS' provisions if an ad-hoc DAB is considered appropriate under a CONS contract.
- Under CONS or P&DB only, pre-arbitral decisions may be made by the Engineer, if he is an independent professional consulting engineer with the necessary experience and resources. The guidance in GPPC 20.2

concludes by suggesting appropriate wording for this procedure. This procedure may involve less expense (which is directly borne by the Employer), because of the Engineer's involvement in the administration of the Contract. Although there may be doubts as to whether the appointed Engineer will be truly able to act impartially when making pre-arbitral decisions, because he is paid by the Employer and because he may be influenced by any shortcomings in his own administration of the Contract, these doubts might be lessened by ensuring that pre-arbitral decisions are only made by senior members of the Engineer's staff who are not otherwise involved in the Contract.

If a full-term DAB is considered appropriate for a contract incorporating P&DB, the following wording may be included in the Particular Conditions:

Delete Clause 20 and the Appendix "General Conditions of Dispute Adjudication Agreement" and annexed Procedural Rules; and substitute the Clause 20 and the Appendix "General Conditions of Dispute Adjudication Agreement" and annexed Procedural Rules published in FIDIC's "Conditions of Contract for Construction" First Edition 1999.

Each Book describes a dispute resolution procedure which may be applicable to most contracts for which the Book was intended to be used. However, for any particular contract, the most appropriate Book may not be the Book which contains the dispute resolution procedure which is to be preferred. When the tender documents are being prepared, consideration should be given as to the most appropriate dispute resolution procedure, taking account (among other things) of the following matters:

- (a) The extent of the Contractor's activities off Site, particularly any which are carried out before he commences the execution of the Permanent Works on the Site. For example, if his only work during the first year or two is to design and manufacture Plant, there may be insufficient likelihood of disputes arising during this first year or two for the appointment of a DAB during this period to be economically justifiable.
- (b) The extent of the Contractor's activities underground or elsewhere subject to the risk of encountering conditions which he did not foresee when preparing his Tender. For example, if the Works require a considerable extent of tunnelling work, a full-term DAB may be most appropriate, because it could visit the Site on a regular basis (typically, every 3 or 4 months) and examine the physical conditions whilst they were being encountered.

- (c) The extent to which the final Contract Price is to be subject to measurement, to many Variations, and/or to other matters not finally determined in the Contract. For example, if all the Works are subject to measurement, or there is a possibility of many Variations, a full-term DAB may be most appropriate, because it could visit the Site on a regular basis and be available if the Parties agreed to jointly refer a matter to the DAB for it to give its opinion.
- (d) The magnitude of the contract, and/or of its documentation, which might indicate a greater likelihood of disputes. For example, a three-person DAB would typically be regarded as appropriate for a CONS contract involving an average monthly Payment Certificate exceeding two million US Dollars, at 2000 prices. If the average monthly Payment Certificate is unlikely to exceed one million US Dollars, a one-person DAB may be preferred for reasons of economy, unless the Engineer is considered sufficiently independent, professional and experienced for him to make decisions under Sub-Clause 20.4.
- (e) The Country and/or the nationality of the Parties. The Books are recommended for use on an international basis, so the Parties are usually not of the same nationality. The DAB may therefore perform better if the nationality of each member is not the same as that of either Party or of the other members (if any). However, each of the regular visits of a full-term DAB may then require significant travelling expenses. If both Parties are of the same nationality, the member(s) of the DAB could be residents of the Country, in which case it might be appropriate to reduce the Dollar thresholds in (d) above.

Although the Books are thus adaptable to the needs of users, the following commentary is based upon the use of the unaltered provisions in the General Conditions, for ease of reference. Sub-Clause 20.2 commences by stating whether the DAB is to be appointed:

- under CONS' procedure for a full-term DAB, by the date stated in the Appendix to Tender: although the example form of Appendix to Tender suggests "28 days after the Commencement Date", it may be more appropriate, in the case of a contract with little early activity on the Site, for the date stated in the Appendix to Tender to be a longer period after such Date; or
- under P&DB's or EPCT's procedures for an ad-hoc DAB, by the date 28 days after a Party gives notice to the other Party of its intention to refer a dispute.

The second paragraph defines where the number of DAB members is stated. If not so stated, the DAB shall comprise three members, unless the Parties agree otherwise.

FIDIC does not administer adjudication, other than to nominate adjudicators if this authority has been delegated under a FIDIC Contract. During the year 2000, FIDIC commenced its preparation of a list of dispute adjudicators, and its provision of dispute adjudication training and assessment workshops. FIDIC expects Parties to

consult the list directly, and not to request FIDIC's advice on a Party's appointment. FIDIC does not guarantee the suitability or capability of any person on its list, and does not accept any responsibility or liability arising from any consequences of the use of any person on its list. FIDIC cannot guarantee the accuracy of the information contained in its list, so prospective adjudicators should be asked to provide any information required by a Party selecting an adjudicator.

CONS	P&DB	EPCT
<p>Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>]. The Parties shall jointly appoint a DAB by the date stated in the Appendix to Tender.</p>	<p>Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>]. 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.</p>	<p>Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>]. 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.</p>
<p>The DAB shall comprise, as stated in the Appendix to Tender, either one or three suitably qualified persons ("the members"). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.</p>	<p>The DAB shall comprise, as stated in the Appendix to Tender, either one or three suitably qualified persons ("the members"). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.</p>	<p>The DAB shall comprise, as stated in the Particular Conditions, either one or three suitably qualified persons ("the members"). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.</p>
<p>If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.</p>	<p>If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.</p>	<p>If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.</p>
<p>However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.</p>	<p>However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.</p>	<p>However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.</p>
<p>The agreement between the Parties and either the sole member ("adjudicator") or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.</p>	<p>The agreement between the Parties and either the sole member ("adjudicator") or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.</p>	<p>The agreement between the Parties and either the sole member ("adjudicator") or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.</p>

CONS

P&DB

EPCT

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DAB consults, 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.

If at any time the Parties so agree, they may jointly refer a matter to the DAB for it to give its opinion. Neither Party shall consult the DAB on any matter without the agreement of the other Party.

If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace (or to be available to replace) any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment.

If any of these circumstances occurs and no such replacement is available, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

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 discharge referred to in Sub-Clause 14.12 [*Discharge*] shall have become effective.

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.

If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. The replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

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 [*Obtaining Dispute Adjudication Board's Decision*], unless other disputes have been referred to the DAB by that time under Sub-Clause 20.4, in which event the relevant date shall be when the DAB has also given decisions on those disputes.

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.

If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. The replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

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, [*Obtaining Dispute Adjudication Board*], unless other disputes have been referred to the DAB by that time under Sub-Clause 20.4, in which event the relevant date shall be when the DAB has also given decisions on those disputes.

OB 20.3

Comments on the first two paragraphs are included before the text: see above.

Under the fourth paragraph of Sub-Clause 20.4, the DAB's "decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award". In other words, the Parties empower the DAB to reach decisions with which they undertake to comply. DAB members must therefore be selected carefully. FIDIC publishes a list of dispute adjudicators: see the commentary on Sub-Clause 20.3, below.

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.

The Sub-Clause anticipates that the one-person DAB, or the third member (to act as chairman) of a three-person DAB, is mutually agreed, and that the first two members of a three-person DAB are each nominated by one party and approved by the other. For the one-person DAB or chairman to be mutually agreed, the Employer (or the tenderer) could provide the names and curriculum vitae of suitable persons, for the tenderer (or Employer) to select. Alternates may be required in case some subsequently decline the appointment, assuming that they have not previously indicated a willingness to accept. A Party may be reluctant to choose names from a list of people who have already been contacted by the other Party.

The third paragraph of Sub-Clause 20.2 states that "If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party." The Employer (or the tenderer) could provide the name and curriculum vitae of their proposal for this member, for the tenderer (or Employer) to approve. Under Sub-Clause 1.3, approvals "shall not be unreasonably withheld or delayed." Under the Procedural Rules annexed to the General Conditions, whenever a dispute is referred to a DAB which comprises three persons, "it shall endeavour to reach a unanimous decision".

It may therefore be reasonable to withhold approval to a proposed DAB member if it appears unlikely that he or she will "endeavour to reach a unanimous decision". This reason for disapproval may be based upon reasonable grounds for anticipating that he or she will decline to discuss matters constructively with DAB co-members or to make a decision against one particular Party: typically, the Party nominating him or her. A member who is predictable (in the sense of generally

favouring contractors or generally disfavouring contractors) may have difficulty with some of the finer points of one Party's arguments, and/or may have difficulty reaching a unanimous decision in favour of such Party.

It would thus be contrary to the adjudication provisions for a member to act as advocate for, or to represent, the Party which nominated him or her; or for a Party to nominate a member with any such intention. Each Party should endeavour to nominate a truly independent expert with the ability and freedom to act impartially, develop a spirit of teamwork within the DAB, and make fair unanimous decisions. Essentially, each member should have good inter-personal and communication skills and the ability to be impartial and objective, although he or she may find it easier to understand the finer points of the arguments being propounded by the party of the type with which he or she has spent most of his or her career. The Parties may consider it advantageous to appoint a one-person DAB who has spent parts of his or her career working for each type of Party; and such a person may be a better DAB member than one who has spent all his/her career working for the same type of Party.

The third paragraph of Sub-Clause 20.2 continues: "The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman." The Parties may consider it advantageous to appoint as chairman of a three-person DAB either a person who has spent parts of his or her career with each type of Party, or a lawyer with considerable practical experience in construction law.

For the chairman of a three-person DAB, and for a one-person DAB, the Parties are required to agree upon the person. This can be difficult, especially for an ad-hoc DAB because of the potentially adversarial relationship which might have developed from the dispute. For a three-person DAB, the Parties are required to consult the first two members, who may find it easier to agree with each other and then propose to the Parties a person to act as chairman.

If the Parties cannot agree upon the appointment of a person as member of the DAB, Sub-Clause 20.3 applies: see comments below, which also describes the limited extent of FIDIC's involvement in the dispute adjudication procedures.

The fifth paragraph of Sub-Clause 20.2 requires the Parties to enter into a tripartite agreement with each DAB member (and not with a three-person DAB itself). Each tripartite agreement is required to incorporate (by reference) the conditions contained in the Appendix to the General Conditions, which are reproduced (with commentary) after this Guide's comments on Clause 20.

There is therefore no need for tender documents to include detailed proposals for the tripartite agreements. It would typically be counter-productive to do so, because they must be acceptable to the members as well as to the Parties. Another advantage of appending the adjudicator's conditions to the General Conditions is their incorporation (by reference) into each Dispute Adjudication Agreement, example forms for which are published at the end of each Book.

