FIDIC CONTRACTS: LAW AND PRACTICE

ELLIS BAKER
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FIDIC CONTRACTS:
LAW AND PRACTICE

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WHITE & CASE

LONDON AND NEW YORK

Fifth edition published 2009
by Informa Law from Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Informa Law from Routledge is an imprint of the Taylor & Francis Group, an Informa business

© Ellis Baker, Ben Mellors, Scott Chalmers and Anthony Lavers 2009

British Library Cataloguing
in Publication Data

A catalogue record for this
book is available from
the British Library

ISBN 978–1–84311–628–8

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Typeset in 10/12 Erhardt
by Interactive Sciences Ltd, Gloucester

FOREWORD

In 1999, three new conditions of contract were published by FIDIC, with their basic structure and wording harmonised around the previous FIDIC Design-Build and Turnkey Contract (the 1995 "Orange Book") format. These conditions were the Conditions of Contract for Construction, for Plant and Design-Build, and for EPC/Turnkey Projects. The first one is intended for construction works where the Employer is responsible for the design, similar to the old Red Book, and with an important role for the Engineer. The two latter ones are intended for cases when the Contractor supplies the design. The Plant and Design-Build Contract has the traditional Engineer while the EPC/Turnkey Projects Contract has a two-party arrangement.

The 1999 Conditions of Contract for Plant and Design/Build retained the essential elements of the earlier Orange Book. It had been noted, however, that new trends in project financing and management, especially related to PFI and BOT, required a different set of conditions, and the Conditions of Contract for EPC/Turnkey Projects were drafted to cater for this. They complement but do not replace the Conditions of Contract for Plant and Design/Build, in that they are intended to be used in a rather specific context, for example:

- when greater certainty is sought that price and time will not be exceeded;
- when the Contractor is required to take total responsibility for the design and construction of the infrastructure or other facility;
- when the Employer is willing to pay more in return for the Contractor bearing the extra risks associated with this; and
- when uncertain or difficult ground conditions or other largely unforeseeable risks are unlikely to be encountered.

The EPC/Turnkey Contract should not be used for design-build work in other circumstances. The decision about which form of contract to use should, therefore, always be taken in full consideration of the particular characteristics of the project at hand.

While several guides to the 1999 editions have been published, only a few deal with the whole suite of contracts, most notably the Contracts Guide published by FIDIC. For FIDIC, this guide, with detailed guidance to the new contracts, remains the main reference work, especially since it was written by the principal drafter of the three 1999 conditions of contract. However, it aims mainly to explain the basis for interpreting the clauses. This new guide—FIDIC Contracts: Law and Practice—is sure to become a leading industry guide as it also covers the full suite of contracts but does so in a more detailed manner by providing legal commentary and detailed analysis of the clauses for each of the different forms, with relevant case law. Moreover, the guide examines the FIDIC suite of contracts in relation to other organisations, such as the World Bank and the ICC, who are closely involved in their use. This is especially important now that the Multilateral Development Banks (MDBs) and an increasing number of bilateral development agencies have adopted the MDB Harmonised Edition of the Construction Contract for their projects.

The authors have considerable experience in project procurement and international dispute resolution, so they are able to explain and interpret the significance of the contract clauses in the light of extensive use by a large user community that takes in engineers, project managers, quantity surveyors, architects, contractors, and professional staff from public authorities and procurement agencies. The new guide will certainly receive much positive attention from all interested parties.

Philip Jenkinson,
Chairman of the FIDIC Contracts Committee

PREFACE

For a practising lawyer, a book is a daunting undertaking. In the course of producing this one, I came to understand better why there was so little published assistance in use of the FIDIC contracts. This is not to denigrate the work of other authors on FIDIC subjects: grateful reference to their contributions has been made and recorded in many places within this one. But it was not hard to see the incentive to limit the scope of coverage, for example, to one form of contract.

And this was the gap which I, and colleagues, and indeed clients and others in the industry, remarked over many years; the absence of a comprehensive legal text on the entire FIDIC suite, reflecting the full range of options offered by the respective forms.

It is, of course, not possible to practise in construction law internationally without being fully aware of the massive presence of the FIDIC contracts in the global construction and engineering industries.

Apart from the numerous projects where one or other of the FIDIC contracts is selected for use, there are indirect, often 'unofficial' influences, as in the adaptation of older FIDIC editions for use as standard forms (e.g., in Eastern Europe or by State entities in the Middle East) or in reference of terms of bespoke contracts to the FIDIC equivalent for comparison with an international benchmark.

For me, at White & Case, this awareness was greatly enhanced by Christopher Seppälä, in the Paris office. His work as Legal Adviser to the FIDIC Contracts Committee and as author and presenter of papers was a constant reminder of the paramountcy of the FIDIC contracts in international construction procurement and disputes practice and was one of the inspirations for this book. Reference should also be made to FIDIC itself. This is in no sense an 'official' publication. Indeed, individual aspects of the FIDIC contracts are criticised where that is felt to be justified, but this does not reduce the gratitude felt for encouragement received from Peter Boswell, as General Manager, and Philip Jenkinson, as Chairman of the Contracts Committee. I have always taken the view that FIDIC is 'big' enough in attitude to accept differences of opinion and valid criticism and do not regard these as being inconsistent with sincere respect for FIDIC's many achievements. That the opportunity ever arose to try to fill the perceived gap was due to the enterprise of Informa in making the initial approach to us and the tenacity of Jessica Westwood and her colleagues in seeing the project through. It is even more of a pleasure to record how much is owed to them now that the debt no longer includes an undelivered manuscript.

While I have taken responsibility for all editorial judgements, including any errors in the text, final delivery would never have been achieved without the sustained efforts of my co-authors, all White & Case lawyers in the London Construction & Engineering Practice Group. Ben Mellors has, in less than a year, project-managed the team effort from a part-finished draft to an end product. Scott Chalmers combined preparation of draft chapters with lengthy overseas business trips and a young family. Anthony Lavers brought experience of authorship as well as his substantive contribution to the collective effort.

Formal acknowledgement is made throughout to the sources referred to, but more general gratitude is also appropriate to the colleagues, senior and junior, in the Firm and in the wider legal profession, clients and other FIDIC users. Their insights and comments have often enriched my understanding of the forms in practice.

As I have indicated, the intention behind this book is to respond to a need which was obvious to me and to many others. How completely it meets that need is for readers to say; the team intends to listen to all constructive comment to factor into the preparation of any future editions, which the publishers have been kind enough to anticipate.

What can be stated with certainty is that *FIDIC Contracts: Law and Practice* is offered to FIDIC users and their advisers in the same spirit of sharing of knowledge and experience from which I and my co-authors have benefited over the years. We hope it will make a difference.

Ellis Baker
White & Case, London

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Anthony Lavers read law at University College, London and the University of Southampton and taught at the University of Portsmouth and the National University of Singapore, where he obtained his Ph.D. After post-doctoral work at Wolfson College, Cambridge, he was successively Reader in Law and Professor of Law at Oxford Brookes University. Called to the Bar in 1997, Professor Lavers joined White & Case in 2001, where he is Professional Support Counsel to the Construction and Engineering Practice Group. Chairman of the Society of Construction Law (2004–2006), he received a D.Litt. from the University of Portsmouth in 2006 and was made a Fellow of the Royal Institution of Chartered Surveyors in 2008.

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INTRODUCTORY NOTES FOR READERS

'The FIDIC forms' in the title of this book refers to the five latest forms of contract published by the *Fédération Internationale des Ingénieurs-Conseils* ("FIDIC") for use for major works projects:

- Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (1st Edn, 1999) ("the Red Book");
- Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Plant, and for Building and Engineering Works, Designed by the Contractor (1st Edn, 1999) ("the Yellow Book");
- Conditions of Contract for EPC/Turnkey Projects (1st Edn, 1999) ("the Silver Book");
- Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer—Multilateral Development Bank Harmonised Edition (March 2006) ("MDB");
- Conditions of Contract for Design, Build and Operate Projects (1st Edn, 2008) ("the Gold Book").

Although the MDB is based on the Red Book, the changes introduced in the MDB were considered by the authors to be sufficiently significant in number and effect to merit equal treatment alongside the other Books.

The operation of the FIDIC forms (as with construction contracts generally) relies on an often complex interaction of provisions found in different sub-clauses, which both complement and supplement each other. These provisions must be read together to obtain a full understanding of the rights, obligations and liabilities of the parties. For this reason, the authors have adopted an issue-based approach, as opposed to providing a commentary on a clause-by-clause basis. Individual sub-clauses have, of course, been considered in detail, but the authors have then sought to place these sub-clauses into the context of the contract as whole. The book is, however, intended to be read alongside the relevant form of contract.

In this way, the book opens, in Chapter 1, with a general discussion of FIDIC as an institution and the background to the forms that are the subject of this book; Chapter 2 considers the FIDIC forms and other forms published by FIDIC and the structure of a FIDIC Contract; Chapters 3, 4 and 5 are concerned the parties' obligations in relation to what and how the works, the 'product', are to be constructed and, in the Gold Book, operated, their payment obligations, and their obligations as to time; Chapter 6 deals with the administration of the contract, and in particular two central features of the FIDIC forms: the role of the third-party contract administrator (except in the Silver Book) and the administration of claims; Chapter 7 concerns the mechanisms found in the FIDIC forms for the allocation and management of specific risks; Chapter 8 collates and discusses the various remedies available to the parties; and the book concludes with Chapter 9—the resolution of disputes under the FIDIC forms.

The FIDIC forms are most commonly used, in practice, on projects with an international element and, indeed, are used worldwide. They are not restricted, nor intended, for use under a particular governing law—that is, the law of the country or jurisdiction that governs the contract. This 'internationality' of the FIDIC forms can go a long way to explain their success and uptake around the world. The choice of governing law will, of course, affect the particular application and operation of the provisions of the FIDIC forms for any given project. It is for this reason that the authors have sought to adopt a 'jurisdiction-neutral' approach, concentrating on the provisions of the forms themselves. Nevertheless, as will be seen in Chapter 1, the current FIDIC forms are recognisably common law in origin. Thus it was considered not only appropriate, but also useful, to discuss particular principles that are peculiar to common law jurisdictions, such as the duality of the role of the contract administrator, extensions of time and liquidated damages for delay, which have informed the drafting of the forms, with reference to relevant case law. Extensive reference is also made to the *FIDIC Guide* published by FIDIC to accompany the Red, Yellow and Silver Books which provides, not only useful guidance, but also a helpful insight into the intentions of the draftsmen.

Terminology

Whilst the five FIDIC forms considered in this book are all based around a common 20-clause structure which is then divided into sub-clauses, the number, headings and content of the particular sub-clauses found in each of the Books differ. The differences are most notable in the latest form to be published, the Gold Book, where the draftsmen took the opportunity to re-order many sub-clauses, even whole clauses, as well as introduce new defined terms which feature prominently throughout that Book (e.g., "Notice" and "Dispute").

In light of these differences, the following terminology has been used generally in this book for the convenience of the reader:

Red Book or (R):	Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (1st Edn, 1999).
MDB or (M):	Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer—Multilateral Development Bank Harmonised Edition (March 2006).
Yellow Book or (Y):	Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Plant, and for Building and Engineering Works, Designed by the Contractor (1st Edn, 1999).
Silver Book or (S):	Conditions of Contract for EPC/Turnkey Projects (1st Edn, 1999).
Gold Book or (G):	Conditions of Contract for Design, Build and Operate Projects (1st Edn, 2008).
The FIDIC forms:	The Red, MDB, Yellow, Silver and Gold Books, collectively and generally.

Contract administrator:	The person charged with the contract administration role in the contract: the Engineer in the Red, MDB and Yellow Books, the Employer in the Silver Book, and the Employer's Representative in the Gold Book.
Relevant contract document:	Appendix to Tender in the Red and Yellow Books, Contract Data in the MDB and Gold Book and the Particular Conditions in the Silver Book.

Generally, capitalised words relate to defined terms in the Books and are used in this context.

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CHAPTER ONE

FIDIC

FIDIC

The meaning of FIDIC

1.1 The success of the FIDIC forms of contract in achieving widespread global acceptance has had a curious consequence. 'FIDIC' has come to be used to mean 'the FIDIC contract(s)' and some users, at least, believe that FIDIC is a contract and do not know the meaning of the acronym or even that it is one.

1.2 It is unlikely that any engineers would make such an error. FIDIC is their international professional body or, to be more accurate, it is an international association of the professional engineering bodies of member countries.

1.3 The acronym FIDIC stands for Fédération Internationale Des Ingénieurs-Conseils, best translated from the French as The International Federation of Consulting Engineers. The fact that the organisation has a French title bears testimony to its foundation by three countries each wholly or partly francophone. The translations in the other official FIDIC languages are Internationale Vereinigung Beratender Ingenieure and Federación Internacional de Ingenieros Consultores.