Under the sixth paragraph, each Party is responsible for half of the cost of the DAB. In the Appendix to the General Conditions, Clause 6 requires the Contractor to pay each member (and recover 50% from the Employer), and its penultimate paragraph requires the Employer to pay each member if the Contractor fails to do so.

Under CONS' procedure for a full-term DAB, the seventh paragraph allows the Parties, if they so agree, to "jointly refer a matter to the DAB for it to give its opinion." This brief provision refers to a substantial advantage which may be derived from having a full-term DAB. Prior to any disagreement developing into a dispute, and typically before the matter has been finally determined under Sub-Clause 3.5, the Parties can agree to refer any such matter to the DAB. For example, a claim may relate (among other things) to provisions in various parts of the Contract, and the Parties may disagree the effect of all these provisions on the matter which is the subject of the potential dispute. In these circumstances, the Parties may be able to prevent a dispute, by agreeing to jointly request the DAB for its opinion on the potential dispute. Without detailed position papers having to be prepared, each Party could present its position orally at an informal hearing, and the DAB would then give its opinion, either orally or in writing. Any such opinion would not be binding (neither on the Parties, nor on the DAB), and the DAB would not be precluded from subsequently giving a different decision on the same matter under Sub-Clause 20.4. Typically, the DAB would have spent considerably more time preparing such different decision, and may have had more evidence to study. The Parties should not ignore the merits of this consensual

non-binding procedure, which can only be successful in avoiding a dispute if the DAB and both Parties all endeavour to do so.

P&DB/EPCT's procedure for an ad-hoc DAB makes no mention of any such joint reference of a matter to the ad-hoc DAB for its opinion, because an ad-hoc DAB is only appointed to decide on particular dispute(s). However, this omission does not prevent both Parties agreeing with an ad-hoc DAB to follow a similar procedure.

Sub-Clause 20.2 concludes by defining the duration of the DAB's appointment, subject to the Parties agreeing otherwise, either in the Dispute Adjudication Agreement or thereafter. Under CONS, the expiry of the appointment depends upon the terms contained in the discharge under Sub-Clause 14.12.

Under P&DB or EPCT, the appointment expires when the ad-hoc DAB has given its decision, unless (by that time) another dispute has been referred to it in accordance with the procedure specified in Sub-Clause 20.4. If a Party wishes to refer a second dispute to the same ad-hoc DAB, the Party should first:

- consider whether the DAB has the expertise which would be appropriate for making a sound decision on this second dispute, and
- ascertain whether the DAB is willing to consider, and to give a decision on, this second dispute. A Party's correspondence with a DAB must be copied to the other Party.

If so, or if the Party is reluctant to accept the delay involved in appointing another DAB, the Party is entitled to refer the dispute to the same DAB. If the other Party is then reluctant to have the second dispute referred to the same DAB, this other Party cannot (under the Contract) prevent this reference to the same DAB. Unless this other Party is entitled by the applicable law to prevent this second reference, it must either seek the first Party's agreement or participate in the reference to the same DAB.

20.3 Failure to Agree Dispute Adjudication Board

CONS	P&DB	EPCT
<p>If any of the following conditions apply, namely:</p> <p>(a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date</p>	<p>If any of the following conditions apply, namely:</p> <p>(a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date</p>	<p>If any of the following conditions apply, namely:</p> <p>(a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date</p>

CONS

P&DB

EPCT

stated in the first paragraph of Sub-Clause 20.2, [*Appointment of the Dispute Adjudication Board*]

- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Appendix to Tender shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

stated in the first paragraph of Sub-Clause 20.2, [*Appointment of the Dispute Adjudication Board*]

- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Appendix to Tender shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

stated in the first paragraph of Sub-Clause 20.2, [*Appointment of the Dispute Adjudication Board*]

- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

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. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

OB 20.3

DAB members must be selected carefully, because:

- the Parties empower the DAB to reach decisions with which they undertake to comply, and
- a DAB member cannot ordinarily be removed except with the agreement of both Parties.

Unless the Employer and the Contractor (including all members of a joint venture) are from the same country, it is usually preferable for each member of the DAB to

be of a different nationality to each other, and not of the same nationality as the Employer, the Contractor, or any member of a joint venture Party.

The members of the DAB may be selected by personal recommendation, or from published lists, or both. Various organisations maintain list of persons who are considered to have the necessary qualities required for the role of DAB member. During the year 2000, FIDIC commenced its preparation of a list of dispute adjudicators, and its provision of dispute adjudication training and assessment workshops. Parties must not request FIDIC's advice on a Party's appointment,

but may consult the list directly.

Sub-Clause 20.3 provides for the possibility that agreement on a person may prove to be impossible. Disagreement is regrettable, because the DAB procedures rely upon the Parties' confidence in agreed individuals serving on the DAB. Although a Party may have less confidence in an individual selected by the appointing entity or official named in the Contract, it would be unfair for a Party to prevent a DAB being appointed by withholding approval unreasonably, contrary to Sub-Clause 1.3.

FIDIC is prepared to perform the role of appointing entity under Sub-Clause 20.3, if the Contract (i) defines English as the language for communications and (ii) defines this appointing entity as "the President of FIDIC or a person appointed by the President". Anticipating this possibility, Sub-Clause 1.1.2.10 defines "FIDIC" for avoidance of doubt. FIDIC considers the official and authentic texts of the Books to be the versions in the English language, as stated in the Forewords. If the language for communications is other than English, FIDIC may be able to suggest an appointing entity.

Any request for FIDIC to appoint a member of a DAB must be submitted by a Party to the Secretariat together with the appropriate fee, details of which may be obtained from FIDIC or its website. The request should be sent direct to FIDIC and must include:

- (a) a letter which details the extent to which the DAB members have been agreed, describes the relevant failure and request in the terms of Sub-Clause 20.3, and confirms when and how a copy of this submission to FIDIC was sent to the other Party;
- (b) a copy of the Letter of Tender (including Appendix to Tender; if any) and of the Conditions of Contract, excluding any documents incorporated by reference;
- (c) a copy of any other contractual document necessary to evidence FIDIC's role as appointing entity, and to evidence the names, addresses and other contact

details of the Parties, including current addresses for communications;

- (d) a brief description of the Works, stating the Base Date and Commencement Date; and
- (e) for an ad-hoc DAB: a brief description of the dispute(s) for which notice(s) has/have been given of intention to refer to a DAB, and a copy of such notice(s).

FIDIC will then advise both Parties of its appointee's contact details, unless the request also included unreasonable constraints. FIDIC cannot accept unreasonable constraints being imposed on its appointments. Parties must not, in their requests, specify the DAB's fees and thereby require FIDIC to appoint a member who will accept such fees.

Under the penultimate sentence of Sub-Clause 20.3, the appointment shall be final and conclusive. The Parties are therefore required to enter into a Dispute Adjudication Agreement with the appointee, in accordance with the fifth and subsequent paragraphs of Sub-Clause 20.2. This requirement should not be abused by the appointee or a Party, for example by attempting to insist upon unreasonable terms, such as excessive or inadequate fees. If (but only if) FIDIC considers that its appointee has attempted to insist upon unreasonable terms, FIDIC would be prepared to reappoint without payment of a further appointment fee. FIDIC will not make any other appointment under Sub-Clause 20.3, unless and until FIDIC receives a request together with a further fee. If a Party demonstrates an intention to insist upon terms which most potential members would consider unreasonable, FIDIC may be unable to make any appointment.

FIDIC does not administer adjudication, other than to nominate adjudicators if this authority has been delegated under a FIDIC Contract. Whilst FIDIC has used great care in preparing its list of dispute adjudicators, FIDIC does not guarantee the suitability or capability of any person on its list, and does not guarantee the accuracy of the information contained in its list. FIDIC shall have no responsibility or liability from the use of any person on its list.

20.4 Obtaining Dispute Adjudication Board's Decision

No matter can be referred to the DAB unless it is in dispute, but no formal notice of dispute is required. Typically, a claim will have been notified and detailed under Sub-Clause 2.5 or 20.1, as appropriate, followed by consultation discussions under Sub-Clause 3.5 in an endeavour to reach agreement. Up to this stage, discussions will be proceeding and the matter should not yet have become a "dispute", so it cannot be referred to the DAB. If a Party refers a matter to the DAB and the other Party asserts that the matter has not yet developed into a dispute, the DAB must consider whether a dispute has actually arisen. If agreement is not achieved, under Sub-Clause 3.5, a fair determination is to be made. In practice, it may be appropriate for interim determinations to be made under Sub-Clause 3.5, whilst consultation discussions continue, and for the final determination on a claim to be made when discussions have been concluded. The matter may be said to have developed into a dispute: (i) after rejection of a final determination, (ii) when discussions have been discontinued without agreement on the matter, (iii) when a Party declines to participate in discussions or to reach agreement under Sub-Clause 3.5, or (iv) when so little progress is being achieved during protracted discussions that it has become clear that agreement is unlikely to be achieved.

The written reference, which is the detailed referral submission by one Party ("the claimant") to the DAB for its decision, should describe the situation and set out

the principles of the matter in dispute, including what the claimant wishes the DAB's decision to be. Although the written reference should refer (and respond) to any disputed determination under Sub-Clause 3.5, a dispute may (as described above) arise before any such determination has been made. A copy of this written reference must be passed by the claimant to the other Party ("the respondent") and under CONS or P&DB to the Engineer.

Sub-Clause 20.4, the Appendix "General Conditions of Dispute Adjudication Agreement", and its annexed Procedural Rules are different for each Book:

- CONS' provisions relate to a full-term DAB of one or three persons who would have been appointed (and would probably have visited the Site) before the dispute arose, and whose appointment would be expected to continue after the DAB has given its decision on the dispute.
- P&DB's and EPCT's provisions relate to an ad-hoc DAB of one or three persons who would only have been appointed when a dispute arose, and whose appointment would be expected to terminate when the DAB has given its decision on the dispute; unless other disputes would have been referred to the DAB by that time, in which event their appointment would terminate when the DAB had also given decisions on those other disputes.

CONS	P&DB	EPCT
<p>If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, either Party may refer the dispute in writing to the DAB for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this Sub-Clause.</p> <p>For a DAB of three persons, the DAB shall be deemed to have received such reference on the</p>	<p>If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, then after a DAB has been appointed pursuant to Sub-Clauses 20.2 [<i>Appointment of the DAB</i>] and 20.3 [<i>Failure to Agree DAB</i>] either Party may refer the dispute in writing to the DAB for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this Sub-Clause.</p> <p>For a DAB of three persons, the DAB shall be deemed to have received such reference on the</p>	<p>If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Employer, then after a DAB has been appointed pursuant to Sub-Clauses 20.2 [<i>Appointment of the DAB</i>] and 20.3 [<i>Failure to Agree DAB</i>], either Party may refer the dispute in writing to the DAB for its decision, with a copy to the other Party. Such reference shall state that it is given under this Sub-Clause.</p> <p>For a DAB of three persons, the DAB shall be deemed to have received such reference on the</p>

date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all such additional information, further access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all information, access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or the advance payment referred to in Clause 6 of the Appendix - General Conditions of Dispute Adjudication Agreement, whichever date is later, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. However, if neither of the Parties has paid in full the invoices submitted by each member pursuant to Clause 6 of the Appendix, the DAB shall not be obliged to give its decision until such invoices have been paid in full. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference or such payment, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all information, access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or the advance payment referred to in Clause 6 of the Appendix - General Conditions of Dispute Adjudication Agreement, whichever date is later, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. However, if neither of the Parties has paid in full the invoices submitted by each member pursuant to Clause 6 of the Appendix, the DAB shall not be obliged to give its decision until such invoices have been paid in full. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference or such payment, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

CONS

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [*Failure to Comply with Dispute Adjudication Board's Decision*] and Sub-Clause 20.8 [*Expiry of Dispute Adjudication Board's Appointment*], 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

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [*Failure to Comply with Dispute Adjudication Board's Decision*] and Sub-Clause 20.8 [*Expiry of Dispute Adjudication Board's Appointment*], 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.

P&DB

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [*Failure to Comply with Dispute Adjudication Board's Decision*] and Sub-Clause 20.8 [*Expiry of Dispute Adjudication Board's Appointment*], 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.

EPCT

RB 67.1; YB 2.7, 28.6 & 50.1; OB 20.4

Having received the claimant's written reference, the DAB is required to follow the Procedural Rules. The penultimate such Rule empowers the DAB to "establish the procedure to be applied in deciding a dispute". See the commentary hereafter on the Procedural Rules.

After following the required procedure, which may (or may not) include a formal hearing, the DAB is required to give its decision:

- within 84 days after receiving the original reference from the claimant, or
- under P&DB or EPCT, within 84 days after receiving the 25% advance payment, or
- within "such other period as may be proposed by the DAB and approved by both Parties". Under Sub-Clause 1.3, approvals must not be unreasonably withheld or delayed.

For complex matters, the DAB may thus propose to issue decisions on the dispute in stages, rather than issuing one decision dealing with all aspects of one dispute: under Sub-Clause 1.2(b), singular words also include the plural. Under CONS for example, if the Contractor had accelerated work in order to overcome part of the

delay attributable to the matters mentioned in Sub-Clause 4.12 and to those in Sub-Clause 8.6, the DAB might propose to issue three decisions, namely on the extent of Unforeseeable physical conditions, on the consequential entitlement to extension of time, and on the additional payment due to the Contractor.

The DAB's decision "shall be reasoned and shall state that it is given under this Sub-Clause." The DAB's reasons should set out the matter in dispute, the DAB's opinions on the principles and the basis for the decision. Reasons are an essential part of the decision: properly written, they may persuade both Parties (particularly the losing Party) that the DAB has fully studied all relevant matters and reached a similar conclusion as that which might be expected of arbitrator(s). The better and more convincing the reasons, the greater is the likelihood of acceptance by the Parties and of the consequential avoidance of arbitration. Such acceptance is even more likely if, as sometimes happens, the Parties were both previously unaware of the strength of certain aspects of the winning Party's case.

Under the penultimate paragraph of Sub-Clause 20.6, the DAB's decision shall be admissible in evidence in arbitration. In that event, the arbitrator(s) may regard a well-reasoned decision as very persuasive, especially if it was given by a DAB with

direct knowledge of how the Party was affected by the relevant event or circumstance.

The role of any appointed expert(s) is to provide the DAB with expert opinion(s), and not to join the DAB in making its decision.

Under the fourth paragraph of Sub-Clause 20.4, both Parties are required to give effect to the DAB's decision unless and until it shall be revised in an amicable settlement or an arbitral award. In other words, the Parties empower the DAB to reach decisions with which they undertake to comply, irrespective of dissatisfaction.

If a Party eventually decides to reject the DAB's decision, the Party must give a formal "notice of dissatisfaction" within 28 days. The notice establishes the notifying Party's right to commence arbitration at any time after a further 56 days. No period within which arbitration must be commenced is specified in the Books, and the claimant may prefer to defer pursuing the claim whilst attempting to resolve the final account. Unless a notice of dissatisfaction is given within 28 days of receiving the decision, it becomes final as well as binding, and may be enforceable by due legal process or under Sub-Clause 20.7.

20.5 Amicable Settlement

CONS	P&DB	EPCT
Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.	Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.	Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

RB 67.2; OB 20.5

During the first 56 days after the notice of dissatisfaction has been issued, and by agreement thereafter, the Parties should attempt amicable settlement. No method is prescribed in the Sub-Clause, in order that the Parties have the greatest flexibility in the choice of procedure. Alternatives include direct negotiation, conciliation, mediation, or other forms of alternative dispute resolution. A formal dispute board is probably inappropriate, being too similar to the DAB.

The DAB should not become involved in amicable settlement procedures, whether before a dispute arises or after a Party has notified dissatisfaction with the DAB's decision. As noted earlier, the DAB may help to avoid disputes by giving its opinion on a potential dispute. However, becoming involved in negotiations at this early stage, or the possibility of being involved in negotiations at a later stage, may prejudice a DAB's ability to make fair and impartial decisions. Assisting

negotiations may, for example, involve receiving confidential information from one Party which it does not want to reveal to the other Party.

During the year 2000, FIDIC commenced its preparation of a list of dispute adjudicators, many of whom may also be considered suitable to act as mediators. FIDIC will not nominate mediator(s), and does not have the facilities to administer or support amicable settlement in any way.

Although the first sentence of the Sub-Clause imposes an obligation to attempt amicable settlement, the second sentence specifies that, if a Party fails to make any attempt, the other Party cannot insist on it. This apparent contradiction is unavoidable, because of the impossibility of providing any meaningful method of imposing a requirement for the Parties to reach a consensual agreement of their differences.

20.6 Arbitration

CONS	P&DB	EPCT
<p>Unless settled amicably, any dispute in respect of which the DAB's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties:</p> <ul style="list-style-type: none"> (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce, (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [<i>Law and Language</i>]. <p>The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DAB, relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.</p> <p>Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.</p> <p>Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DAB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p>	<p>Unless settled amicably, any dispute in respect of which the DAB's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties:</p> <ul style="list-style-type: none"> (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce, (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [<i>Law and Language</i>]. <p>The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DAB, relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.</p> <p>Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.</p> <p>Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DAB shall not be altered by reason of any arbitration being conducted during the progress of the Works</p>	<p>Unless settled amicably, any dispute in respect of which the DAB's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties:</p> <ul style="list-style-type: none"> (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce, (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [<i>Law and Language</i>]. <p>The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of (or on behalf of) the Employer, and any decision of the DAB, relevant to the dispute.</p> <p>Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.</p> <p>Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties and the DAB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p>

RB 67.3; YB 50, 51.2 & 51.3; OB 20.6

Compared to litigation, arbitration is a private procedure in which a sole arbitrator, or panel of three arbitrators, will decide the dispute and render an award which should be enforceable by due legal process. The 1958 New York "Convention on the Recognition and Enforcement of Foreign Arbitral Awards" makes enforcement of the award easier in the many countries which have ratified this Convention, particularly if the award has been certified by a recognised arbitral institution: for example, the International Chamber of Commerce ("ICC", 38 Cours Albert 1er, 75008 Paris, France).

Arbitration may be administered by an arbitral institution, many of which (including ICC) have their own rules, but such administration is not essential. As an alternative to the rules published by arbitral institutions, arbitration may be conducted under the arbitration rules issued by UNCITRAL, the United Nations Commission on International Trade Law. Arbitrations under UNCITRAL rules may be administered by the ICC or another arbitral institution; or they may be ad-hoc, i.e., not administered except by the arbitrators. In either case, the arbitration may be subject to the degree of court supervision prescribed by law. If ad-hoc non-administered arbitration is intended, the Contract should provide a workable mechanism for nominating the arbitrator(s) if the Parties cannot agree on the appointment, unless the applicable law provides a satisfactory mechanism.

Unless the provisions of sub-paragraphs (a), (b) and (c) apply, the Particular Conditions must specify arbitration rules and (unless prescribed in the rules) the entity which will nominate the arbitrator(s) and may also administer the arbitration.

Sub-paragraphs (a) to (c) specify settlement by three arbitrators under the Rules of Arbitration of the ICC, which would nominate them and administer the arbitration. However, even if the Particular Conditions do not specify other arbitral arrangements, the Parties may agree otherwise.

FIDIC will not nominate arbitrators, and does not have the facilities to administer or support arbitration in any way.

Under the penultimate paragraph, the DAB's decision shall be admissible in evidence in the arbitration. The arbitrator(s) may regard a well-reasoned decision as very persuasive, especially if it was given by a DAB with direct knowledge of how the Party was affected by the relevant event or circumstance.

Sub-Clause 20.6 does not provide for multi-party arbitration, to deal with the possibility of similar disputes between Employer-Contractor and Contractor-Subcontractor. If multi-party arbitration is to be anticipated in the Contract, it is advisable for the Contract to specify suitable rules, which are acceptable to the Employer, Contractor and Subcontractor.

20.7 Failure to Comply with Dispute Adjudication Board's Decision

CONS	P&DB	EPCT
<p>In the event that:</p> <p>a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>],</p> <p>(b) the DAB's related decision (if any) has become final and binding, and</p> <p>(c) a Party fails to comply with this decision,</p> <p>then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [<i>Arbitration</i>]. Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication</i></p>	<p>In the event that:</p> <p>a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>],</p> <p>(b) the DAB's related decision (if any) has become final and binding, and</p> <p>(c) a Party fails to comply with this decision,</p> <p>then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [<i>Arbitration</i>]. Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication</i></p>	<p>In the event that:</p> <p>a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication Board's Decision</i>],</p> <p>(b) the DAB's related decision (if any) has become final and binding, and</p> <p>(c) a Party fails to comply with this decision,</p> <p>then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [<i>Arbitration</i>]. Sub-Clause 20.4 [<i>Obtaining Dispute Adjudication</i></p>

CONS

P&DB

EPCT

Board's Decision] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply to this reference.

Board's Decision] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply to this reference.

Board's Decision] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply to this reference.