The history of FIDIC

1.4 The organisation dates from before the First World War, when 59 participants met at the World Exhibition in Ghent in Belgium, agreeing a formal constitution on 22 July 1913. There were official delegates from Belgium, Denmark, France, Germany, the Netherlands, Switzerland and the United States, with participation also from Austria-Hungary, Canada, Russia and the United Kingdom. The actual founders of FIDIC were Belgium, France and Switzerland, but these were subsequently joined by a number of the other European countries who had participated in the initial meeting. FIDIC can, however, only be said to have become a truly international organisation in the late 1950s, when Australia, Canada, South Africa and the United States joined, changing the status and perception of a European 'club'. The accession in the mid-1960s of developing countries such as Colombia, Malawi, Zambia and Zimbabwe was a further phase in evolution, from a more exclusive to a more inclusive organisation, so that today some 80 countries have Member Associations, spanning Africa, Asia-Pacific, Europe, the Americas and the Middle East. Table 1.1 setting out the countries with Member Associations can be found on the next page.

The FIDIC organisation and its activities

1.5 The overall mission of the Federation is 'to improve the business climate and promote the interests of consulting engineering firms, globally and locally, consistent with the responsibility to provide quality services for the benefit of society and the environment'.

Table 1.1: Countries of Member Associations September 2009
(Source: FIDIC website)

Note that membership changes periodically with occasional withdrawals and, more usually, additions to the list.

Africa	Asia-Pacific	Europe	
Botswana	Australia	Albania (Associate)	Netherlands
Egypt	Bangladesh	Austria	Norway
Ghana	China (PRC)	Azerbaijan	Poland
Kenya	China, Hong Kong	Belarus	Portugal
Malawi	China, Taipei	Belgium	Romania
Mali	India	Bosnia-Herzegovina	Russia
Morocco	Indonesia	Bulgaria	Slovakia
Namibia	Iran	Croatia	Slovenia
Nigeria	Japan	Czech Republic	Spain
South Africa	Korea	Denmark	Sweden
Tanzania	Malaysia	Estonia	Switzerland
Tunisia	Nepal	Finland	Turkey
Uganda	New Zealand	France	UK
Zambia	Pakistan	Germany	Ukraine (Associate)
Zimbabwe	Philippines	Germany	Uzbekistan (Associate)
	Singapore	Hungary	**Middle East**
Americas	Sri Lanka	Iceland	(Mid-East FIDIC
Canada	Vietnam	Ireland	Region)
Ecuador		Israel	Bahrain
Mexico		Italy	Jordan
Surinam		Kazakhstan	Saudi Arabia
USA		Latvia	
		Lithuania	
		Luxembourg	

Note that Kuwait, Lebanon, Serbia and Sudan are scheduled to become members by the end of 2009.

1.6 The general objectives of the Federation are set out in Article 2 of the Statutes:

1. Represent the consulting engineering industry globally;
2. Enhance the image of consulting engineers;
3. Be the authority on issues relating to business practice;
4. Promote the development of a global and viable consulting engineering industry;
5. Promote quality;
6. Actively promote conformance to a code of ethics and to business integrity; and
7. Promote commitment to sustainable development.

1.7 The Federation itself comprises different types of member. The most important category is that of Member Association; each country is limited to one Member Association, which is intended to be the principal engineering organisation in the country. In the

UK, for example, this is the Association for Consultancy and Engineering, which represents 800 firms, and in the US it is the American Council of Engineering Companies. Where a country does not have a Member Association, any individual, organisation, association, firm or group of firms with engineering consulting as a major part of its activity can apply for Associate Membership. This membership category is for organisations aiming to become full Member Associations in due course. Alternatively, where a country does not have a Member Association, an association, organisation, firm or group of firms supporting the objectives of FIDIC can apply for Affiliate Membership. This membership category is for commercial organisations whose aim is to maintain close contact with FIDIC and support of its activities.

1.8 The organisation has headquarters at the World Trade Centre II at Geneva Airport, where its Secretariat is now located, after previously being based in Lausanne and in The Hague. The Secretariat is responsible for the operation of the organisation and comprises a Managing Director, a General Manager, a Publications Manager, an Events Manager, an Accountant and an Administrative Assistant. Decision-making responsibility is vested with the Executive Committee, which comprises representatives from nine Member Associations.

1.9 The FIDIC Secretariat's current contact details are as follows:

Location:

World Trade Centre II
Geneva Airport
29 Route de Pré-Bois
Cointrin
CH–1215 Geneva 15
Switzerland

Postal address:

Box 311
Ch–1215
Geneva 15
Switzerland

Telephone: +41 22 799 4900
Fax: +41 22 799 4901
E-mail: fidic@fidic.org

This and other information can be obtained from the FIDIC website at www.fidic.org

1.10 Specific activities are the responsibility of committees, such as the Finance Committee, the Membership Committee, the Conference Committee, and the Contracts Committee.

The FIDIC Contracts Committee

1.11 The FIDIC Contracts Committee operates with the following terms of reference:

1. To recommend to the Executive Committee (EC) which Conditions of Contract and related documents should be prepared or updated by FIDIC;
2. To assist the Secretariat in establishing task groups as required, to monitor their work at agreed intervals and to carry out a final review of the documents for submission to the EC;
3. To assist the Secretariat in handling queries on the interpretation of documents;

4. To liaise, in conjunction with the Secretariat, with organisations interested in FIDIC Conditions of Contract; and
5. To suggest topics and speakers as appropriate for seminars and workshops.

1.12 At the time of writing, the Contracts Committee has six members, being the Chair (Philip Jenkinson), the Legal Adviser (Christopher Seppälä), Special Advisers from the UK and Ireland and further members from Germany, Sweden and the UK.

1.13 Within the overall jurisdiction of the Contracts Committee, there are specific Task Groups, which are currently:

the Design Build Operate Task Group
the Consultancy Agreements Task Group
the Procurement Procedure Task Group
the Subcontracts Task Group
the Updates Task Group

1.14 It was principally the responsibility of a former Task Group, namely the Task Group for the Updating of the existing Red and Yellow Books, to embark upon the process which led to the production of the 'Rainbow Suite'. This work began in 1994 but, following the publication of the Orange Book in 1995, doubts were expressed as to whether the scope of the review was wide enough, and in 1996 the concept of the Silver Book was proposed and the Task Group's burden enlarged. But before exploring how the 'Rainbow Suite' was developed, it is necessary to consider the background created by earlier forms against which the exercise was to be undertaken.

The background to FIDIC's contracts

1.15 It has already been observed that the Task Group set up to produce a new set of forms of contract was to update "the existing Red and Yellow Books".

1.16 The original FIDIC forms were:

- Conditions of Contract for Works of Civil Engineering Construction—the Red Book
- Conditions of Contract for Electrical and Mechanical Works including Erection on Site—the Yellow Book.

1.17 The Red Book can be said to have recently celebrated its half-century. It was introduced in 1957 and was "based on the ACE Form" (the description is by Dr Nael Bunni, who has produced a helpful account of the early development of the Red Book[1]). The ACE Form was itself an 'international' version of the Institution of Civil Engineers (ICE) form 4th Edition, which was the principal UK domestic engineering contract of its day. It is sufficient here to record that the FIDIC Red Book 1st Edition was recognisably derived from the ICE form. While the Red Book 2nd Edition (1969) did not depart far from its roots, and the Red Book 3rd Edition (1977) bore obvious connections to ICE's 5th Edition from 1973, it was the 4th Edition in 1987 which marked the arrival of the FIDIC

1. Nael G. Bunni, *The FIDIC Forms of Contract* (3rd Edn, 2005, Blackwell Publishing).

Red Book as a form in its own right. Edward Corbett,[2] in his commentary on the origins of FIDIC 4th Edition, identifies a certain symmetry in the thought that "the ICE 6th Edition published in January 1991 shows that FIDIC has repaid some part of its debt to ICE", citing influences on the duty of impartiality (ironically, given the direction in the Rainbow Suite), disclosure of information on ground conditions and conciliation.

1.18 It was, then, the 1987 4th Edition of the Red Book, reprinted in 1988 with editorial amendments and again in 1992 with further amendments, which was one of the two candidates for updating by the Task Group appointed in 1994.

1.19 The other candidate for updating was the Electrical and Mechanical Yellow Book (Electrical and Mechanical requires the abbreviation E&M, rather than M&E which is more usual in the industry in Anglo-Saxon countries). Like the Red Book, it had already, by 1994, been on the international contracting scene for a considerable time, more than 30 years. The 1st Edition was in 1963 and the 2nd in 1980. It was the 3rd Edition, the 1987 contemporary of the Red Book 4th Edition, which was in use when the Task Group assembled in 1994.

1.20 Although the Task Group was, at least informally, known by reference to the Red and Yellow Books, the position was somewhat more complicated than this would suggest.

1.21 First, at almost the same time as the Task Group was embarking upon its task of revising the Red and Yellow Books, FIDIC introduced the form known informally as the Orange Book. This was the 1995 Conditions of Contract for Design-Build and Turnkey, of which a Test Edition had been published in 1994 and which was a response to the growing trend in favour of turnkey contracting. This was the product of the drafting committee known as the Orange Book Task Group under the general direction of the FIDIC Contracts Committee, in the manner described above. The Orange Book Task Group was led by Axel Jaeger of Germany, with two members from the UK and one each from Canada and the US.

1.22 Second, FIDIC had also produced in 1990 the 1st Edition of the White Book. This should be differentiated from the Red, Yellow and Orange Books in that it was a consultancy agreement rather than a construction contract and was the product of FIDIC's Client/Consultant Relationships Committee rather than the Contracts Committee. However, it must be noted in any appraisal of the background to the development of the modern FIDIC Rainbow Suite. This is so partly because of the linkages between the agreements. For example, in the White Book Guide (2nd Edn, 2001) published by FIDIC to assist with the drafting of Consultancy Agreements using the White Book, it was noted (page 7) that the definition of Works in the White Book Clause 1 is consistent with that of the "Permanent Works" in the Red Book "but not entirely with that of 'Works' in the Yellow Book".

1.23 More recently, in September 2007, FIDIC published the Test Edition of its Design Build Operate (DBO) contract (Gold Book), a new departure in that, although the Design-Build element was incorporated in the 1999 editions, the Clauses dealing with Operation were completely new, demanding a different approach to risk and insurance of risk. The 1st Edition of the Gold Book was published almost exactly a year later in 2008.

2. Edward Corbett, *FIDIC 4th—A Practical Legal Guide* (1991, Sweet & Maxwell).

1.24 Some further preliminary observations need to be made concerning the circumstances in which the Task Group (for the updating of the existing Red and Yellow Books) embarked upon its tasks.

1.25 The first point is that FIDIC did not begin the process of producing the Rainbow Suite with a blank sheet of paper. It had the existing contracts; the basis of the exercise was revision rather than a completely fresh start. FIDIC also had, and continues to have, a philosophy of contract drafting. As John Bowcock, the then Chairman of the Contracts Committee, put it in his presentation at the FIDIC New Contracts Launch Seminars (Sept–Dec 1998):

"the main aim of consulting engineers is the successful execution of the projects with which they are involved. Hence we see the principal task of the Contracts Committee to be to prepare documents which form a basis for good project management. Underlying all FIDIC contract documents has been a fair allocation of risks between the parties to a contract. It has long been a principle in FIDIC documents that risks should be borne by the party best able to control those risks".

1.26 Second, FIDIC does not operate in a vacuum.

1.27 In pursuit of its stated objectives, notably representation and promotion of the consulting engineering industry globally and promotion of the development of a global and viable consulting engineering industry, FIDIC engages with a number of other bodies. This is a highly complex process, indeed, it cannot properly be called a single process at all. Rather, it involves FIDIC in consultation with other bodies (especially relevant in the context of producing the Rainbow Suite), being consulted by other bodies in turn and a whole range of co-operative and collaborative ventures with institutions, both national and supra-national.

1.28 The Task Group, then, was charged by the FIDIC Contracts Committee with the revision process, in furtherance of the Federation's objectives. The process of consultation and the role of other bodies in the development and use of the forms are considered below.

Collaborative work with other organisations

1.29 The history of FIDIC shows extensive collaboration with other major institutions, both generally and, specifically, in the preparation of the FIDIC contracts.

1.30 Self-evidently, FIDIC has always worked with its member organisations and with those organisations which represent its members. Bunni[3] notes that landmarks in the development of the Red Book were its approval and ratification successively by the International Federation of Asian and Western Pacific Contractors' Associations, the Associated General Contractors of America and the Inter-American Federation of the Construction Industry.

1.31 However, FIDIC's relationships with other bodies have gone much further than their recognition of its products.

ICC

1.32 The International Chamber of Commerce (ICC) dates from the same period of history as FIDIC, having been founded in 1919 with the overriding aim of serving world business

3. *Op. cit.*, n. 1.

by promoting trade and investment, open markets for goods and services and the free flow of capital. In some respects, it resembles FIDIC in that it has member organisations in many countries around the world, although it is not an exact parallel, in that there is no restriction to a single Member Association; ICC is represented by National Committees in 84 countries and so can be regarded as a more devolved operational model than FIDIC.