RB 67.4; OB 20.7

If the DAB's decision has become final as well as binding, both Parties must give effect to it. If either Party fails to do so, the other Party may refer this failure to arbitration, without having to request a further DAB decision or to attempt

amicable settlement again. Unless allowed by law, neither Party can challenge the DAB's decision after it has become final and binding under the Contract

20.8 Expiry of Dispute Adjudication Board's Appointment

CONS

P&DB

EPCT

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB's appointment or otherwise:

- (a) Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [*Arbitration*].

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB's appointment or otherwise:

- (a) Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [*Arbitration*].

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB's appointment or otherwise:

- (a) Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [*Arbitration*].

OB 20.8

There may be "no DAB in place" because of a Party's intransigence (e.g., in respect of the first paragraph of P&DB/EPCT 20.2), or because the DAB's appointment had expired in accordance with the last paragraph of Sub-Clause 20.2. If a dispute arises thereafter, either Party can initiate arbitration immediately (subject to the first paragraph of P&DB/EPCT 20.2), without having to reconvene a DAB for a decision and without attempting amicable settlement. However, the claimant should not disregard the possibility of settling the dispute amicably.

Under P&DB or EPCT, the first paragraph of Sub-Clause 20.2 requires a DAB to be appointed within 28 days after a Party gives notice of intention to refer a dispute to a DAB, and Sub-Clause 20.3 should resolve any failure to agree the membership of the DAB. The Parties should thus comply with Sub-Clauses 20.2 and 20.3 before invoking Sub-Clause 20.8. If one Party prevents a DAB becoming "in place", it would be in breach of contract. Sub-Clause 20.8 then provides a solution for the other Party, which is entitled to submit all disputes (and this breach) directly to arbitration.

Appendix General Conditions of Dispute Adjudication Agreement

The fifth paragraph of Sub-Clause 20.2 specifies that, for the member(s) of the DAB:

“The agreement between the Parties and either the sole member (“adjudicator”) or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.”

Each Dispute Adjudication Agreement is a tripartite agreement between the Employer, the Contractor, and an individual person. It should state that its conditions comprise these General Conditions of Dispute Adjudication Agreement, and may add any particular conditions, all as shown in the example form which is included at the end of each Book.

These General Conditions of Dispute Adjudication Agreement and their annexed

Procedural Rules (which avoid the ambiguous use of the word “Parties”) are different for each Book:

- CONS' provisions relate to a full-term DAB of one or three persons who are appointed (and may visit the Site) before any disputes arise, and whose appointment is expected to continue after the DAB has given its decision on a dispute.
- P&DB's and EPCT's provisions relate to an ad-hoc DAB of one or three persons who were appointed when a dispute arose, and whose appointment is expected to terminate when the DAB has given its decision on the dispute; unless other disputes have been referred to the DAB by that time, in which event their appointment would terminate when the DAB has also given decisions on those other disputes.

See the above commentary, in this Guide, on Sub-Clauses 20.2 to 20.4.

1 Definitions

	CONS	P&DB	EPCT
Each "Dispute Adjudication Agreement" is a tripartite agreement by and between:	Each "Dispute Adjudication Agreement" is a tripartite agreement by and between:	Each "Dispute Adjudication Agreement" is a tripartite agreement by and between:	Each "Dispute Adjudication Agreement" is a tripartite agreement by and between:
(a) the "Employer";	(a) the "Employer";	(a) the "Employer";	(a) the "Employer";
(b) the "Contractor"; and	(b) the "Contractor"; and	(b) the "Contractor"; and	(b) the "Contractor"; and
(c) the "Member" who is defined in the Dispute Adjudication Agreement as being:	(c) the "Member" who is defined in the Dispute Adjudication Agreement as being:	(c) the "Member" who is defined in the Dispute Adjudication Agreement as being:	(c) the "Member" who is defined in the Dispute Adjudication Agreement as being:
(i) the sole member of the "DAB" (or "adjudicator") and, where this is the case, all references to the "Other Members" do not apply,	(i) the sole member of the "DAB" (or "adjudicator") and, where this is the case, all references to the "Other Members" do not apply,	(i) the sole member of the "DAB" (or "adjudicator") and, where this is the case, all references to the "Other Members" do not apply,	(i) the sole member of the "DAB" (or "adjudicator") and, where this is the case, all references to the "Other Members" do not apply,
or	or	or	or
(ii) one of the three persons who are jointly called the "DAB" (or "dispute adjudication board") and, where this is the case, the	(ii) one of the three persons who are jointly called the "DAB" (or "dispute adjudication board") and, where this is the case, the	(ii) one of the three persons who are jointly called the "DAB" (or "dispute adjudication board") and, where this is the case, the	(ii) one of the three persons who are jointly called the "DAB" (or "dispute adjudication board") and, where this is the case, the

	CONS	P&DB	EPCT
	other two persons are called the "Other Members".	other two persons are called the "Other Members".	other two persons are called the "Other Members".
The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.	The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.	The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.	The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

Each Dispute Adjudication Agreement must therefore:

- define any words and expressions which are not to have the meanings assigned to them in the Contract;

- state whether the Member is a sole adjudicator or one of three Members, and (if one of three) if he/she is to act as chairman.

See the example form of Dispute Adjudication Agreement at the end of each Book.

2 General Provisions

	CONS	P&DB	EPCT
Unless otherwise stated in the Dispute Adjudication Agreement, it shall take effect on the latest of the following dates:	The Dispute Adjudication Agreement shall take effect when the Employer, the Contractor and each of the Members (or Member) have respectively each signed a dispute adjudication agreement.	The Dispute Adjudication Agreement shall take effect when the Employer, the Contractor and each of the Members (or Member) have respectively each signed a dispute adjudication agreement.	The Dispute Adjudication Agreement shall take effect when the Employer, the Contractor and each of the Members (or Member) have respectively each signed a dispute adjudication agreement.
(a) the Commencement Date defined in the Contract,			
(b) when the Employer, the Contractor and the Member have each signed the Dispute Adjudication Agreement, or			
(c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute adjudication agreement.			
When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall	When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall	When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall	When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall

CONS

each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Adjudication Agreement shall terminate upon the expiry of this period.

No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the parties to it and of the Other Members (if any).

P&DB

each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.

This employment of the Member is a personal appointment. No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the parties to it and of the Other Members (if any).

EPCT

each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.

This employment of the Member is a personal appointment. No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the parties to it and of the Other Members (if any).

CONS' provisions relate to a full-term DAB which is typically appointed at an early stage, with the possibility that a Dispute Adjudication Agreement may even be signed before the Contract is signed. CONS provisions allow for this possibility, stating that they do not take effect before the Commencement Date. Each Member's appointment is personal and is expected to continue until the discharge referred to in Sub-Clause 14.12 becomes effective, so he/she is stated to be entitled to resign by giving not less than ten weeks' notice.

P&DB's and EPCT's provisions relate to an ad-hoc DAB appointed when a dispute arises, so they take effect whenever all such Agreements for the DAB have been signed. The personal appointment is expected to terminate as soon as the DAB has given its decision on the dispute, unless other disputes have been referred to the DAB by that time, so the Member is not stated as having entitlement to resign. The Member may nevertheless resign in the circumstances described in the last paragraph of Clause 6, and the applicable law may entitle resignation in other circumstances.

3 Warranties

CONS

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with

P&DB

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with

EPCT

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Employer's Representative. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which

CONS	P&DB	EPCT
his/her warranty and agreement of impartiality and independence.	his/her warranty and agreement of impartiality and independence.	might appear inconsistent with his/her warranty and agreement of impartiality and independence.
When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:	When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:	When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:
(a) experienced in the work which the Contractor is to carry out under the Contract,	(a) experienced in the work which the Contractor is to carry out under the Contract,	(a) experienced in the work which the Contractor is to carry out under the Contract,
(b) experienced in the interpretation of contract documentation, and	(b) experienced in the interpretation of contract documentation, and	(b) experienced in the interpretation of contract documentation, and
(c) fluent in the language for communications defined in the Contract.	(c) fluent in the language for communications defined in the Contract.	(c) fluent in the the language for communications defined in the Contract.

Although two Members of a three-person DAB are selected by one Party, every Member enters into an agreement with both Parties, and owes no allegiance to any one Party. A Member must not act as advocate for, or as representative of, the Party which nominated him/her. See the commentary on Sub-Clause 20.2.

In order to obtain reliable representations from the Member when selecting each such person, the Parties need to ensure that he/she is informed of:

- the relevant parties (Employer, Contractor, and Engineer or Employer's Representative),

- (a) the work which the Contractor is to carry out under the Contract,
- (b) the New Book which is incorporated into the contract documentation, and
- (c) the language(s) used in the contract documentation and communications.

The Parties need to ensure that he/she is informed of all aspects which are relevant to his/her disclosures under sub-paragraphs (a), (b) and (c) of Clause 4.

4 General Obligations of the Member

CONS	P&DB	EPCT
The Member shall:	The Member shall:	The Member shall:
(a) have no interest financial or otherwise in the Employer, the Contractor or the Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;	(a) have no interest financial or otherwise in the Employer, the Contractor or the Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;	(a) have no interest financial or otherwise in the Employer or the Contractor, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;

CONS

P&DB

EPCT

- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a

- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a

- (b) not previously have been employed as a consultant or otherwise by the Employer or the Contractor, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer or the Contractor, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer or the Contractor, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer or the Contractor regarding employment by any of them, whether as a consultant or

	CONS	P&DB	EPCT
	consultant or otherwise, after ceasing to act under the Dispute Adjudication Agreement;	consultant or otherwise, after ceasing to act under the Dispute Adjudication Agreement;	otherwise, after ceasing to act under the Dispute Adjudication Agreement;
(h)	ensure his/her availability for all site visits and hearings as are necessary;	(h) ensure his/her availability for any site visit and hearings as are necessary; and	(h) ensure his/her availability for any site visit and hearings as are necessary; and
(i)	become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;		
(j)	treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and	(i) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any).	(i) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any).
(k)	be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).		

The Member should always maintain his/her impartiality and independence, and inform the Other Members and the Parties whenever any matter arises which could cause the Member's impartiality or independence to be called into question. Although two Members of a three-person DAB are selected by one Party, every Member enters into an agreement with both Parties, and owes no allegiance to any one Party.

Sub-paragraph (e) requires the Member to comply with the Procedural Rules, which are annexed to the Appendix but may be amended in the Dispute Adjudication Agreement.