1.33 Although the ICC's portfolio of activities extends to a whole range of commercial, legal and economic issues relating to international trade, from uniform rules and practices for documentary letters of credit and bank guarantees to corporate codes of conduct, dispute resolution is one of its highest priorities, and certainly highest profile areas of work. As Yves Derains[4] has justly observed: "Within this multifaceted private international organisation, arbitration has always occupied a special place". Indeed, just as in some circles FIDIC has come to signify its forms of contract, to some "ICC" refers to its arbitration regime. The ICC's first Rules of Arbitration, significantly published in English and French, date back to 1922 and the Court of Arbitration to the same period.

1.34 It is not surprising that dispute resolution is the strand of ICC activity which links it most closely with FIDIC. It is this which engenders the most visible form of co-operation between the institutions, namely the joint conferences and seminars held in a variety of international venues. FIDIC and ICC co-hosted conferences on International Construction Contracts and the Resolution of Disputes in Paris 2005, Hong Kong 2006, Dubai 2007 and Monaco 2008. More recently the international ICC–FIDIC conference on the Practical Use of the 1999 FIDIC Conditions of Contract and the Resolution of Disputes was held in Houston, Texas in June 2008, to which can now be added the ICC–FIDIC Conference on Dispute Resolution in Construction Matters (Istanbul, October 2009).

1.35 The relationship, though, goes right to the heart of the FIDIC contracts, where ICC procedures are enshrined in the dispute resolution provisions. One of the features of the early Red Book editions which distinguished it from its UK domestic roots in the ICE forms was the provision for reference of disputes for settlement under the Rules of Conciliation and Arbitration of the ICC. The Legal Adviser to the FIDIC Contracts Committee has commented on the continuity of this relationship:[5]

> " . . . unless otherwise specified, the arbitration is conducted under the Rules of Arbitration of the International Chamber of Commerce . . . there is a lot of experience of ICC arbitrations under the Red Book and a number of such awards have been published".

1.36 It is, of course, open to the parties to agree a different arbitral regime, or arbitration with none, or even to substitute provision for litigation. Any amendment, however, needs to be undertaken with care: Knutson[6] cites an example of a case on the Test edition for Plant where the Appendix to Tender stated one form of dispute resolution while Clause 20 of the Particular Conditions was amended by removal of the reference to ICC and the substitution of another arbitral body. Knutson gives the decision of this conflict in favour of the Appendix to Tender as having a higher governing priority than the Particular Conditions. So the connection is contractual and not automatic. However, the express

4. Yves Derains and Eric A. Schwartz, *A Guide to the ICC Rules of Arbitration* (2nd Edn, 2005, Kluwer Law International).

5. Christopher R. Seppälä, "The new FIDIC provision for a dispute adjudication board" [1997] 14(4) ICLR 443.

6. Robert Knutson (ed.), *FIDIC—An Analysis of International Construction Contracts* (2005, Kluwer Law International), p. 74.

presence of the ICC route creates a strong presumption in its favour, even if that presumption is capable of rebuttal by express amendment, and it seems beyond doubt that the long relationship between the institutions has been important to both. Christopher Seppälä, as FIDIC Contracts Committee Legal Adviser, has commented upon this impact: "The FIDIC Conditions became widely used internationally, especially in the Middle East. Given the complexity of international construction projects and the high risks (and profits) they often entail, construction contracts incorporating the FIDIC Conditions (as well as other conditions) gave rise to a significant number of ICC arbitrations in the period 1980 to 1995. Construction disputes represented over 20% of cases submitted annually to ICC arbitration in the 1980s". While this figure has diminished somewhat from its peak, construction cases "continued to represent approximately 14% of cases submitted to ICC arbitration in 1997".[7] The 2007 figure for Construction and Engineering shows that it has remained approximately constant at 14.3%.[8]

1.37 Nor is the contribution to the strength of the relationship one-sided. While mindful that its arbitration regime is designed to deal with commercial disputes generally rather than construction disputes alone, ICC has continued to monitor the particular requirements of construction. In recent years, probably the most notable example of these efforts was the ICC Commission on International Arbitration's Working Group under the leadership of Dr Nael Bunni and His Honour Judge Humphrey LLoyd QC,[9] which made a study of 'Construction Industry Arbitrations' published in 2001.[10]

1.38 Furthermore, the ICC regime can offer a number of advantages. Bunni[11] summarises these with specific reference to the ICC's reputation for administrative and supervisory competence, the flexibility of its Rules, the quality of its arbitrators and their awards, party autonomy and the benefits supplied by the ICC's International Court of Arbitration.[12]

1.39 The ICC has shown itself responsive to construction industry trends, too, in its Dispute Board Rules, in force from 1st September 2004. Encouraged by the World Bank (see below), FIDIC had introduced a Dispute Board (DB) approach in its Orange Book as long ago as 1995, which was extended to Clause 67 of the Red Book 4th Edition in November 1996. The Dispute Adjudication Board (DAB) variant was selected because it became apparent that the construction industry found a firm decision more attractive than a recommendation which need not be complied with.

1.40 The FIDIC approach was also followed by the UK Institution of Civil Engineers in its Dispute Review Board Procedure 1st Edition in February 2005. The ICE offers two procedures, one for projects not subject to the UK's statutory adjudication regime[13] and

7. Christopher R. Seppälä, "International construction contract disputes—commentary on ICC awards dealing with the FIDIC International Conditions of Contract", [1999] 16(3) ICLR 339 at 340.

8. ICC Court of International Arbitration Bulletin, 2008 Vol 19 No. 1.

9. Now His Honour Humphrey LLoyd QC, following his retirement from the English courts.

10. Humphrey LLoyd and Nael G. Bunni, "Final Report on Construction Industry Arbitrations" [2001] 18(4) ICLR 644.

11. *Op. cit.*, n. 1.

12. Although see a consideration of uncertainties as to the role of the court in Ellis Baker and Anthony Lavers, "Review of arbitrators' exercise of power in English law", [2005] 22(4) ICLR 493.

13. Under the Housing Grants, Construction and Regeneration Act 1996, subject to revision at the time of writing in the Local Democracy, Economic Development and Construction Bill. Note that Singapore, New Zealand and the Australian States have comparable though not identical regimes.

one for projects covered by the Act, i.e. within the UK's territorial limits.[14] (It may be noted that the FIDIC dispute resolution procedures do not comply with the statutory time limits in the adjudication regime, creating an issue if it is proposed to use them in the UK.) As Robert Gaitskell observes,[15] the introduction to the ICE document acknowledges that "the ICE has drawn upon the work of FIDIC" in adopting a similar general dispute-board based approach, although the substantive procedure differs in significant respects. The ICC Dispute Board Rules provide for three types of dispute board.

1.41 The Dispute Review Board. The distinctive feature of the DRB is that it issues recommendations which are binding on the parties to the contract only if neither expresses dissatisfaction with them within a stated time limit, in the event of which the dispute may be finally resolved by submission to arbitration.

1.42 The Dispute Adjudication Board. Unlike the DRB, the DAB issues Decisions, which the parties are contractually bound to adhere to *pro tem*, although a party dissatisfied with a decision can refer it to arbitration. The adjudication in question is, of course, contractual adjudication and should not be confused with the statutory adjudication implemented by legislation in the UK, Singapore, New Zealand and the Australian state jurisdictions.

1.43 Combined Dispute Board. As its name suggests, the CDB can issue both recommendations and decisions. The presumption is that it will issue recommendations regarding any dispute referred to it, but can issue a decision if one party requests it and none objects. The ICC describes this as "an intermediate approach between the DRB and the DAB".[16]

1.44 As well as its Dispute Resolution Services, the ICC produces other documents intended for use by parties to commercial contracts. These are principally its Uniform Rules for Contract Bonds (URCB) and the Uniform Rules for Demand Guarantees (URDG). These have been endorsed by FIDIC through incorporation into the model forms, in the case of the URCB in the form of default or surety bonds and in the case of the URDG in the form of on-demand bonds. In May 2002, the ICC URDG were also endorsed by the World Bank for use in all its unconditional guarantee agreements, of which large numbers are issued annually in support of World Bank financed construction projects. The relationship between FIDIC and the World Bank is considered below; the ICC URDG can be regarded as an example of synergy between all three organisations: ICC, World Bank and FIDIC.

1.45 Other examples of co-operation are less directly related to the FIDIC forms of contract themselves, but also illustrate the ongoing working relationship.

1.46 For example, FIDIC and ICC worked together with the United Nations Environment Programme to produce the Environmental Management System Training Resource Kit, a practical guide to corporate training in environmental management.

1.47 It is, however, in summary, principally in the field of dispute resolution, in arbitration and in dispute boards that the ICC–FIDIC relationship has developed and continues.

14. Note that Northern Ireland is treated separately from England/Wales and Scotland in this respect.
15. Dr Robert Gaitskell QC, "Using Dispute Boards under the ICC's Rules: What is a dispute board and why use one?", December 2005, Society of Construction Law, Paper D60.
16. ICC website www.iccwbo.org Dispute Resolution Services page.

World Bank/Multilateral Development Banks

1.48 This section deals with FIDIC's involvement with the World Bank and with a loose association of other international banks referred to collectively as the Multilateral Development Banks (MDBs). These include the African Development Bank, the Asian Development Bank, the Black Sea Trade and Development Bank, the Caribbean Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, the Islamic Development Bank and the Nordic Development Fund. The part of the World Bank that is also part of the MDB grouping is the International Bank for Reconstruction and Development (IBRD). The World Bank itself is also a composite body and as well as the IBRD comprises the International Finance Corporation (IFC), the International Development Association (IDA) and the Multilateral Investment Guarantee Agency (MIGA).

1.49 The method adopted by the World Bank on prescription of Standard Bidding Documents (SBDs) for IBRD projects[17] was somewhat unusual. It incorporated the General Conditions of Contract contained in the 4th Edition of the FIDIC Red Book but then set out a list of amendments, some of which were made mandatory and others either recommended or optional. The significance of this was two-fold. First, the adoption of the FIDIC form by the World Bank was indicative of the status which that contract had achieved by January 1995 when it issued its first SBDs (as distinct from the previous "sample-only" status of the documents and its influence upon the procurement of international infra-structure projects of the kind funded by IBRD in developing economies in particular). This should not be understood as identifying the Red Book as the only form of contract to be acceptable to the World Bank; for example, the IBRD also approved for use on some projects the ENAA form of contract,[18] which was also developed in the first part of the 1990s, for turnkey contracting on process plants, but it did represent an important acknowledgement of the still-growing influence of the FIDIC forms. Second, the unusual method of adopting as approved a form of contract and then prescribing, or at least recommending, a list of amendments to it, coupled with the extent of the IBRD's importance as a funder of international projects, has led to an influence in the opposite direction, namely by IBRD on FIDIC and its forms. Thus, as Bell notes,[19] FIDIC took a number of provisions previously only with "recommended" status in the SBD (the SBDW—Standard Bidding Documents for Works) and actually made them General Conditions in the 1999 Rainbow Suite Contracts, subject to some minor amendments.

1.50 This influence has been extended with the issue of the MDB version of the Red Book, in which that influence is formally acknowledged. There have been signs that this acknowledgment of the influence of the banks may have harmed FIDIC's reputation for even-handedness, at least in the eyes of some contractors. The UK construction industry's trade magazine *Building*[20] voiced the hostility of a certain section of opinion in July 2005

17. The Standard Bidding Documents are used by IBRD for loans on infrastructure and other projects and also by the International Development Agency as part of the World Bank for grants and credits. The text refers only to IBRD for reasons of brevity and greater relevance.

18. The Engineering Advancement Association of Japan, Process Plant Version 1992.

19. Matthew Bell, "Will the Silver Book become the World Bank's new gold standard? The interrelationship between the World Bank's infrastructure procurement policies and FIDIC's construction contracts", [2004] 21(2) ICLR 64.

20. Mark Roe, "Bad news from the World Bank", *Building* 8 July 2005.

when it described what it called the "second edition" of the Red Book as showing "signs of having been bent in favour of the World Bank—to the detriment of its international contracting community . . . The international contracting community will probably not be best pleased with many of the changes as they include several onerous provisions that the World Bank had previously insisted on including in its amendments to the Standard FIDIC form".

1.51 It is not necessary to dispute (or to justify) this negative description of the MDB version, which in the article is balanced by reference to some 'pro-contractor' changes, beyond the observation that the MDB is still recognisably the Red Book and that the changes, most of which are not profound, are variable in their impact as between Employer and Contractor, rather than one-sided. Individual provisions are assessed in the appropriate chapters below.

1.52 It is more relevant to the purpose of this section to observe the influence of the IBRD/World Bank upon the production of the new versions; such influence is hardly in doubt. Bell[21] comments upon the December 2003 visit of a 'high-level delegation' from FIDIC to the World Bank and other international agencies to follow up "joint initiatives". It was to be from these discussions that the Harmonised/MDB version was produced in 2005: they were 'harmonised' ostensibly because the different banks had previously used somewhat different substitute conditions.

1.53 Jaynes[22] makes several interesting observations about this process, in particular an agreement between FIDIC and the banks by which FIDIC asserts ownership, for copyright purposes of the form, while allowing the basic (i.e. 1999) contract to be amended "even though FIDIC does not necessarily agree that the changes to its document are what FIDIC itself would recommend". This has to be seen in the light of the links between the respective organisations: "FIDIC has long had a close collaborative relationship with the development banks, and participates regularly in their colloquia for discussion of procurement issues". He concludes that "in a sense, FIDIC is a 'partner' in the banks' development efforts, but seeks always to balance the interests of the banks' borrowers with those of the contractors and consulting engineers who form the other two parts of the 'development triad' ".

1.54 If this view is correct, it probably explains any contractor hostility to the MDB version better than any of its provisions could. It is a question of perception, at least as much as one of substance. FIDIC has undoubtedly benefited from a "close collaborative relationship with the development banks" (as have the banks) and it is asking a great deal to expect contractors' perceptions of a product of this 'partnership' to be uninfluenced by such a background.

1.55 To summarise the World Bank/IBRD/MDB relationship, it is necessary to understand the reciprocal influences described above. Bunni[23] described the initial adoption of the Red Book 4th Edition as "a major vote of confidence and an endorsement of the FIDIC Red Book" which it certainly was, despite the fact that it was not alone in being so adopted. FIDIC's contracts came by this means to exercise a greater influence in major infrastructure procurement, in developing countries in particular, than could otherwise have

21. *Op. cit.*, n. 19.
22. Gordon Jaynes, "Dispute Boards—good news and bad news: the 2005 'harmonised' conditions of contract prepared by Multilateral Development Banks and FIDIC", [2006] 23(1) ICLR 102.
23. *Op. cit.*, n. 1.

been the case. Equally, the power of the World Bank/IBRD and the other MDBs has been exercised effectively. It is hard to imagine any other collaborators influencing FIDIC drafting to such an extent as to call down criticisms of erosion of balance between the respective parties' interests, nor for that matter licensing a version of a FIDIC contract which embodies amendments to FIDIC's own drafting.

European International Contractors

1.56 It is not suggested that the relationship between FIDIC and the European International Contractors organisation (EIC) is exactly equivalent to that with the ICC or World Bank/IBRD. FIDIC undertakes consultation with many bodies in the course of its work generally and specifically in the course of preparing and revising its forms of contract and in one sense its relationship with EIC is of that nature. However, to leave the description as one of occasional consultation would be to devalue the relationship to the point of inaccuracy. EIC and its predecessor ICS[24] has had contacts with the World Bank since the 1970s and in 1976 ICS acquired a mandate from its members to conduct negotiations with the World Bank and FIDIC; the ICS already had a "Liaison Committee" with FIDIC.[25] EIC, as it had then become on its move to its headquarters in Germany, entered into discussions in 1984 with FIDIC regarding revision of the FIDIC Red Book, with the intention of agreeing a position on a harmonised form which could be put to the World Bank as a joint FIDIC/EIC version. Although this did not actually materialise, the discussions were indicative of the closeness of the relationship between the two organisations at that point.

1.57 Significantly, as a measure of the importance of EIC's input into drafting, the initial draft of the 4th Edition of the Red Book was actually drawn up by a joint FIDIC/EIC working group, although it eventually came out under FIDIC's name alone, because FIDIC was obliged to mediate between EIC positions and those of the funders/owners.

1.58 When the Rainbow Suite of contracts was produced in 1999, it did not in any sense take EIC and the contractor community it represented unawares. EIC had received drafts of the new contracts in October 1997 with an invitation to comment. Frank Kennedy,[26] the Chairman of the EIC Conditions of Contract Working Group, has noted that "EIC gratefully accepted this opportunity and undertook a comprehensive review of all the new forms and submitted a large number of proposals for amendment, clarification and improvement". Two consequences followed from EIC's work on the FIDIC drafts. First, as Kennedy records, "A significant number of EIC proposals were incorporated in the Test Editions of 1998 and, following further exchanges, in the First Editions of September 1999". Second, EIC decided to produce guidance for its contractor members. This began with the EIC Contractor's Guide to the FIDIC Silver Book, which was seen by EIC as representing the biggest problem to contractors, and was followed in 2002 and 2003 by Guides to the other two principal forms. These are somewhat less severe in their treatment of the FIDIC forms than the Guide to the Silver Book and can more properly be regarded

24. The ICS was the International Contractors Section of the Fédération de l'Industrie Européenne de la Construction, which became EIC in 1977.

25. The EIC website at www.eicontractors.de offers a useful account of the early history of the relationship.

26. F. Kennedy, "EIC Contractor's Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects (The Silver Book)", [2000] 17(4) ICLR 504.

as guidance, whereas the Guide to the Silver Book is more of a critique. It may be unfair to characterise EIC's opposition to the FIDIC contract as defensive, since it has set out its objections in detail and with justifications supplied. It should be noted that EIC produced its own turnkey contract in 1994,[27] just before the Test Edition of FIDIC's Orange Book. EIC's view was that its contract offered specific solutions in design procedure which the then current FIDIC contracts tended to leave to the draftsmen of individual contracts.[28] In May 2009, EIC published its Guide to the Gold Book.

1.59 To summarise EIC's relationship with FIDIC briefly is not easy. There is no doubt that FIDIC accords EIC considerable respect, as is shown by the latter's special role as representative of (European) international contractors and the success of EIC in having its proposals for amendment taken seriously and in many instances incorporated into the FIDIC forms. However, it would be wrong to over-emphasise the degree of collaboration. EIC was critical, and in places sharply critical, of aspects of the Silver Book and the Chairman of its Conditions of Contract Working Group[29] has referred to "The Silver Book's departure from the traditional FIDIC contractual and risk sharing philosophy". Perhaps most significant of all recent developments in the EIC–FIDIC relationship is the publication of the MDB Harmonised version. The public response of members of the EIC Conditions of Contract Working Group[30] has given a flavour of the reaction: "EIC has been invited by FIDIC as a so-called 'friendly reviewer' to review the MDB Harmonised Version . . . we had hoped to find at least some of the concerns which had been voiced in our *EIC Contractor's Guide to the FIDIC Conditions of Contract for Construction* to be addressed by FIDIC and the MDBs in the harmonised draft version. But quite the reverse: upon scrutinising the 'amended' version in detail, EIC realised that the modifications, on balance, swung to the other extreme and increased the risk to contractors even further than the 1999 First Edition of the New Red Book". FIDIC may have been disappointed if it expected EIC to provide a "friendly review" and the symbolism inherent in producing a version of the FIDIC form on behalf of the MDBs may well indicate a more reserved relationship than the days when a joint FIDIC–EIC contract was under discussion. Despite this, FIDIC can be expected to treat EIC as important consultees on current and future contract revisions.

UTILISATION OF THE FIDIC CONTRACTS

FIDIC's aspiration

1.60 The aspiration of FIDIC for its suite of contracts is that set out in the Foreword to the Red, Yellow and Silver Books[31]: "The forms are recommended for general use where

27. For an outline, see J. Goudsmit, "The EIC (European International Contractors) Turnkey Contract (Conditions for Design and Construct Projects)", [1995] 12(1) ICLR 23.

28. For a useful analysis, see J. Goedel, "The EIC Turnkey Contract—a comparison with the FIDIC Orange Book", [1997] 14(1) ICLR 33.

29. Kennedy, *op. cit.*, n. 26 at 505.

30. Richard Appuhn and Eric Eggink, "The Contractor's view on the MDB Harmonised Version of the New Red Book", [2006] 23(1) ICLR 4 at 4–5.

31. A similar statement is found in the Foreword to the Gold Book as well.

tenders are invited on an international basis", and in the Introductory Note to the Silver Book: "Apart from the more recent and rapid development of privately financed projects demanding contract terms ensuring increased certainty of price, time and performance, it has long been apparent that many employers, particularly in the public sector, in a wide range of countries have demanded similar contract terms". FIDIC's aspiration is nothing less than global.

The 1990s: the Reading University Study

1.61 While there is a strong perception that extensive, if not global, use of the FIDIC contracts has been achieved, hard evidence is more difficult to obtain. However, the most comprehensive study available was undertaken by the University of Reading in the mid-1990s.[32] The survey carried out by the university was jointly commissioned by European International Contractors (EIC) and FIDIC as part of the process of revision of the Red Book. While it would not be accurate to equate responses exactly with usage, they are capable of providing an impression of geographical spread of respondents, who can safely be regarded as FIDIC users, as the content of their answers confirms.

1.62 The largest number of responses to the questionnaire came from Western Europe, and in particular the UK, Germany, France and the Netherlands were the main respondents. The region with the second-most responses was Southeast Asia (although the high total was boosted by an abnormally large response from Malaysia encouraged by that country's Construction Industry Development Board). Other significant totals were achieved by Africa, Eastern Europe, Asia and USA/Canada. There were small numbers of respondents from South America, Scandinavia and the Middle East.

1.63 Although the researchers observed that there were "too few data points for most countries for any causal links to be established", they did attempt some analysis of the common law/civil law jurisdiction divide. On the question of whether a standard form contract could achieve equal applicability in civil law and common law jurisdictions, 43% of respondents felt that it could, while 24% felt that it could not, with more than one-third undecided. When asked specifically about FIDIC contracts, a majority of respondents were uncertain whether it would be equally successful in civil law and common law jurisdictions; a small majority of those who were sure felt that the FIDIC Red Book would work better in common law countries.

FIDIC usage globally

1.64 From the authors' own experiences and a review of articles published in legal journals, it is fair to say that the usage of FIDIC contracts around the world over the last three decades is a varied one. There has been extensive usage in the Middle East, with several

32. Dr Will Hughes, "EIC/FIDIC Questionnaire Survey: The use of the FIDIC Red Book: Final Report," June 1996, Department of Construction Management and Engineering, University of Reading (www1.fidic.org/resources/contracts/EIC-FIDIC-Final.pdf).

countries adopting the FIDIC conditions as a model for their public works contracts.[33] Other areas of high activity include Southeast Asia and Eastern Europe where FIDIC is perhaps helping to supply the deficiency of developed commercial documentation in construction which still persists in the former Soviet bloc countries. The FIDIC contracts, notably the Red Book, are also widely used in Africa, particularly in countries with a common law tradition. However, in countries which have their own domestic highly-developed standard form contracts, such as the US, UK, Australia, Malaysia and Germany, the uptake has been unsurprisingly more limited, although these forms are used in international projects in markets where contractors and consultants from those countries are active.

1.65 Given the limited usage of FIDIC contracts for projects in England and the long-standing adoption of arbitration in FIDIC conditions as the final stage in the dispute resolution process, there is perhaps an understandable scarcity of reported decisions of the English courts on the FIDIC contracts.[34] Nevertheless, they provide a useful snapshot of the global use of the FIDIC contracts and so are listed below.

- *JMJ Contractors Ltd* v. *Marples Ridgway Ltd*[35] concerned a very large project under FIDIC 2nd edition in Iraq for land reclamation works, remodelling of existing drainage systems and construction of irrigation feeders 140km south-east of Baghdad.
- In *Mvita Construction Co Ltd* v. *Tanzania Harbour Authority*[36] the Court of Appeal of Tanzania had to decide a case arising from civil engineering works on the Port of Dar es Salaam under the FIDIC 2nd Edition.
- *Pacific Associates* v. *Baxter*[37] was an important English Court of Appeal decision on the question of liability of the Engineer to a contractor for alleged negligent contract administration. The project under a FIDIC contract was for dredging and reclamation works in Dubai Creek Lagoon.
- *International Tank & Pipe SAK* v. *The Kuwait Aviation Fuelling Co*[38] was an English Court of Appeal case arising from the construction of a new aviation fuelling depot in Kuwait under FIDIC; the dispute occurring between two Kuwaiti companies, the contractor and client respectively.
- *Her Majesty's Attorney General for the Falkland Islands* v. *Gordon Forbes Construction (Falklands) Ltd*[39] concerned a project using FIDIC 4th Edition for the infrastructure of the East Stanley Housing Development in the capital of the Falkland Islands.
- Most recently, in *Lesotho Highlands Development Authority* v. *Impregilo*,[40] the House of Lords heard the final appeal in a case arising from a dispute over the construction of

33. H. Sarie-Eldin, "Operation of FIDIC Civil Engineering Conditions in Egypt and other Arab Middle Eastern countries", (1994) 28 Int'l L 951; H. André-Dumont, "The FIDIC Conditions and Civil Law" [1988] 5 ICLR 43; S. Hanafi, "International construction contracts and dispute resolution: an Egyptian perspective", [2005] 22(4) ICLR 443.