CONS' provisions relate to a full-term DAB which visits the Site on a regular basis, so sub-paragraph (i) requires the Member to keep him/her-self informed on

progress of the Works. Procedural Rule 2 describes the purpose of site visits as enabling the DAB to be acquainted with the progress of the Works and of any actual or potential problems or claims. CONS' sub-paragraph (k) relates to the possibility of resolving potential disputes: see the commentary on the seventh paragraph of Sub-Clause 20.2. Although sub-paragraph (k) allows a Member of a three-person DAB to give his/her own advice or opinions, albeit with the Other Members' agreement, the Other Members should participate in the giving of such advice or opinions. If advice or opinions are given, they must be given to both Parties.

As stated in sub-paragraph (f) of Clause 4 and in the first paragraph of Clause 5, a Party should not be given, and not request, private advice or opinions.

5 General Obligations of the Employer and the Contractor

As noted in the previous comment, neither Party may request private advice or opinions

CONS	P&DB	EPCT
<p>The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any). The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.</p>	<p>The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any). The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.</p>	<p>The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any). The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.</p>
<p>The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):</p>	<p>The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):</p>	<p>The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):</p>
<ul style="list-style-type: none"> (a) be appointed as an arbitrator in any arbitration under the Contract; (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith. 	<ul style="list-style-type: none"> (a) be appointed as an arbitrator in any arbitration under the Contract; (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith. 	<ul style="list-style-type: none"> (a) be appointed as an arbitrator in any arbitration under the Contract; (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.
<p>The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless</p>	<p>The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless</p>	<p>The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless</p>

CONS

against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DAB under Sub-Clause 20.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

P&DB

against and from claims from which he is relieved from liability under the preceding paragraph.

EPCT

against and from claims from which he is relieved from liability under the preceding paragraph.

Unless the Parties agree otherwise, no Member should participate in a future arbitration, either as arbitrator or as witness.

Under the penultimate paragraph of Sub-Clause 20.6, the DAB's decision shall be admissible in evidence in arbitration. Arbitrator(s) may regard a well-reasoned decision as persuasive, especially if it was given by a DAB with direct knowledge of how a Party was affected by the event or circumstance relevant to the dispute.

The Parties also undertake that the Member shall not be liable for any act or omission, unless it is shown to have been in bad faith. For example, if the Member failed in bad faith to comply with Clause 4 and this failure rendered the DAB's decision void or ineffective, the Member could be liable under the penultimate clause (CONS 8 or P&DB/EPCT 7): "Default of the Member".

6 Payment

Each Member is an individual person who may be reluctant (or have insufficient resources) to incur much cost without prior payment. The last paragraph of CONS 5 entitles the Member of the full-term DAB to "appropriate security" for expenses from the claimant; and this Clause entitles him/her to payment of retainer fees and airfare expenses in advance.

Under P&DB or EPCT, this Clause entitles the Member of the ad-hoc DAB to an advance payment of (a) 25% of the estimated total amount of daily fees and (b) the estimated total expenses; and the ad-hoc DAB "shall not be obliged to render its decision until invoices for all daily fees and expenses of each Member ... shall have been paid in full."

Monthly retainer fees are usually inappropriate for ad-hoc DABs, whose appointment is expected to terminate when the DAB has given its decision on the dispute.

CONS' provisions relate to a full-term DAB, whose Member(s) typically require/s monthly retainer fees as specified in sub-paragraph (a). It specifies the items covered by the monthly retainer fees paid to the Member, including keeping him/her-self informed on progress of the Works, and being available on 28 days' notice for site visits and hearings. The latter period should not be regarded as excessive, because a Member who asserts availability at less notice cannot have (and may be unsuitable for) any other commitments: on other dispute boards, for example. Retainer fees do not cover the time spent by the Member on the following activities, for which payment is based upon the daily fee:

- Time spent reading submissions, either on the Site or (more likely) elsewhere, in preparation for a hearing in respect of dispute(s).
- Time spent travelling between the Member's home and the Site (or other

- location of a meeting with Other Members for the purpose of preparing decisions on disputes).
- Time spent on the Site, including time spent opining on potential disputes. Prior to any disagreement developing into a dispute, and typically before a final determination is made under Sub-Clause 3.5, the Parties may "jointly refer a matter to the DAB for it to give its opinion", as described in the above commentary on Sub-Clause 20.2.
- Time spent attending hearings in respect of disputes, either on the Site, or

- (less likely) elsewhere as agreed by the Parties and the Member(s).
- Time spent preparing decisions on disputes, either on the Site, or elsewhere. However, this Clause does not entitle the Member to payment of the daily fee for other time spent off Site, including time spent preparing opinions on potential disputes (as described in the above commentary on Sub-Clause 20.2) and time spent on other meetings of the DAB. The DAB should seek the Parties' agreement to payment for these other off-Site activities.

	CONS	P&DB	EPCT
<p>The Member shall be paid as follows, in the currency named in the Dispute Adjudication Agreement:</p> <ul style="list-style-type: none"> (a) a retainer fee per calendar month, which shall be considered as payment in full for: <ul style="list-style-type: none"> (i) being available on 28 days' notice for all site visits and hearings; (ii) becoming and remaining conversant with all project developments and maintaining relevant files; (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause. <p>The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Adjudication Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.</p> 	<p>The Member shall be paid as follows, in the currency named in the Dispute Adjudication Agreement:</p>	<p>The Member shall be paid as follows, in the currency named in the Dispute Adjudication Agreement:</p>	

CONS

P&DB

EPCT

With effect from the first day of the calendar month following the month in which Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by 50%. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Adjudication Agreement is otherwise terminated.

- (b) a daily fee which shall be considered as payment in full for:
 - (i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);
 - (ii) each working day on site visits, hearings or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses incurred in connection with the Member's duties, including the cost of telephone calls, courier charges, faxes and telexes, travel expenses, hotel and subsistence costs: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

- (a) a daily fee shall be considered as payment in full for:
 - (i) each working day spent reading submissions, attending hearings (if any), preparing decisions, or making site visits (if any); and
 - (ii) each day or part of a day up to maximum of two days travel time in each direction for the journey (if any) between the Member's home and site or another location of a meeting with Other Members (if any) and/or the Employer and the Contractor;
- (b) all reasonable expenses incurred in connection with the Member's duties, including the cost of secretarial services, telephone calls, courier charges, faxes and telexes, travel expenses, hotel and subsistence costs; a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (a) of this Clause; and
- (c) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

- (a) a daily fee shall be considered as payment in full for:
 - (i) each working day spent reading submissions, attending hearings (if any), preparing decisions, or making site visits (if any); and
 - (ii) each day or part of a day up to maximum of two days travel time in each direction for the journey (if any) between the Member's home and site or another location of a meeting with Other Members (if any) and/or the Employer and the Contractor;
- (b) all reasonable expenses incurred in connection with the Member's duties, including the cost of secretarial services, telephone calls, courier charges, faxes and telexes, travel expenses, hotel and subsistence costs; a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (a) of this Clause; and
- (c) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

CONS

The retainer and daily fees shall be as specified in the Dispute Adjudication Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Adjudication Agreement became effective.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the

P&DB

The daily fee shall be as specified in the Dispute Adjudication Agreement.

Immediately after the Dispute Adjudication Agreement takes effect, the Member shall, before engaging in any activities under the Dispute Adjudication Agreement, submit to the Contractor, with a copy to the Employer, an invoice for (a) an advance of twenty-five (25) percent of the estimated total amount of daily fees to which he/she will be entitled and (b) an advance equal to the estimated total expenses that he/she shall incur in connection with his/her duties. Payment of such invoice shall be made by the Contractor upon his receipt of the invoice. The Member shall not be obliged to engage in activities under the Dispute Adjudication Agreement until each of the Members has been paid in full for invoices submitted under this paragraph.

Thereafter the Member shall submit to the Contractor, with a copy to the Employer, invoices for the balance of his/her daily fees and expenses, less the amounts advanced. The DAB shall not be obliged to render its decision until invoices for all daily fees and expenses of each Member for making a decision shall have been paid in full.

Unless paid earlier in accordance with the above, the Contractor shall pay each of the Member's invoices in full within 28 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the

EPCT

The daily fee shall be as specified in the Dispute Adjudication Agreement.

Immediately after the Dispute Adjudication Agreement takes effect, the Member shall, before engaging in any activities under the Dispute Adjudication Agreement, submit to the Contractor, with a copy to the Employer, an invoice for (a) an advance of twenty-five (25) percent of the estimated total amount of daily fees to which he/she will be entitled and (b) an advance equal to the estimated total expenses that he/she shall incur in connection with his/her duties. Payment of such invoice shall be made by the Contractor upon his receipt of the invoice. The Member shall not be obliged to engage in activities under the Dispute Adjudication Agreement until each of the Members has been paid in full for invoices submitted under this paragraph.

Thereafter the Member shall submit to the Contractor, with a copy to the Employer, invoices for the balance of his/her daily fees and expenses, less the amounts advanced. The DAB shall not be obliged to render its decision until invoices for all daily fees and expenses of each Member for making a decision shall have been paid in full.

Unless paid earlier in accordance with the above, the Contractor shall pay each of the Member's invoices in full within 28 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the

CONS

Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

P&DB

Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 28 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice to the Employer and the Contractor. The notice shall take effect when received by them both. Any such notice shall be final and binding on the Employer, the Contractor and the Member.

EPCT

Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 28 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice to the Employer and the Contractor. The notice shall take effect when received by them both. Any such notice shall be final and binding on the Employer, the Contractor and the Member.

The fees, and the currencies in which they are to be paid, must be specified in the Dispute Adjudication Agreement. It is generally impractical to define appropriate fees for more than two years in advance, so the specified fees are only stated to be applicable for 24 months.

Although most correspondence from a three-person DAB is issued by the chairman, each Member submits his/her own invoices to the Contractor, with a copy to the Employer in order to expedite his agreement. If the Member is not paid in time, he/she is entitled to financing charges, and eventually to suspend his/her

services (without notice) and/or to resign.

Although financing charges are calculated at the rate specified in Sub-Clause 14.8, it may be inappropriate for the annual adjustment of Members' fees to be calculated by reference to Sub-Clause 13.8 or any other provision of the Contract. Typically, the escalation relevant to a Member's home country or payment currency will not be the same as the escalation relevant to the Contractor's Costs or payment currencies.

7 Termination (CONS only)

CONS

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Adjudication Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Adjudication Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Adjudication Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

CONS' provisions relate to a full-term DAB which is expected to continue until the discharge referred to in Sub-Clause 14.12 becomes effective. The Employer and Contractor may agree and terminate the Member's appointment at any time before the discharge becomes effective, but neither can terminate without the other's agreement.

Clause 2 entitles the Member to resign at any time, by giving not less than ten weeks' notice.

Clause 7 entitles the Member to resign if the Employer or the Contractor fails to comply with the Dispute Adjudication Agreement, in which case termination takes effect when they both receive the Member's notice.

8 Default of the Member

7 Default of the Member

CONS	P&DB	EPCT
If the Member fails to comply with any obligation under Clause 4, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.	If the Member fails to comply with any obligation under Clause 4, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.	If the Member fails to comply with any obligation under Clause 4, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.

The Member is held liable under this Clause if:

- he/she failed to comply with an obligation under Clause 4, and
- other than in respect of his/her own fees, the failure constituted "bad faith" in terms of Clause 5 and rendered proceedings and/or a decision by the DAB "void or ineffective".

Under Clause 5, the Member shall not be held liable for any act or omission, unless the Employer or the Contractor shows it to have been in bad faith.

In order for the Member to lose entitlement to fees, his/her failure must be of some substance. For example, being unfit to travel to the Site due to illness would not constitute a failure to comply with the obligation to "ensure his/her availability for any site visit and hearings as are necessary" under sub-paragraph (h) of Clause 4.

In order for the Member to reimburse the Employer and the Contractor for the DAB's fees and expenses, its decision and/or proceedings must be rendered "void or ineffective". A minor non-compliance with a procedural rule (under sub-paragraph (e) of Clause 4) would typically not invalidate a subsequent decision.

9 Disputes

8 Disputes

CONS	P&DB	EPCT
Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.	Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.	Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

Each Member is an individual person who may be reluctant (or have insufficient resources) to incur the costs of arbitration. He/she may prefer an alternative dispute resolution procedure.

Annex Procedural Rules

CONS' provisions relate to a full-term DAB which visits the Site on a regular basis: typically every three or four months, but the Parties may agree otherwise. Since the DAB should comprise experienced Member(s) whose services will be sought for other dispute adjudication boards, the timing of each visit is a matter on which

the Member(s) need to agree well in advance.

P&DB/EPCT's provisions relate to an ad-hoc DAB which only decides on dispute(s) existing at the time of its appointment, and does not visit the site regularly.

CONS

- 1 Unless otherwise agreed by the Employer and the Contractor, the DAB shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DAB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.
- 2 The timing of and agenda for each site visit shall be as agreed jointly by the DAB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DAB. The purpose of site visits is to enable the DAB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims.
- 3 Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DAB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

CONS

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EPCT

- 4 The Employer and the Contractor shall furnish to the DAB one copy of all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DAB and the Employer or the Contractor shall be copied to the other Party. If the DAB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
- 5 If any dispute is referred to the DAB in accordance with Sub-Clause 20.4 of the Conditions of Contract, the DAB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
 - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
- 6 The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

- 1 The Employer and the Contractor shall furnish to the DAB one copy of all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the matter in dispute. All communications between the DAB and the Employer or the Contractor shall be copied to the other Party. If the DAB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
- 2 The DAB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
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- 3 The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

- 7** Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DAB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
- 8** The Employer and the Contractor empower the DAB, among other things, to:
- (a) establish the procedure to be applied in deciding a dispute,
 - (b) decide upon the DAB's own jurisdiction, and as to the scope of any dispute referred to it,
 - (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
 - (d) take the initiative in ascertaining the facts and matters required for a decision,
 - (e) make use of its own specialist knowledge, if any,
 - (f) decide upon the payment of financing charges in accordance with the Contract,
 - (g) decide upon any provisional relief such as interim or conservatory measures, and

- 4** Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DAB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
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CONS

P&DB

EPCT

- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.
- 9** The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:
- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
- (i) either the Employer or the Contractor does not agree that they do so, or
- (ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.

- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.
- 6** The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:
- (a) it shall convene in private after a hearing, if any, in order to have discussions and prepare its decision;
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- (i) either the Employer or the Contractor does not agree that they do so, or
- (ii) the absent Member is the chairman and he/she instructs the other Member to not make a decision.

- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Employer, relevant to the dispute.
- 6** The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:
- (a) it shall convene in private after a hearing, if any, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible, the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
- (i) either the Employer or Contractor does not agree that they do so, or
- (ii) the absent Member is the chairman, and he/she instructs the other Members to not make a decision.

The provisions related to the procedures for a dispute commence at Rule 5 of CONS and Rule 2 of P&DB and EPCT:

- (a) the DAB is required to act fairly and impartially, and to give the Employer and the Contractor reasonable opportunity to present its own case and to respond to the other's case, subject to the time allowed (in Sub-Clause 20.4) for the DAB's decision;
- (b) the DAB is required to adopt suitable procedures, which the DAB is empowered (in later Rules) to establish, and which may not be those most appropriate for a typical dispute.

Each of these sub-paragraphs is subject to the period within which the DAB is allowed to give notice of its decision, as defined in Sub-Clause 20.4. However, it refers to the alternative of "such other period as may be proposed by the DAB and approved by both Parties". For example, the DAB may propose to issue decisions on a complex dispute in stages, rather than issuing one decision dealing with all aspects of the dispute. It might be unreasonable (and contrary to Sub-Clause 1.3), because of such complexity, for a Party to withhold approval.

Under the next few Rules, the DAB is given substantial procedural powers, and is in effect substantially responsible for establishing the adjudication process. Under Sub-Clause 20.4, the Employer and the Contractor empower the DAB to reach decisions with which they undertake to comply. The DAB must comprise Members who have the ability and experience to wield these powers wisely.

The first paragraph of Sub-Clause 20.4 states that the Employer or the Contractor (in the case of P&DB or EPCT, after the ad-hoc DAB has been appointed) "may refer the dispute in writing to the DAB for its decision, with copies to the other Party ...". Such reference constitutes the claimant's position paper and must include full details of the claimant's case, the various assertions and arguments on which it relies, and the detailed decision which it wishes the DAB to make. Overall, this position paper defines the matters which the claimant is referring to the DAB for its decision, and thus defines the scope of the dispute and the DAB's jurisdiction.

The respondent will then typically prepare its own position paper, which should include full details of the respondent's case, the various assertions and arguments on which it relies, and the detailed decision which it wishes the DAB to make. The DAB may need to impose a timetable for the submission of position paper(s), taking account of:

- the DAB's duty to give each Party "a reasonable opportunity of putting his

case and responding to the other's case",

- the DAB's need to study all the position papers before a hearing (if any), and
- "the time allowed (to the DAB after receiving the claimant's reference) to give notice of a decision and other relevant factors".

If the respondent's position paper includes matters which were not included in the claimant's position paper, the DAB may have to decide whether these matters:

- are not closely related to the claimant's case and should constitute a separate dispute, or
- are sufficiently related to the claimant's case for them to be included in the same dispute, in which case the claimant must be given full opportunity to respond.

The DAB is empowered "to establish the procedure to be applied in deciding a dispute", but must take account of the views of the Employer and the Contractor on the procedures they would each prefer, or may have agreed. The full procedure for a complex dispute could entail:

- (a) the claimant's position paper, which is the written reference under Sub-Clause 20.4,
- (b) the respondent's position paper,
- (c) the claimant's response paper, responding to (b), if appropriate
- (d) the respondent's response paper, responding to (c) (if any),
- (e) the formal hearing, if any.

Each of these papers is submitted to the DAB, with a copy to the other Party. Unless the dispute is sufficiently straightforward for the DAB to prepare its decision based upon documents only, a formal hearing may be convened after these submissions. In preparation for the hearing, the DAB's Members will need to spend time reading these submissions. This time will be included in the working days for which the Members are paid their daily fees.

If there is a hearing, it should be no more formal than necessary, although the DAB must control the proceedings. Before the hearing commences, the DAB may need to describe the procedure for the information (and agreement, if possible) of the claimant and respondent. For example, it may be beneficial for each Party to provide a written summary of the oral presentation immediately before giving it,

including print-outs of any visual display; and for agreed time (or other) constraints to be imposed on each Party's presentation.

The full procedure for a complex hearing could entail:

- (a) oral presentation by the claimant,
- (b) oral presentation by the respondent,
- (c) briefer oral response by the claimant,
- (d) briefer oral response by the respondent, and
- (e) DAB's questions to the claimant, the respondent and (under CONS or P&DB) the Engineer.

Under CONS or P&DB, an initial oral presentation by the Engineer might also be appropriate. In any event, the Engineer should be invited to be represented at the hearing by personnel who were involved in the administration of the Contract and who are able to answer the DAB's questions. However, the Engineer is not a party to the dispute, which is a disagreement between the Employer and the Contractor.

The DAB should encourage the disputing parties to maximise their reliance upon their respective position and response papers, and to avoid repeatedly reading extracts from these documents during the hearing. As noted above, a hearing may not be necessary for some disputes. If one is necessary, the oral responses, (c) and (d), may not be necessary.

The DAB should decide when to have brief recesses during a hearing for its own private deliberations, and whether it is really desirable for each day of the hearing to extend to the full working day. The DAB and the other participants need time to review their notes of previous presentations, and a three-person DAB also needs time for Members to exchange views. The claimant and respondent need time to plan future presentations, but should be discouraged from preparing additional documents in which the DAB may feel itself being buried.

Throughout the hearing, and particularly during the DAB's question time, the DAB must act fairly and impartially. If the DAB comprises three persons, they should decide whether they prefer to ask their questions individually or through the chairman. The other two Members should not be too reluctant to address questions individually and directly: not even to those representing the Party which nominated him/her. Each Member enters into an agreement with both the claimant and the respondent, and owes no particular allegiance to either of them.

A Member must not act as advocate for, or as representative of, the Party which nominated him/her, and such Party must not expect the Member to represent or favour it, either during the hearing or in the DAB's subsequent private discussions and deliberations.

After the submission of position papers, response papers (if any), and the hearing (if any), the DAB prepares its decision. In accordance with the final Procedural Rule, if the DAB comprises three persons, they "convene in private" and "endeavour to reach a unanimous decision". Each Member must be prepared to discuss matters constructively with the other Members and must not expect (or be expected) to make a decision in favour of one particular Party. A Member who always favours the Party which nominated him/her, and refuses to reach a unanimous decision against such Party, may run the risk of his/her actions being "shown to have been in bad faith" and of losing the immunity specified in subparagraph (c) of Clause 5.

If the three Members fail to reach a unanimous decision, it shall be made by the majority two Members, who may require the minority Member to prepare his/her own report. Although there is no necessity for the minority report to repeat much of the text contained in the majority decision, the majority Members may require the report to specify any aspects of the decision with which the minority Member agrees, and his/her detailed analysis of all other aspects, including the details of the decision which the minority Member would have made if he/she had been acting as sole Member (adjudicator).