34. Of over 1,000 decisions of the English courts reported in the specialist construction law reports, fewer than 30 make reference to FIDIC and only six concern projects actually conducted under FIDIC forms.

35. (1986) 31 BLR 100.

36. (1989) 46 BLR 19.

37. [1990] 1 QB 993; (1989) 44 BLR 33.

38. [1975] QB 224; (1977) 5 BLR 147.

39. [2003] BLR 280.

40. [2005] UKHL 43.

the Katse Dam, part of the Lesotho Highlands Water Project, which was carried out under an amended version of FIDIC 4th Edition.

1.66 In addition, a number of extracts of arbitral awards dealing with construction contracts referring to the FIDIC Conditions have been published, although none as yet have been published in relation to contracts under the FIDIC Conditions published from 1999 onwards (i.e. the Rainbow Suite).[41]

41. See "Extracts from ICC Arbitral Awards in International Construction Disputes" and "International Construction Contract Disputes: Second Commentary on ICC Awards Dealing Primarily with FIDIC Contracts" by Christopher R. Seppälä, (2008) *ICC International Court of Arbitration Bulletin*, Vol. 19(2); "Extracts from ICC Awards—Construction Contracts referring to the FIDIC Conditions" published in Vol. 9(1) (1998), Vol. 9(2) (1998) and Vol. 1(2) of *ICC International Court of Arbitration Bulletin*; *Collection of ICC Arbitral Awards,* 1974–1985 (Vol. I), 1986–1990 (Vol. II) and 1991–1995 (Vol. III) published by ICC Publishing, Kluwer Law and Taxation/Kluwer Law; *The International Construction Law Review,* Vols. 1 to 3 (1983–1986) and Vol. 6 (1986); and the *Yearbook Commercial Arbitration*, published by Kluwer Law and Taxation/Kluwer Law International.

CHAPTER TWO

THE FIDIC CONTRACT

INTRODUCTION

2.1 The core of a 'FIDIC contract' is the General Conditions of one of the forms published by FIDIC. However, the General Conditions are only one element of the contract, and are supplemented by various different documents which set out and define the scope of the Parties' obligations and the basis on which they have contracted. This chapter explains the suite of contracts published by FIDIC, including the five Books which are the subject of this book. It then considers how a contract under the FIDIC forms is intended to be 'constructed' and discusses the application of laws to the operation of the contract and the parties' rights and obligations.

THE FIDIC SUITE OF CONTRACTS

2.2 The FIDIC suite of contracts occupies a unique position in the global engineering and construction industries. There are few competitors in any event[1] for the title of leading international forms of contract and none which comes close in terms of track record across decades, continents and industry sectors. The traditional perception has been that the FIDIC draftsmen have striven, with some success, to achieve balanced contracts, with a fair apportionment of risks, rights and obligations between the Contractor and the Employer.

2.3 Flexibility and suitability for a very wide range of project types and contents are also provided by the number of FIDIC agreements, both in the 'Rainbow Suite' and outside it. The width of choice is evident from the outlines given in this section.

FIDIC current major project forms

2.4 FIDIC published in 1999 the first of the colloquially-named 'Rainbow Suite' of contracts, comprising the:

- Conditions of Contract for Construction (*Red Book*);
- Conditions of Contract for Plant and Design-Build (*Yellow Book*); and
- Conditions of Contract for EPC/Turnkey Projects (*Silver Book*).

2.5 These were augmented by *The FIDIC Contracts Guide* (1st Edn, 2000), prepared as an accompaniment to the newly released Red, Yellow and Silver Books. The *FIDIC Guide* was written by Peter Booen, the principal drafter of the Red, Yellow and Silver Books. The

1. An honourable mention might be given to the recently-launched (2008) Institution of Chemical Engineers International editions, but they are very much more restricted in terms of sector coverage, geographical reach and longevity of usage. Mention might also be made of the Engineering Advancement Association of Japan (ENAA) and its Model Form—International Contract for Process Plant Construction (2nd Edn, 1992) and Model Form—International Contract for Power Plant Construction (1996).

FIDIC Guide contains a Clause-by-Clause comparison of the 1999 Red, Yellow and Silver Books, with the text of the Books reproduced in a three-column layout, along with comments and general guidance from FIDIC on the Clauses, which give useful insight into the draftsman's intent.

2.6 The initial Rainbow Series FIDIC forms were followed by the:

- Red Book Multilateral Development Bank Harmonised Edition (*MDB*, 2005); and
- Conditions of Contract for Design, Build and Operate Projects (*Gold Book*, 2008).

Currently published prior forms[2]

2.7 FIDIC currently makes available various prior forms of contract, including the:

- Conditions of Contract for Works of Civil Engineering Construction (*1987 Red Book*, 4th Edn, reprinted 1992)
- Conditions of Contract for Electrical and Mechanical Works (*1987 Yellow Book*, 3rd Edn)
- Conditions of Contract for Design-Build and Turnkey (*Orange Book*, 1995)

Other FIDIC construction forms

2.8 In addition to the Red, MDB, Yellow, Silver and Gold Books, FIDIC publishes a series of ancillary construction and other contracts, including the:

- Short Form of Contract (*Green Book*, 1999) for lower value or less complex projects
- Conditions of Subcontract for Work of Civil Engineering Construction (*Red Subcontract*, 2nd Edn 1992)
- Form of Contract for Dredging and Reclamation Works (*Blue-Green Book*, 2006)

FIDIC consultant and consortium agreements

2.9 In addition to the major project forms, FIDIC has also produced a variety of ancillary consultant and related agreements, including

- Client/Consultant Model Services Agreement (*White Book*, 4th Edn, 2006)
- Joint Venture (Consortium) Agreement (1st Edn, 1992);
- Sub-Consultancy Agreement (1st Edn 1992, reprinted 1998 with editorial amendments);
- FIDIC Model Representative Agreement (Test Edition only, 2004).

Rainbow Suite: major project forms

FIDIC's general principles

2.10 First Editions. The FIDIC 'Rainbow Suite' of contracts for international engineering works was published in 1999. Although derived from earlier FIDIC editions,[3] FIDIC chose to issue the 'Rainbow Suite' as first editions:

2. See Chapter 1, paras. 1.15–1.21.
3. See Chapter 1, paras. 1.15–1.21.

"The [Red, Yellow and Silver Books] are all marked 'First Edition 1999', and the reason is that they can not (sic) be regarded as direct updates of FIDIC's very well known and widely used [Red FIDIC 4th, Yellow 3rd and Orange]".[4]

2.11 As has been noted,[5] unlike previous editions of the FIDIC contracts, which focused on the nature of the works (for example, civil engineering or electrical and mechanical works), the new generation of FIDIC contracts focuses on the relationship between the parties. The choice of form was changed, to be based on which party was doing the design and the procurement method used, with less emphasis on the type of work being undertaken.

2.12 Consistency of form and layout. One of the key features of the FIDIC forms is their consistency of design, drafting and layout, which translates into increased utility for their users. Fundamentally, contracts made under the main FIDIC forms consist of a number of 'parts', in which the form of many of the component parts has been provided or proposed by FIDIC on a standardised basis: see Table 2.1 on p. 27.

2.13 The Books typically contain example forms of the Letter of Tender and Contract Agreement, as well as example forms of securities, each of which is drafted in a consistent style, layout and manner across all Books. All the Books except the Silver Book contain example forms for the Appendix to Tender (R/Y) or the Contract Data (M/G), which provide checklists of the information that should be included.

2.14 Similarly, the layout and form of the General Conditions in the FIDIC forms are generally consistent throughout (subject to necessary changes to accommodate the differences in procurement method). The five Books share a strong common resemblance, even where the risk allocation differs. All five Books have the same 20-Clause layout, and the Clauses are generally found in the same place, with limited exceptions. To a large extent, the text of the Clauses is the same across the various forms. Similarly, definitions are generally consistent although, visually, the Gold Book has abandoned the 'categories' approach to definitions[6] in favour of the traditional alphabetical listing. The most significant differences are found in the Gold Book, which contains a different ordering of the Clauses and many other drafting changes.

FIDIC's contract suite

2.15 Red Book. The doyen of the FIDIC Contracts is the Red Book, the *Conditions of Contract for Construction for Building and Engineering Works designed by the Employer*. The 1st (1957), 2nd (1969) and 3rd (1977) Editions resembled the ICE forms from which they were derived. The 1987 4th Edition, colloquially known as 'FIDIC 4th', marked a departure from this heritage and can be regarded as the first exclusively FIDIC-led contract. The 4th Edition of the Red Book is still available and is still utilised to some extent, despite having been superseded in 1999 by the 1st Edition of the 'new' Rainbow Suite Red Book.

4. Christopher Wade, "The Silver Book: the Reality" [2001] 18(3) ICLR 497 at 497–498.
5. Joseph Huse and Jonathan Kay Hoyle, "FIDIC Design-Build, Turnkey and EPC contracts" [1999] 16(1) ICLR 27.
6. Whereby definitions are listed alphabetically within under the headings "The Contract", "Parties and Persons", "Dates, Tests, Periods and Completion", "Money and Payments", "Works and Goods", and "Other Definitions".

2.16 The 1999 Red Book drew upon lessons which had been learned by FIDIC partly from the development of the Orange Book[7] to make it more user-friendly, in the drafting and in moving from 67 Clauses to 20. In many respects, the 1999 Red Book is a successor to the Red Book 4th Edition. It is still recognisably a traditional contract embodying the measurement and valuation payment mechanism. The Red Book is administered by the Engineer, a third party (i.e., not the Contractor or the Employer).

2.17 MDB. A variant of the 1999 Red Book, usually referred to as the *MDB Harmonised Edition*, was published by FIDIC in 2004 and then a revised edition released in March 2006, which is the current edition. The MDB is unique amongst the FIDIC contracts, being the product of collaboration with an external body. The International Bank for Reconstruction and Development, part of the World Bank, and other Multilateral Development Banks (MDBs) (see Chapter 1, paras. 1.48–1.55 above) had adopted the Red Book for use (although not exclusively) on the projects which they funded but had developed the practice of requiring significant amendments to the FIDIC General Conditions in their standard bidding documents by way of Particular Conditions. Following negotiation between FIDIC and the representatives of the MDBs, a version of the Red Book was produced which incorporated the MDBs' standard amendments. Under a licence agreement, FIDIC, as the sole copyright owner of the General Conditions, licenses the use of the MDB Harmonised Edition by the banks, their borrowers and agencies in bidding and other contractual arrangements, in projects funded by the MDBs.

2.18 The distinguishing features from the Red Book can be briefly captioned as:

- the introduction of Multilateral Development Bank-related requirements, including introduction of additional provisions relating to corrupt or fraudulent practices, procurement of equipment, material and services from eligible source countries;
- introduction of various 'social utility Clauses';
- provision of loan facility-related provisions, in recognition that money is coming from the Banks, including particular provisions to protect the Contractor when disbursements on the loans are suspended; and
- amendments to the dispute resolution regime in Clause 20.

2.19 Supplement to the FIDIC Contracts Guide. In 2006, FIDIC published a *Supplement to the FIDIC Contracts Guide* for use with the MDB Harmonised Edition, which contained a Clause-by-Clause comparison between the 1999 Red Book itself and the MDB form. This was the second supplement, reflecting changes made to the first edition of the MDB.

2.20 Yellow Book. The Yellow Book is the industry name given to the *Conditions of Contract for Plant & Design-Build for Electrical and Mechanical Plant and for Building and Engineering Works Designed by the Contractor*. The history of the Yellow Book (1st Edition 1963, 2nd Edition 1980 and 3rd Edition 1987) is almost as long as that of the Red Book, and for 30 years they comprised the two principal FIDIC forms of contract.

2.21 As in the Red Book, the Engineer plays a key contract administration role in the 1999 Yellow Book but, unlike the Red Book, the Yellow Book is a design-build, i.e.

7. See the Introduction by Dr Christopher Thomas QC to *Understanding the new FIDIC Red Book* by Jeremy Glover and Simon Hughes, (2006, Sweet & Maxwell).

Contractor-designed Work contract, with the Employer's Requirements defining his minimum criteria. The Yellow Book is a lump sum price contract with provision for progress payments on the basis of Engineer certification. It is used principally for the provision of electrical and/or mechanical plant and for building or engineering works where the design-build method is to be used—that is, it can be used for either (i) Design-Build and/or (ii) Plant.

2.22 Under the Yellow Book, the Contractor undertakes a fitness-for-purpose obligation which extends to the design, as well as materials and workmanship in construction. The scope of the 1999 Yellow Book can be seen as embracing both its predecessor Yellow Book (which by then was the 1987 3rd Edition) and the 1995 Orange Book, which had been FIDIC's first Design-Build/Turnkey venture, for all types of contractor-designed works.