The Procedural Rules make no mention of the consequences of a failure of a three-person DAB to reach a majority decision. If it cannot reach a majority decision, the DAB should notify the Parties of the extent to which the DAB is in agreement, and may also wish to notify the Parties of each Member's views on the matters on which they have failed to reach agreement. The Procedural Rules do not empower the chairman to make a decision alone, because such a decision should not be binding and may not even be persuasive.

The DAB then prepares its written decision on the dispute. Sub-Clause 20.4 commences by referring to the dispute having arisen in connection with, or out of, "the Contract or the execution of the Works". The reference to the DAB must therefore be construed as a request by the claimant, under a procedure agreed by both Parties when they entered into the Contract, for the DAB to apply the provisions of the Contract and the governing law to the matters in dispute. Unless the Parties agree otherwise, they have not empowered the DAB to disregard any provision of the Contract and make a decision on principles of fairness and equity

alone, for example. On the contrary, they have agreed (in the Contract) to give effect to the DAB's decision, indicating that it must comply with the Contract. The DAB's role is to settle disputes, and settlement will not have been achieved if a Party refers the dispute to arbitration. Such a referral is more likely if a Party doubts whether the DAB applied the provisions of the Contract and the governing law to the matters in dispute, and thus whether the DAB's decision complies with the Contract, because an arbitrators' award would have to do so.

Sub-Clause 20.4 requires the DAB to give its decision "within 84 days after receiving such reference, or within such other period as may be proposed by the DAB and approved by both Parties" and approvals must not be unreasonably withheld (Sub-Clause 1.3). For complex matters, the DAB may propose to the Parties that it issues decisions on the dispute in stages, rather than issuing one decision dealing with all aspects of one dispute: under Sub-Clause 1.2(b), singular words also include the plural. Under CONS for example, if the Contractor had accelerated work in order to overcome part of the delay attributable to the matters mentioned in Sub-Clause 4.12 and to those in Sub-Clause 8.6, the DAB might propose to issue three decisions, namely on the extent of Unforeseeable physical conditions, on the consequential entitlement to extension of time, and on the additional payment due to the Contractor.

The DAB's decision "shall be reasoned and shall state that it is given under this Sub-Clause." As with those of an arbitrator, the DAB's reasons should set out the matter in dispute, the DAB's opinions on the principles and the basis for the decision. Reasons are an essential part of the decision: properly written, they may persuade both Parties (particularly the losing Party) that the DAB has fully studied all relevant matters and reached a similar conclusion as that which might be

expected of an arbitrator(s). The better the reasons, the greater is the likelihood of acceptance by the Parties and avoidance of arbitration (particularly if, as sometimes happens, the Parties were both previously unaware of the strength of certain aspects of the winning Party's case). Under the penultimate paragraph of Sub-Clause 20.6, the DAB's decision shall be admissible in evidence in arbitration. Arbitrator(s) may regard a well-reasoned decision as very persuasive.

The role of any appointed expert(s) is to provide the DAB with expert opinion(s), and not to join the DAB in making its decision.

The Rules do not empower the DAB to amend its decision, and it would be inappropriate for the DAB to enter into any form of debate with the claimant or the respondent on the details of its decision. Essentially, the DAB will have made a decision with which the Employer and Contractor had undertaken to comply, unless and until it is revised by agreement or arbitration. If either of them is dissatisfied, it must comply but may give the required notice, entitling it to arbitrate after attempting amicable settlement.

However, it is possible that the DAB's decision may include an erroneous statement. In such a case, a Party may wish to bring the error to the DAB's attention. Although the DAB may decline to respond, because it is not empowered to amend its decision, it may consider it appropriate to issue a proposed amendment for the agreement of the Parties. Either Party may withhold agreement, but may not achieve much by so doing. In practice, the Parties may be prepared to agree that the DAB amend its decision, particularly if the amendment is beneficial in terms of settling the dispute and/or in avoiding unnecessary expense.

Glossary of Contract Terminology

This glossary lists words and phrases which are used in the fields of building, consultancy, engineering and associated activities. The descriptions are not intended to amplify or replace the definitions in a FIDIC contract, but are intended to indicate the overall principle involved. Capital Initial Letters are used to indicate words included elsewhere in the glossary.

Accepted Contract Amount	The amount which is offered by the Tenderer, and which is accepted by the Employer in the Letter of Acceptance, for providing the Works in accordance with the Contract.
Addendum to Tender Documents	A document issued to each Tenderer during the Tender Period, amending the Tender Documents which were previously issued to each Tenderer.
Adjudication	A procedure under which a dispute is referred to an Adjudicator, which may include presentation of evidence, and which concludes with the Adjudicator's decision in accordance with the Contract. Generally, the decision will be binding, unless and until it is revised in an amicable settlement, arbitration or litigation.
Adjudicator	A person to whom a dispute between the Parties is referred for Adjudication.
Advance Payment	The payment (if specified in the Contract) which the Employer makes to the Contractor soon after the Effective Date, in order to finance the Contractor's mobilisation and other early expenditures.
Alternative Dispute Resolution	Resolution/settlement of a dispute using an alternative procedure to that which may typically be envisaged, namely as an alternative to arbitration or litigation.
Amicable Settlement	Resolution/settlement of a dispute by direct negotiation or by any other method which both Parties consider they can pursue amicably.
Appendix to Tender	The pages which are appended to the Letter of Tender, and which define various matters referred to in the Conditions of Contract.
Arbitration	A procedure under which a dispute is referred to one or three Arbitrator(s), which includes the presentation of evidence, and which concludes with a binding award in accordance with the Contract. The procedure may be prescribed by law and/or by published rules of arbitration, and may be administered by an arbitral institution.
Arbitrator	A person to whom a dispute between the Parties is referred for Arbitration.
Base Date	The date which is a specified period (usually 28 days) prior to the latest date for submission of the Tender to the Employer.

Bid and Bidder	The Tender and the Tenderer: see below.
Bid-Build	The procurement procedure under which the Employer provides most (or all) of the design details. The Contractor provides the Permanent Works in accordance with the Employer's design, and carries out the design of the Temporary Works and (possibly) of particular parts of the Permanent Works as defined in the Contract.
Bill of Quantities	Under a Remeasurement Contract, the document which is issued by the Employer, and which is completed by the Tenderer and submitted with the Tender, as included in the Contract. This document contains, for each of the items of work, the physical quantity, unit rate and amount (or price) for the work. Each amount is the product of the quantity and the rate (in money per unit quantity).
Build-Operate-Train-Transfer (BOTT)	The procurement procedure under which the Concessionaire designs and provides completely equipped Works ready for operation, and then operates and maintains the Works during the Concession Period. The Works are then taken over by the project owner, whose operators will have previously been trained by the Concessionaire.
Build-Operate-Transfer (BOT)	The procurement procedure under which the Concessionaire designs and provides completely equipped Works ready for operation, and then operates and maintains the Works during the Concession Period. The Works are then taken over by the project owner.
Build-Own-Operate-Transfer (BOOT)	The procurement procedure under which the Concessionaire designs and provides completely equipped Works ready for operation, and then owns, operates and maintains the Works during the Concession Period. The Works then revert to the project owner.
Client	The party for whom the Consultant carries out the Services under a Consultancy Agreement.
Commencement Date	The calendar date, of which the Contractor is given notice, and which is the first day of the Time for Completion.
Concessionaire	Under BOT and similar procedures, the party whose Tender has been accepted, and who is responsible for providing the Works and for operation and maintenance during the Concession Period; and the legal successors in title to such party.
Concession Period	Under BOT and similar procedures, the period during which the Concessionaire operates and maintains the Works, and receives the monies which are typically intended to cover the capital costs of providing the Works and also the costs of operation and maintenance. These monies may be based on the outcome of operation (for example, power generated or water treated), or other charges in respect of the use of, or end-product produced by, the facilities.
Conciliation	A procedure under which a dispute is referred to a Conciliator, which may include presentation of evidence, and which may conclude with a binding agreement between the Parties. If there is no such agreement, the procedure is of no effect. The Conciliator may then be required to issue non-binding recommendations, which may take account of aspects other than those arising from the Contract.

Conciliator	A person to whom a dispute between the Parties is referred for Conciliation.
Conditions of Contract	The document which specifies the fundamental stipulations of the Contract, the Parties' overall obligations under the Contract, and the allocation and consequences of risks.
Consortium	A Joint Venture comprising two or more parties, each of which takes responsibility for a specific part of the obligations undertaken by the Joint Venture.
Consultancy Agreement	The services agreement under which the Consultant carries out the Services for the Client, who may (for example) be the Employer or a Design-Build Contractor.
Consultant	A consulting engineer or other professional, who may be a person, an engineering firm or a Consortium (or other Joint Venture) of such firms, and who carries out the Services for a Client under a Consultancy Agreement.
Contract or Contract Documents	The documents which together constitute the legally enforceable agreement between the Parties, and which are usually named in (and include) Conditions of Contract, Tender and Letter of Acceptance and/or Contract Agreement. A Bid-Build Contract will also include Specification, Drawings, Bill of Quantities and (possibly) other Schedules. A Design-Build Contract will also include Employer's Requirements and Proposal.
Contract Agreement	The formal agreement between the Parties which confirms or establishes the Contract.
Contract Price	The amount which is due and payable to the Contractor for providing the Works. Under a Remeasurement Contract, the Contract Price is determined from the actual physical quantities of the completed work.
Contractor	The Party whose Tender has been accepted by the Employer, and who is responsible for providing the Works; and the legal successors in title to such Party.
Contractor's Documents	The calculations, computer programs and other software, drawings, manuals, models and other documents of a similar nature which the Contractor is required to provide, as specified in the Contract.
Contractor's Equipment	The machinery, apparatus and other things (other than Temporary Works and Employer's Equipment, if any) which the Contractor requires in order to provide the Works. Contractor's Equipment does not include anything which is intended to form or forms part of the Permanent Works.
Contractor's Personnel	People whom the Contractor utilises on Site, including: the Contractor's staff, labour and other employees; the staff, labour and other employees of each Subcontractor; and any other people appointed by the Contractor to assist in the execution of the Works.
Contractor's Proposal	Under a Design-Build Contract, the Proposal submitted with the Tender, as included in the Contract, which includes preliminary and/or outline design(s) of the Works.
Cost	The expenditure properly incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but excluding profit.