2.23 Silver Book. In the Introductory Note to the 1st Edition of the Silver Book (1st Edition 1999), FIDIC observed:[8]

"During recent years it has been noticed that much of the construction market requires a form of contract where certainty of final price, and often of completion date, were of extreme importance. Employers on such turnkey projects are willing to pay more—sometimes considerably more—for their project if they can be more certain that the agreed final price will not be exceeded. Among such projects can be found many projects financed by private funds, where the lenders require greater certainty about a project's cost to the Employer than is allowed for under the allocation of risks provided for by FIDIC's traditional forms of contracts."

2.24 FIDIC drafted the *Conditions of Contract for EPC/Turnkey Projects* (Silver Book) to be suitable for the provision on a turnkey basis of a process or power plant, of a factory or similar facility, or of an infrastructure project or other type of development, where a higher degree of certainty of final price and time is required, and the Contractor takes total responsibility for the design and execution of the project[9] with little involvement of the Employer. As is usual for turnkey projects, the Contractor under the Silver Book carries out all the engineering, procurement and construction, providing a fully-equipped facility, ready for 'turn of the key' operation.

2.25 The Silver Book is a two-party lump sum price contract with provision for progress payments on the basis of the Employer's interim assessment of payment sums. One of the major changes in the Silver Book mechanics was that the Engineer is removed from any role in the Contract—his role is assumed by the Employer directly. As in the Yellow Book, under the Silver Book the Contractor undertakes a fitness-for-purpose obligation which extends to the design, as well as materials and workmanship in construction.

2.26 Gold Book. Following the publication of the Red, Yellow and Silver Books, it was clear to FIDIC that there was a growing need for a document which combined a design-build obligation with a long-term operation commitment,[10] which document was the *Conditions of Contract for Design, Build and Operate Projects* (1st Edition 2008). As the Rainbow Suite grew, the too-often-experienced "failure or rapid deterioration soon after handover"[11] of a facility due to poor design or workmanship, or low quality materials and plant, prompted FIDIC to appoint a Task Group to develop a contractual solution.

8. Silver Book, Introductory Note to the 1st Edition.

9. FIDIC, *The FIDIC Contracts Guide* (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils) ("*FIDIC Guide*"), p. 4.

10. Gold Book, Foreword p. 2.

11. Christopher Wade, "FIDIC Introduces the DBO Form of Contract—The new Gold Book for Design, Build and Operate Projects", [2008] 23(1) ICLR 14 at 15.

2.27 FIDIC considered alternative scenarios for the Design, Build and Operate (DBO) concept, and chose to adopt the 'green-field' design-build-operate scenario, with a 20-year operation period, with a single contract awarded to a single contracting entity,[12] who is to operate the facility on behalf of the Employer. The Gold Book is intended for projects where the Employer wishes the Contractor who has designed and constructed a facility to continue to operate and maintain that facility in the long term. Although it is not expressly stated, the Employer arranges the finance for the construction, owns the asset and simply pays interim payments. The Contractor has no responsibility for either financing the project or for its ultimate commercial success. The arrangement should, therefore, be constructed with, for example, a build-own-transfer (BOT) concession in which the Contractor obtains the finance and takes the revenues, and then hands the asset back.

2.28 The Gold Book is a development of, and based heavily on, the 1999 Yellow Book. However, under the Gold Book regime, the Contractor is responsible not merely for providing the facility, but also for providing the Operation Service contemplated by FIDIC to be for a period of 20 years. During the Operation Service Period, the Employer owns the asset, and the Contractor operates it, at the Contractor's risk.

2.29 The format of the Gold Book follows the format and layout of the current 1999 suite of FIDIC forms, although some Gold Book Clauses have been 'shuffled' to deal with the new Operation Service Period and to keep within FIDIC's 20-Clause structure.

2.30 It uses the same terminology and definitions which are found in the other FIDIC forms, with the addition of new terms (and the deletion of other terms and concepts)[13] arising from the design-build-operate structure. The Employer pays the Contractor interim payments both to build the asset and to operate it.

2.31 FIDIC has previously announced an intention to release a Gold Book Guide for use with the Gold Book, which is proposed, among other things, to provide guidance on how to change the Clauses if it is required to have a document for a 'brown-field' situation, or an operation period significantly different to the 20-year period contemplated.[14] The authors anticipate the release of the Guide by 2010.

Other FIDIC forms

2.32 Green Book: Short Form of Contract (1999) is FIDIC's recommended general use form for building or engineering works of relatively small capital value. Depending on the type of work and the circumstances, the Green Book may also be suitable for contracts of greater value, where the work is relatively simple or repetitive, or of short duration. Under the usual arrangements for this type of contract, the Contractor is to construct the works in accordance with a design provided by the Employer or his representative. There is no Engineer and the payment mechanism is required to be specified in the Appendix to the Form of Agreement, but payment is at monthly intervals. FIDIC considers that the Green Book may also be suitable for a contract which includes, or wholly comprises, contractor-designed civil, mechanical, electrical and/or construction works.

12. *Ibid*. This is notwithstanding FIDIC's expectation that the Contractor will almost certainly be a consortium or joint venture.

13. For example, there is no taking over in the Gold Book.

14. FIDIC Annual Review for 2008–2009, www.fidic.org.

2.33 Red Book Subcontract: Conditions of Subcontract for Work of Civil Engineering Construction (2nd Edition 1992) was prepared in 1994 for use in conjunction with the Conditions of Contract for Works of Civil Engineering Construction (Red Book 4th Edition 1987). FIDIC has been preparing a new subcontract for the 1999 Red Book and Yellow Book, and at the time of writing the authors understand that the publication of the new subcontract is imminent.

2.34 Blue-Green Book: Form of Contract for Dredging and Reclamation Works (1st Edition 2006), prepared in close collaboration with the International Association of Dredging Companies, and is recommended for dredging and reclamation work. The Blue-Green Book (also often referred to as the Blue Book) is a straightforward set of contract documents, designed for a broad range of dredging, reclamation and ancillary construction works. Under the Blue Green Book, the Contractor constructs the Works in accordance with the Employer's (or his Engineer's) design, although FIDIC considers the form also suitable for contracts that include or comprise only Contractor-designed works.

2.35 In addition to the principal contracts described above in this section, FIDIC also publishes a small number of agreements for use in specific consultancy and consortium relationships. They are:

2.36 White Book: FIDIC Client/Consultant Model Services Agreement (4th Edition 2006). One of FIDIC's standard forms of contract stands apart from all the others, even though it is also referred to in the same way by the colour of its cover. The White Book is not a construction contract at all, as its full title indicates. The FIDIC Client/Consultant Model Services Agreement was prepared to enable consultants to be retained for pre-investment and feasibility studies, design, contract administration and project management. FIDIC recommends that the White Book should be the basis of the agreement between the consultant/s and the client in the project. It could be used either in traditional procurement, i.e. Employer-led project or in a design-build, i.e. Contractor-led project. The White Book has never been the responsibility of the FIDIC Contracts Committee, but since the 1st Edition (1990) has been the product of the Client/Consultant Relationships Committee. The 4th and most recent Edition was published in 2006.

2.37 There has been no updated White Book Guide since the 2nd Edition of the Guide in 2001, but it is still of value in understanding the current edition. The White Book, although of different origin, is recognisably a FIDIC document and is intended for use on projects where the principal FIDIC contracts are being used for the engineering/construction, (although this is not essential). The basic precepts stated in the Guide are consistent with those of the wider FIDIC suite: that it should be even-handed, of wide application, of simple language avoiding jargon, encouraging of co-operation rather than adversarial approaches, reflect international commercial realities and oblige the parties to consider their risks and responsibilities.

2.38 Joint Venture (JV) (Consortium) Model Agreement. This was published in 1992 for use in an association between two or more consultants, typically one international and one local to the country of the project, for marketing and/or performing the services required for a specific project, rather than in an ongoing relationship.

2.39 Sub-Consultancy Agreement (1st Edition 1992, reprinted 1998 with editorial amendments) was developed for use with the White Book, between a principal consultant and its sub-consultant. Like the JV Model Agreement, it was intended to be compatible with the White Book, although it has not been updated to take account of later

White Book editions. Like the White Book, the JV and Sub-Consultancy Agreements were the product of FIDIC's Client Consultant Relationships Committee. In 1994, FIDIC published its *Guide to the Use of the FIDIC Sub-Consultancy and Joint Venture Consortium Agreements*, which explains the approach used in drafting them, with discussion of liability and insurance and guidance on completion of the respective agreements.

2.40 Model Representative Agreement (Dark Blue Book, Test Edition 2004). In 2004, FIDIC issued a Test Edition of a Model Representative Agreement, stated by FIDIC to be intended for consultants wishing to enter into a contract with a representative for the provision of consultancy services in a specific foreign country or countries. The Model Representative Agreement is designed to be used either as a final agreement between consultant and representative, or the General Conditions may be used separately as an appendix to a purpose-drafted agreement. The agreement sets out the scope of services, basis for remuneration, the Consultant's Code of Conduct and a Business Integrity Policy Statement, and was drafted in accordance with FIDIC's Business Integrity Guidelines, to ensure transparency in all business dealings.[15] The Agreement refers specifically to the Client/Consultant Model Services Agreement (then in its 1998 3rd Edition), the Joint Venture Agreement and the Sub-Consultancy Agreement.

2.41 Together, these four documents (White Book, Joint Venture Agreement, Sub-Consultancy Agreement and Model Representative Agreement) can be regarded as a 'collection of documents' for consultancy services, and they are published as such by FIDIC.

THE CONTRACT

2.42 A contract is a legally binding agreement. The word 'contract' is also used to mean the *record* of that agreement. It should nevertheless be recognised that "Contract" is also a defined term in the FIDIC forms.[16] The definitions simply set out a different list of the various documents which it is intended together will comprise the contract between the Parties. Yet, throughout the FIDIC forms, "Contract" is used to mean both the physical documents that comprise the contract and the agreement of the Parties. For consistency, this book adopts a similar approach.

2.43 The Contract governs the rights, obligations and liabilities of the Parties. Therefore, although it is perhaps trite, it cannot be over-emphasised that certainty as to the parties' contractual obligations is fundamental to a successful contract. Indeed, one English Technology and Construction Court judge has commented that the question "Was there a contract between the parties, and if so, what were its terms?" is "probably the most frequent issue raised in the construction industry".[17] The four corners of the Contract should therefore set out in full the agreement between the Parties, including the scope of work to be performed by each of them. This scope of work is determined expressly by the

15. Eigil Steen Pedersen, Past President of FIDIC and Chairman of FIDIC Representative Agreement Task Force, "Case story: The FIDIC Model Representative Agreement" in *Business Against Corruption: Case Stories and Examples*, p. 116. Available at http://www.unglobalcompact.org.

16. Sub-Clause 1.1.1.1 (R/M/Y/S); Sub-Clause 1.1.10 (G).

17. HHJ Bowsher QC, *VHE Construction Ltd* v. *A McAlpine* [1997] EWHC Technology 370 (14 April 1997).

documents forming the Contract. The Conditions of Contract prepared by FIDIC form only part of the Contract. It is intended and expected that the Contract will be formed of many other documents. These are listed in Table 2.1 and discussed in more detail below.

2.44 However, the Parties' rights, obligations and liabilities under the Contract will also depend on the law governing the Contract and other laws that might apply to the Parties' performance of their obligations.[18] The application of these laws to the Contract may mean that what is written or contained in the Contract does not represent the actual legal effect of the agreement reached. For example, these laws may impose or imply additional terms into the Contract or may even render some of the written terms unenforceable or of limited effect.

Documents forming the Contract

Generally

2.45 As stated above, the Contract under the FIDIC forms is formed of several separate documents. Many of these documents will originate from the tender process, which will often involve the exchange of a number of documents, as well as negotiations on these documents. The clear and appropriate identification of which of these documents the Parties intend will form the Contract is therefore essential to provide certainty as to the scope of the agreement between the Parties. Given the number and complexity of the documents that are exchanged prior to the conclusion of a major construction contract and the commercial pressures on them to conclude the contract as soon as possible, it is perhaps unsurprising that this proper identification is often overlooked or not given due attention.

2.46 The documents that actually form the Contract depend on the Parties' agreement and not simply the documents listed in the definition of "Contract". Therefore, for certainty at the very least, the documents should be identified in the Contract itself. Under the FIDIC forms, it is intended that such identification will be in the Contract Agreement or the Letter of Acceptance.[19] For this purpose, the example forms of the Contract Agreement included in all the Books contain a list of documents which are stated to be "deemed to form and be read and construed as part of this Agreement". However, although there is a presumption that a Contract Agreement will be used in all forms, all the Books except the Silver Book[20] contemplate that a binding agreement may exist on the basis of the Letter of Acceptance and the Letter of Tender without the Parties signing the Contract Agreement. Indeed, all the Books apart from the Silver Book contemplate that there may even be no Contract Agreement. In these circumstances, it is essential that the documents forming the Contract and determining the scope of work are clearly and unambiguously identified. This, it appears, is the reason for the reference in the definitions of the "Contract" to a list of documents in the Contract Agreement *or* in the Letter of Acceptance. Yet an example form of the Letter of Acceptance is included only in the Gold Book and this, rather peculiarly, does not include a list of documents that are to form the

18. See paras. 2.125 *et seq*.
19. See paras. 2.116 *et seq*. for a discussion on the Letter of Acceptance and Contract Agreement. Note that the Silver Book does not contemplate there being a Letter of Acceptance.
20. See n. 23.

Contract. Nevertheless, it should be clear that if the Parties agree not to require a Contract Agreement, the documents forming the Contract must be identified in the Letter of Acceptance for certainty.

2.47 The FIDIC forms have been prepared and drafted on the basis that the Contract will be formed of certain core documents and other documents that might be required to record the Parties' agreement in full. These documents are listed in Table 2.1. While some of these documents are common to all the forms (e.g. Conditions of Contract, Contract Agreement (if any)), the precise core documents for each particular form vary from Book to Book. These core documents are listed in the definitions of "Contract",[21] as well as in Sub-Clause 1.5 (which deals with the priority of documents).[22] These lists expressly recognise that the Parties may also agree that the Contract is to be formed of other documents, in addition to the standard core documents. It is in respect of these other documents that particular care must be taken to identify them clearly in the lists in the Contract Agreement (or Letter of Acceptance). Indeed, the example forms of Contract Agreement and Letter of Tender included in all the FIDIC forms[23] and the *FIDIC Guide*[24] (but not the lists in Sub-Clause 1.5) all identify other specific documents that may form part of the Contract, most notably addenda to the tender documents and memoranda dealing with inconsistencies, clarifications and further details of agreements arising out of the tender process.

2.48 The differences in the documents comprising the Contract under the particular forms can be seen from Table 2.1. The primary reason for the differences between the Books is the extent to which the Employer provides or specifies the design element of the Works under the particular Book.

Documents forming a FIDIC Contract

2.49 The nature and contents of the different documents forming the Contract as contemplated in the various FIDIC forms are considered in more detail in the specific sections of this book where their contents are particularly relevant. It is nevertheless worthwhile briefly to discuss these documents at this point. Generally, many of these documents are defined in the Conditions of the Contract as being "the document entitled . . . ".[25] Therefore, their contractual status, and perhaps even proper incorporation into the Contract, may depend, not on the nature of the documents, but on the proper title being included on those documents. Therefore, care should be taken to ensure that the documents are appropriately entitled. It is also possible that more than one document may have the same title, which may give rise to uncertainty as to which document is incorporated. Where there is more than

21. Sub-Clause 1.1.1.1 (R/M/Y/S); Sub-Clause 1.1.10 (G).

22. See paras. 2.87 *et seq.* below.

23. Note that no example form of Letter of Tender is included in the Silver Book.

24. *FIDIC Guide* in relation to addenda to the tender documents, p. 45; in relation to memoranda, see pp. 44–45 and p. 63.

25. Definitions of "Letter of Tender" (1.1.1.4 (R/M/Y); 1.1.49 (G)); "Appendix to Tender" (1.1.1.9 (R/Y)); "Schedules" (1.1.1.7 (R/M); 1.1.1.6 (Y); 1.1.68 (G)); "Specification" (1.1.1.5 (R/M)); "Employer's Requirements" (1.1.1.5 (Y); 1.1.1.3 (S); 1.1.36 (G)); "Contractor's Proposal" (1.1.1.7 (Y); 1.1.20 (G)); "Bill of Quantities" (1.1.1.10 (R)); (1.1.1.9 (M)) "Daywork Schedule" (1.1.1.10 (R)); (1.1.1.9 (M)); "Schedule of Guarantees" (1.1.1.10 (Y)); "Schedule of Payments" (1.1.1.10 (Y); 1.1.1.5 (S); 1.1.69 (G)); "Performance Guarantees" (1.1.1.5 (S)); "Contract Data" (1.1.1.10 (M); 1.1.14 (G)); "Schedule of Payment Currencies" (1.1.1.9 (M)).

Table 2.1: Documents forming the Contract[26]
(in order of priority in Sub-Clause 1.5)

Red Book	MDB	Yellow Book	Silver Book	Gold Book
Contract Agreement (if any)	Contract Agreement (if any)	Contract Agreement (if any)	Contract Agreement *Memoranda annexed to the Contract Agreement*	Contract Agreement (if any)
Letter of Acceptance —*any annexed memoranda*	Letter of Acceptance —*any annexed memoranda*	Letter of Acceptance —*any annexed memoranda*		Letter of Acceptance —*any annexed memoranda*
Letter of Tender —Appendix to Tender	Letter of Tender/Bid (*Tender*)	Letter of Tender —Appendix to Tender		Letter of Tender
Addenda	*Addenda (if any)*	*Addenda*	*Addenda*	*Addenda*
Conditions of Contract Particular Conditions	Particular Conditions—Part A	*Conditions of Contract* Particular Conditions	*Conditions of Contract* Particular Conditions	*Conditions of Contract* Particular Conditions Part A— Contract Data
	Particular Conditions—Part B			Particular Conditions Part B— Special Provisions
General Conditions	General Conditions	General Conditions	General Conditions	General Conditions
Specification	Specification	Employer's Requirements	Employer's Requirements	Employer's Requirements —Operation Management Requirements —Financial Memorandum
Drawings	Drawings			
Schedules	Schedules	Schedules		Schedules
				Operating Licence
		Contractor's Proposal	Tender	Contractor's Proposal —Operation and Maintenance Plan
Any other documents forming part of the Contract	Any other documents forming part of the Contract	Any other documents forming part of the Contract	Any other documents forming part of the Contract	Any other documents forming part of the Contract

26. As set out in the definition of "Contract" (Sub-Clause 1.1.1.1 (R/M/Y/S); 1.1.10 (G)), the example forms of Contract Agreements included in the FIDIC forms, and Sub-Clause 1.5. Where there is a difference between these lists, the differences are included in the table in italics.

one version of a document, the Parties will need to have a clear understanding as to which is the correct version. This could be achieved, for example, by dating each version of the document and by identifying, by reference to the date, the version which is incorporated. Parties frequently also seek to create certainty as to the relevant version by initialling all pages of the contract documents, comprising only the version of the documents to be incorporated.

2.50 Contract Agreement. This is a formal record of the agreement between the Parties.[27]

2.51 Letter of Acceptance. (Red Book, MDB, Yellow Book, Gold Book) This is defined as being a "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".[28] A legally binding agreement will typically be formed on the issue or receipt of the Letter of Acceptance.[29]

2.52 Letter of Tender. (Red Book, MDB, Yellow Book, Gold Book) This is the letter from the Contractor, entitled Letter of Tender, by which he submits his offer for the Works in response to the Employer's invitation to tender.[30] In the Red and Yellow Books, the Letter of Tender is intended to include the completed Appendix to Tender, a critical document identifying many of the key terms of the Contract. Typically, the Employer completes those portions of the Appendix with which it requires the tenderer to comply, and the tenderer completes the remaining portions, setting out the details of the offer made in his tender. The equivalent document to the Appendix to Tender in the MDB and Gold Books is the Contract Data, which forms Part A of the Particular Conditions.[31] There is, however, no reference in the Silver Book to the Appendix to Tender or equivalent. Instead, the relevant information is intended to be included in the Particular Conditions.

2.53 Memoranda annexed to the Letter of Acceptance or Contract Agreement. The FIDIC forms envisage that the Contract will be formed partly of certain documents which are submitted by the Contractor with the Letter of Tender[32] and partly of other documents which the Employer provided with his invitation to tender.[33] This approach, therefore, binds the Parties to versions of documents whose contents, by definition, are fixed to the versions that were exchanged at what may have been an early stage of the tender process. It is, however, very often the case that agreements will be reached between the Parties during post-tender negotiations. FIDIC contemplates that these agreements will be recorded in jointly-agreed memoranda to be annexed to the Letter of Acceptance or Contract Agreement. These agreed memoranda will usually record commercial and technical agreements reached in the negotiation process and may also be used to resolve any inconsistencies or ambiguities in the other documents which are to form the Contract.[34] These memoranda are mentioned in all the Books in the definition of the document that it is contemplated will bring about the formation of a binding agreement: the

27. Sub-Clause 1.1.1.2 (R/M/Y/S); 1.1.11 (G). See para. 2.116 *et seq.* below.
28. Sub-Clause 1.1.1.3 (R/M/Y); 1.1.48 (G).
29. See para. 2.116 *et seq.* below.
30. Sub-Clause 1.1.1.4 (R/M/Y); 1.1.49 (G).
31. See para. 2.54 below.
32. From their respective definitions, these documents are contemplated to be the Appendix to Tender (R/Y), Schedules (R/M/Y/G) and Contractor's Proposal (Y/G).
33. See paras. 2.96–2.98.
34. *FIDIC Guide*, p. 63.

Letter of Acceptance (R/M/Y/G)[35] or Contract Agreement (S).[36] However, these memoranda are only separately identified as a document forming part of the Contract in the list set out in the example form of the Contract Agreement included in the Silver Book.

2.54 Conditions of Contract (General and **Particular)**. The Conditions of Contract comprise the General Conditions and the Particular Conditions. These Conditions form the central element of the Contract. They are the principal source for the rights, obligations and responsibilities of the Parties arising in connection with the design and construction (and operation, in the case of the Gold Book) of the Works and, by reference to the other documents forming the Contract, seek to regulate the entire contractual position of the Parties.[37] In addition to the provisions governing the legal relationship between the Parties, the Conditions also set out project management procedures and duties, most notably in respect of the duties of the Engineer in the Red, MDB and Yellow Books or the Employer's Representative in the Gold Book. The MDB and the Gold Book use two-part Particular Conditions, incorporating Part A—Contract Data (akin to the Appendix to Tender), and Part B—Specific (M) or Special (G) Provisions (akin to the Particular Conditions in other forms). The incorporation of the Contract Data (the MDB and Gold Book equivalent to the Appendix to Tender) in the Particular Conditions reflects the assumption in these Books that this data will be provided by the Employer.[38]

2.55 Specification. (Red Book, MDB) This document (or collection of documents) sets out the technical requirements for the Works, as well as other ancillary matters relating to the execution of the Works. It is prepared by (or on behalf of) the Employer.

2.56 Drawings. (Red Book, MDB) These set out the design of the Works in so far as the design is not part of the Specification.[39] Again, these are prepared by (or on behalf of) the Employer.

2.57 Employer's Requirements. (Yellow, Silver and Gold Books) This is the document (or collection of documents) that "specifies the purpose, scope and/or design and/or other technical criteria for the Works", or, in the case of the Gold Book, for the "execution of the Works and the provision of the Operation Service".[40] The Employer's Requirements may simply set out performance requirements of the final Works or a more detailed design specification. As its name suggests, it is contemplated that the Employer's Requirements will be prepared by (or on behalf of) the Employer.

2.58 Contractor's Proposal. (Yellow and Gold Book) As the name suggests, it is contemplated that this document will contain the Contractor's proposals for the Works. It will typically include a preliminary design for the implementation of the Employer's

35. Sub-Clause 1.1.1.3 (R/M/Y); Sub-Clause 1.1.48 (G).

36. Sub-Clause 1.1.1.2 (S).

37. I.N. Duncan Wallace (ed.), *Hudson's Building and Engineering Contracts* (11th Edn, 1994, Sweet & Maxwell) ("*Hudson*"), para. 3.003 at p. 411.

38. "Contract Data" is defined in both the MDB and Gold Book as "the pages completed by the Employer entitled Contract Data which constitute Part A of the Particular Conditions". (Sub-Clause 1.1.1.10 (M); 1.1.14 (G)).

39. "Drawings" are defined under Sub-Clause 1.1.1.6 (R/M) as the "drawings of the Works, as included in the Contract". This is likely to require a list somewhere in the Contract of all the drawings that are included in the Contract. It is suggested that such a list could be included in a schedule annexed to the Letter of Acceptance or Contract Agreement, without affecting the priority of documents under Sub-Clause 1.5 which expressly includes the Drawings.

40. Sub-Clause 1.1.1.5 (Y); 1.1.1.3 (S); 1.1.36 (G).

Requirements or a development of any outline design set out in the Employer's Requirements. Contractor's Proposals are absent from the Silver Book, although their equivalent form part of the Tender (see below).

2.59 Schedules (Red Book, MDB, Yellow Book, Gold Book). These are defined as those documents "entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract".[41] Depending on the Book, they may include a Bill of Quantities, data, lists, and schedules of rates and/or prices. The various schedules that are referred to in the different Books are listed in Table 2.2. In the Silver Book, schedules are absent from the list of documents forming the Contract in definition of "Contract" under Sub-Clause 1.1.1.1 and the example form of Contract Agreement. However, the Tender in the Silver Book includes all other documents that the Contractor submitted with the Tender and so will include the equivalent of "Schedules" in the other Books.