Country	The country in which the Works are to be provided and to which Plant and Materials are to be delivered.
Defects Notification Period	The period specified in the Contract for notifying defects, calculated from the date on which the Works (or, possibly, a Section) are completed and taken over.
Design-Build	The procurement procedure under which the Contractor designs and provides the Works.
Design-Build-Finance-Operate (DBFO)	The procurement procedure under which the Concessionaire obtains finance, designs and provides completely equipped Works ready for operation, and then operates and maintains the Works during the Concession Period, receiving payment in respect of the outcome of operation (for example, power generated or water treated). The Works are then taken over by the project owner.
Dispute Adjudication Board or DAB	A panel of one or three person(s), to whom a dispute between the Parties is initially referred for Adjudication, which concludes with the Board's decision in accordance with the Contract. Generally, the decision will be binding, unless and until it is revised in an amicable settlement, arbitration or litigation.
Dispute Review Board (DRB)	A panel, usually of three people, to whom a dispute between the Parties is initially referred under a procedure which may include presentation of evidence and which generally concludes with the Board's non-binding recommendation for settlement of the dispute. The recommendation may become binding if neither Party gives the required notice.
Drawings	Under a Bid-Build Contract, the drawings of the Works as included in the Tender Dossier, and any additional and modified drawings issued by (or on behalf of) the Employer under the Contract.
Effective Date	The calendar date on which the Contract comes into full force and effect.
Employer	The Party who receives and accepts the Tender, who is responsible for providing the Site and paying the Contractor, and for whom the Works are provided by the Contractor; and the legal successors in title to such Party.
Employer's Equipment	The machinery and apparatus (if any) which the Employer is required to make available for the use of the Contractor, as specified in the Contract.
Employer's Personnel	People whom the Employer utilises on Site (other than Contractor's Personnel), who may include: the Employer's staff, labour and other employees; and the staff, labour and other employees of the Engineer or Employer's Representative.
Employer's Requirements	Under a Design-Build Contract, the document issued by the Employer to the Tenderer, as included in the Contract, and any additions and modifications to such requirements in accordance with the Contract. This document may specify the required scope, standard, design criteria and other requirements for the Works.
Engineer	A consulting engineer or other professional, whom the Contract requires the Employer to appoint, and who may be a person, an engineering firm or a Consortium (or other Joint Venture) of such firms.

Engineer, Procure & Construct contract (EPC)	The procurement procedure under which the Contractor or supplier designs and provides Works which are fully complete and ready for operation by the Employer. An EPC Contract may also require the Contractor to provide finance for the capital costs of providing the Works, and/or consumables for a specified period of operation and maintenance.
Final Statement	The statement submitted by the Contractor in order to receive final payment, as agreed.
Force Majeure	An exceptional event or circumstance which satisfies the criteria for Force Majeure stated in the Contract.
Foreign Currency	A currency, specified in the Contract as a currency in which the Contractor is due to be paid, other than the Local Currency.
Goods	Contractor's Equipment, Materials, Plant and Temporary Works, or any part of them as appropriate.
I C C	The International Chamber of Commerce, which is based at 38 Cours Albert 1er, 75008 Paris, France. See www.iccwbo.org
Instructions to Tenderers	The document which is issued to the Tenderer with the Tender Dossier, which contains details applicable to the Tender Period (for example, the arrangements for visiting the Site and for the receipt and opening of Tenders), and which should therefore not become part of the Contract.
Joint Venture	Two or more parties who, together, undertake a venture for profit.
Letter of Acceptance	The Employer's letter to the Tenderer, formally accepting the offer contained in the Tender.
Letter of Invitation	The Employer's letter to the Tenderer, or the published advertisement(s), containing the invitation to prepare and submit a Tender.
Letter of Tender	The Tenderer's letter to the Employer, formally offering to provide the Works.
Local Currency	The currency of the Country in which the Works are to be provided and to which Plant and Materials are to be delivered.
Lump Sum Contract	The form of Contract under which the Tenderer offers lump sum price(s) for providing the Works, thereby taking the risk that the physical quantities of the Works may differ from those which he calculated in order to finalise his Tender Sum.
Materials	Things of all kinds (other than Plant) which the Contractor is required to supply and incorporate into the Permanent Works, as specified in the Contract.
Mediation	A procedure under which a dispute is referred to a Mediator, which may include presentation of evidence, and which may conclude with a binding agreement between the Parties. If there is no such agreement, the procedure is of no effect. The Mediator may then be required to issue non-binding recommendations, which may take account of aspects other than those arising from the Contract.
Nominated Subcontractor	A Subcontractor whom the Contractor is required (by the Employer or by the terms of the Contract) to appoint, but for whom the Contractor retains responsibility; and the legal successors in title to such Subcontractor.

Open Tendering	The procurement procedure under which any person may obtain a Tender Dossier and submit a Tender for the Works, without Prequalification. However, Post-qualification may be required.
Party	One of the two parties who enter into a Contract with the other, and who typically are the Employer and the Contractor.
Payment Certificate	A certificate which is issued under the Contract, and which states the amount which the certifier considers that the Contractor is then due to be paid.
Performance Certificate	The certificate which is issued under the Contract when the specified certifier considers that the Contractor has performed all obligations under the Contract.
Performance Security	The security for proper performance (usually, a bond or bank guarantee), which the Contractor is required to provide, as specified in the Contract. The Performance Security provides protection for the Employer in case of major default by the Contractor.
Permanent Works	The works which the Contractor is required to provide and hand over to the Employer, as specified in the Contract.
Plant	The machinery and apparatus which the Contractor is required to provide and hand over to the Employer, as specified in the Contract.
Post-qualification	The part of an Open Tendering procedure, which is carried out after receipt of tenders, and during which the Employer assesses a Tenderer's ability to perform the Contract.
Prequalification	The part of the procurement procedure, which is carried out before the Tender Dossier is issued, and during which interested entities apply to be allowed to tender for a Contract and the Employer analyses their applications and assesses their ability to perform the Contract.
Privately Financed Infrastructure Project	A project for which the Concessionaire obtains finance, designs and provides completely equipped Works ready for operation, and then operates and maintains the Works during the Concession Period, receiving payment in respect of the outcome of operation (for example, power generated or water treated). The Works are then taken over by the project owner.
Privatisation	The process of converting a public utility into private ownership.
Program	Codified instructions used by a computer; or USA spelling for a Programme.
Programme	A document which is typically prepared and issued by the Contractor, and which shows the proposed timing of each stage of the provision of the Works.
Proposal	For a Consultancy Agreement: the Consultant's offer to carry out the Services. For a Design-Build Contract: the Tenderer's Proposal to provide the Works, which becomes the Contractor's Proposal.
Provisional Sum	A sum specifically described in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services. Being provisional, the payment due to the Contractor will depend on the work which he is required to carry out, if any.

Remeasurement Contract	The form of Contract under which the Tenderer prices a Bill of Quantities, and under which the payment due to the Contractor is based on the actual physical quantities of the completed Works.
Representative	The person representing the relevant party defined in the Contract.
Repair-Operate-Transfer (ROT)	The procurement procedure under which the Concessionaire repairs and refurbishes an existing facility ready for operation, and then operates and maintains the facility during the Concession Period. The facility is then handed back to the project owner.
Retention Money	The accumulated moneys (if specified in the Contract) which are deducted and retained by the Employer from the payments otherwise due to the Contractor, and which are only paid after completion.
Schedules	The document which is issued by the Employer, and which is completed by the Tenderer and submitted with the Tender, as included in the Contract. This document contains data and information which the Employer wishes the Tenderer to specify and which the Parties wish to become parts of the Contract.
Section	A part of the Works, which is specifically defined in the Contract as a Section, and which may be required to be completed by the Contractor and taken over by the Employer before other parts of the Works.
Services	The services which a Consultant is required to provide, as stated in its Consultancy Agreement.
Site	The places provided by the Employer, where the Works are to be executed and to which Plant and Materials are to be delivered.
Specification	Under a Bid-Build Contract, the technical document issued by the Employer to the Tenderer, as included in the Contract, and any additions and modifications to such specification in accordance with the Contract. The Specification usually specifies the technical requirements for the Works.
Statement	A statement submitted by the Contractor as part of an application for payment.
Subcontractor	A party whom the Contractor appoints to provide a part of the Works, but for whom the Contractor retains responsibility under the Contract; and the legal successors in title to such party.
Taking-Over Certificate	A certificate which is issued under the Contract, when the specified certifier considers that the whole (or part) of the Works has been completed and is ready for the Employer to take over.
Temporary Works	All temporary works of every kind (other than Contractor's Equipment) required for the execution and completion of the Works and the remedying of any defects.
Tender	The set of documents which the Tenderer has completed and submitted to the Employer.
Tender Documents	The set of documents which: <ul style="list-style-type: none"> - the Employer issues to a Tenderer (and which is sometimes referred to as the "Tender Dossier"), or - the Tenderer submits to the Employer.

Tender Dossier	The set of documents which the Employer issues to a Tenderer for him to prepare and submit a Tender.
Tenderer	The person who receives the Tender Dossier and subsequently submits the Tender for acceptance by the Employer.
Tender Period	The period which commences when each Tenderer can obtain a Tender Dossier and which expires on the latest date for submission of the Tender for acceptance by the Employer.
Tender Sum	The sum offered by the Tenderer for providing the Works in accordance with the Contract.
Tender Validity	The calendar date stated in the Tender up to which it is open for acceptance by the Employer; or the period which expires on such date, calculated from the latest date for submission of the Tender.
Terms of Reference	The document which is typically prepared by the Client and sent to a prospective Consultant, and which describes the proposed scope of the Services.
Tests after Completion	Tests which are required to be carried out after the Works (or, possibly, a Section) are complete and taken over by the Employer, all in accordance with the Contract.
Tests on Completion	Tests which the Contractor is required to carry out before the Works (or, possibly, a Section) are taken over by the Employer, all in accordance with the Contract.
Time for Completion	The period specified in the Contract as that within which the Contractor is required to complete the Works (or, possibly, a Section), calculated from the Commencement Date.
Turnkey	The procurement procedure under which the Contractor or supplier designs and provides Works, which are ready for operation by the Employer (at the "turn of the key"), and which may incorporate all the necessary fixtures, fittings and equipment.
U N C I T R A L	United Nations Commission on International Trade Law. See www.uncitral.org
Value Engineering	A procedure under which an engineering design is reviewed with the intention of improving the value to the Employer of the completed Works.
Variation	An alteration or modification to such works as the Contractor is required to provide under the Contract. Under a Bid-Build Contract, the Variation may be ordered by a change to the Specification or a Drawing. Under a Design-Build Contract, the Variation may be ordered, or may be approved after having been proposed by the Contractor's designers.
Works	The Permanent Works and the Temporary Works, which the Contract requires the Contractor to provide.
World Bank	The International Bank for Reconstruction and Development and the International Development Association, which are based at 1818 H Street N W, Washington DC 20433, USA. See www.worldbank.org

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