Table 2.2: List of Schedules referred to in the different Books

Red Book	MDB	Yellow Book	Silver Book	Gold Book
Bill of Quantities	Bill of Quantities			
schedule of rates and/or prices	schedule of rates and/or prices			Schedule of rates and prices
schedule of payments (if any)	schedule of payments (if any)	Schedule of Payments (if any)	Schedule of Payments	Schedule of Payments
Daywork Schedule	Daywork Schedule	daywork schedule	daywork schedule	
		Schedule of Guarantees	Performance Guarantees[42]	Schedule of guarantees
				Asset Replacement Schedule

2.60 Tender. The Tender in the Silver Book is the equivalent to the Letter of Tender and the other documents to be submitted with the Letter of Tender, including the Contractor's Proposals and Schedules, in the other Books. The Tender is defined as 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"[43] (i.e., the overall package submitted by the tenderer). In the other Books, the Tender is not identified in Sub-Clause 1.5 or in the definition of Contract as one of the documents forming the Contract. "Tender" is, however,

41. Sub-Clause 1.1.1.7 (R/M); 1.1.1.6 (Y); 1.1.68 (G).
42. Although not expressly designated as a schedule, the Performance Guarantees in the Silver Book are the equivalent of the Schedule of Guarantees in the Yellow Book. See Sub-Clause 9.1 (Y/S).
43. Sub-Clause 1.1.1.4 (S).

a defined term in these Books, meaning "the Letter of Tender and all other documents which the Contractor submitted with the Tender, as included[44] in the Contract".[45]

2.61 Operating Licence. (Gold Book only) This is a royalty-free licence (or legal equivalent) by which the Employer grants the Contractor unhindered access to the Works (and the facility) and the legal right to operate the Works during the Operation Service Period in compliance with his obligations under the Contract.[46]

2.62 Addenda. These are addenda to the tender documents that the Employer may issue during the tendering procedure to amend the terms of the tender documents that have already been issued to the tenderers. While some of these amendments might relate only to the tendering procedure itself, the addenda will often also amend the tender documents that form part of the Contract (e.g., Appendix to Tender, Particular Conditions).

Location of contractual information or data in the Contract

2.63 The FIDIC forms have been prepared on the basis of specific data or information being included in a specific core document. This data is referred to being, for example, "as stated in" or "as given in" that document. While in many cases all the Books require the same data to be specified in a contract document, the location where that data is to be specified differs between the Books. For example:

2.64 "Employer's Equipment" is defined[47] as "the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor . . . , *as stated in*" the Specification (R/M) or Employer's Requirements (Y/S/G) (emphasis added).

2.65 Under Sub-Clause 2.1 of the Red and Yellow Books, the Employer is required to give the Contractor the right of access to, and possession of, all parts of the site within the "time or (times) *stated in* the Appendix to Tender" (emphasis added); under the same Sub-Clause in the MDB and Gold Book, the time (or times) are to be stated in the Contract Data, and in the Silver Book, in the Particular Conditions.

2.66 The information to be provided in the Appendix to Tender in the Red and Yellow Books, the Contract Data in the MDB and Gold Books and the Particular Conditions in the Silver Book are particularly important in relation to the operation of the Conditions themselves.[48]

2.67 It should, however, be noted that, in the interpretation of the Contract, the documents forming the Contract will be subject to the priority set out in Sub-Clause 1.5.[49] Therefore, even if the data is included in the document contemplated by the particular Book, it may inadvertently (or even deliberately) be overridden by the contents of another contractual document higher in the hierarchy which addresses the same issue. It is therefore advisable that all the documents are checked for consistency prior to the conclusion of the Contract and any inconsistencies or conflicts are expressly addressed in memoranda annexed to the document which concludes the Contract in order to avoid disagreement at a later date as to the terms of the Contract.

44. "incorporated" (G).
45. Sub-Clause 1.1.1.8 (R/M/Y); 1.1.75 (G).
46. See Sub-Clauses 1.1.54 and 1.7 (G).
47. Sub-Clause 1.1.6.3 (R/M/Y/S); Sub-Clause 1.1.33 (G).
48. See paras. 2.74–2.76 below.
49. See para. 2.87 *et seq.* below.

Incorporation of documents

2.68 In all the Books, several key definitions of the documents intended to form the Contract include a description of the document(s) but also restrict the description to those "as included in" or "as incorporated in" the Contract.[50] These expressions might appear ostensibly to be clarifying phrases simply confirming that the document is part of the Contract. However, the example forms of Contract Agreement (as well as Sub-Clause 1.5) refer only to the defined terms relating to the documents, without making any provision for identifying the extent to which the documents falling within the description contained in the definitions are included or incorporated in the Contract. This unfortunately does not resolve whether or not a particular document is intended to be included, as a whole or in part, in the Contract. In the authors' view, unless otherwise stated, the whole of the document is likely to be incorporated.

2.69 The *FIDIC Guide* indicates[51] that the expression "as included in the Contract" is used in recognition of the possibility that "a Letter of Acceptance and/or Contract Agreement may include annexed memoranda amending the documents". This explanation appears to proceed on the assumption that all the documents falling within the relevant descriptions in the definitions have been properly included or incorporated in the Contract and that the memoranda serve to amend these documents. However, some of the actual documents that fall within the definitions of the documents forming the Contract may not be intended to be part of the Contract. This is particularly the case in relation to the Tender in the Silver Book and the Contractor's Proposal in the Yellow and Gold Book. Unless Employers take care to (i) clarify in the Letter of Acceptance which items (or portions thereof) are included in the Contract, or (ii) clarify such inclusions in an amended version of the example forms of the Contract Agreement included in the Books (which currently makes no such provision), or (iii) expressly mark and agree inclusions and exclusions on each relevant item, the unfortunate consequence may be a lack of clarity, and a possible dispute as to what documents comprise the Contract. Almost invariably, the better mechanism for addressing issues arising out of the Tender/Contractor's Proposal and subsequent exchange of clarification correspondence is for the Parties expressly to extract the relevant information into a separate memorandum or schedule, and to incorporate that document at the agreed point in the hierarchy.

2.70 It should also be added that, notwithstanding that it is intended that the documents forming the Contract will be listed in the Contract Agreement or the Letter of Acceptance, documents can also be incorporated into the Contract by reference in, or by being annexed to, one of the documents listed. Indeed, there is no reference to the Appendix to Tender, the Operating Management Plan and the memoranda annexed to the Letter of Acceptance in the list of documents forming the Contract in the example forms of Contract Agreement or in Sub-Clause 1.5. These documents are incorporated into the Contract by reference or by being annexed to or being included in the definition of another document.

50. The definition of "Tender" in all Books; "Schedules" in the Red, MDB, Yellow and Gold Books; "Specification" and "Drawings" in the Red/MDB; "Contractor's Proposal" in the Yellow and Gold Books; "Employer's Requirements" in the Yellow, Silver and Gold Books; "Performance Guarantees" and "Schedules of Guarantees" in the Silver Book; "Operation and Maintenance Plant" and "Schedule of Payments" in the Gold Book.

51. *FIDIC Guide*, p. 44, in relation to the words "as included in the Contract" in the Red, Yellow and Silver Books.

The Conditions of Contract

2.71 The Conditions of Contract govern the rights, liabilities and obligations of the Parties. They are the central element of the Contract, bringing together the other documents and defining their significance and effect. The Conditions of Contract comprise the standard General Conditions published by FIDIC in each of the Books, and any Particular Conditions that are specific to the individual contract.

2.72 For copyright reasons, FIDIC does not permit modifications to be made to the General Conditions.[52] That is to say, any amendments to the General Conditions are not to be made in the text of the General Conditions (i.e., to produce a consolidated version of the amended Conditions). Instead, any amendments to the General Conditions are intended to be set out in the Particular Conditions, which are of higher priority under Sub-Clause 1.5. Consequently, the General Conditions must be read in conjunction with the Particular Conditions to produce the Conditions of Contract.

2.73 In any standard form contract, it would be impossible to produce a one-size-fits-all set of contractual conditions which would be applicable to every contract. FIDIC has therefore, for convenience, prepared the General Conditions to contain the Clauses which it considers will generally be applicable to most contracts to allow the users to opt-out by deleting or not invoking them in the Particular Conditions, as opposed to opt-in, which would require additional provisions to be included in the Particular Conditions. On the other hand, FIDIC also considered that there were some provisions for which this approach was inappropriate, and thus instead has provided suggested wording in the notes to the Books which could be included in the Particular Conditions.

2.74 As stated above, in relation to the operation of the Conditions themselves, the FIDIC forms rely on the key data of a non-technical nature being set out in one document:

- in the Red and Yellow Books: the Appendix to Tender;
- in the MDB and Gold Book: the Contract Data;
- in the Silver Book: the Particular Conditions.

2.75 Moreover, to provide flexibility in the application of the standard FIDIC General Conditions to the circumstances of a specific project, many Sub-Clauses are stated to apply only if the relevant data is stated in these documents and thus can be considered as optional. If, for any reason, this data is not set out in that document, these Sub-Clauses simply do not apply even though they will appear in the Contract. Therefore, particular care should be taken when preparing and completing these documents to ensure that they contain all the information and data required to give effect to the Parties' intentions. For certainty, the better option would always be to include an express confirmation in the Contract that such a provision does not apply.

52. Although FIDIC's recommended approach is for amendments to the General Conditions to be set out in Particular Conditions, it is, however, willing, in specific circumstances, to grant licences for users to prepare amended Conditions. This may be appropriate where a standard, organisation-wide set of Particular Conditions is used for all projects in a certain field, or for a single project or group of particular projects. Examples of licences granted by FIDIC are the MDB Form and the Abu Dhabi Executive Affairs Authority Construction Contract (both based on the Red Book). FIDIC retains a significant degree of discretion when deciding whether to grant a licence. See *Licence Agreements for modifying FIDIC Publications* (see www1.fidic.org/news/news_docs/fidic_licence_agreements_13apr08.pdf).

2.76 All the Books except the Silver Book contain example forms for the Appendix to Tender (R/Y) or the Contract Data (M/G), which provide useful checklists of the information that should be included. A similar checklist of information that should be included in the Particular Conditions in the Silver Book is found in the Guidance for Preparation of Particular Conditions in that Book. These checklists should not necessarily be considered to be exhaustive.

2.77 FIDIC has granted licences to various member associations to publish translations of the Red, Yellow and Silver Books.[53] However, FIDIC considers the official and authentic texts to be the versions in the English language and it does not accept any responsibility for the correctness, completeness or accuracy of the licensed translations.[54] Particular care should therefore be taken, especially by those users familiar with the English-language versions, to ensure that the translations accurately reflect the provisions of the English versions (if this is what is intended). The translated versions should be considered as stand-alone Conditions in their own right if incorporated into the Contract. This is because the Parties' agreement will be founded on the translated version, and not the English version. The accurate translation of the FIDIC forms into other languages may present some significant difficulties. This is because, not only must the words be translated, but also the intended legal effect of those words. This can be particularly difficult when translating the FIDIC forms into a language associated with a civil law jurisdiction (or other non-common law-based legal system) which does not have direct equivalents to the common law legal principles upon which the forms are primarily based.[55]

Interpretation of the Conditions of Contract

2.78 The Conditions of Contract must be interpreted in accordance with the general principles for interpreting the Contract, namely in accordance with the governing law,[56] the priority of the ruling language[57] and the priority of documents.[58] In addition, the General Conditions provide particular rules of interpretation that apply specifically to the Conditions, found in Sub-Clauses 1.1 and 1.2.

2.79 The Conditions employ many defined terms, the definitions of which may extend or limit their otherwise everyday meaning. The majority of the definitions of these terms are set out in lengthy sections in Sub-Clause 1.1 of each of the Books. Defined terms which apply to the whole of the Conditions are generally capitalised in the FIDIC forms.[59] However, these definitions sections are not complete and some additional definitions are to

53. The Red Book has been translated into Arabic, Bosnian, Chinese, Estonian, French, Japanese, German, Lithuanian, Polish, Romanian, Russian, Slovakian, Spanish and Vietnamese; the Yellow Book into Arabic, Chinese, Estonian, French, German, Hungarian, Japanese, Lithuanian, Polish, Romanian, Russian, Spanish and Vietnamese; the Silver Book into Arabic, Chinese, French, Polish, Russian and Spanish. See FIDIC Bookshop (www1.fidic.org/bookshop).

54. See FIDIC Translation Policy (www1.fidic.org/resources/contracts/translations.asp).

55. Dr Götz-Sebastian Hök, "Difficulties Encountered in the English-French Translation of FIDIC's Standard Form Contracts", [2007] 24(3) ICLR 271.

56. Sub-Clause 1.4.

57. Sub-Clause 1.4.

58. Sub-Clause 1.5.

59. The exceptions are the definitions of "day" and "year" (1.1.3.9 (R/M/Y/S); 1.1.28 & 1.1.83 (G)) and "nominated Subcontractors" (5.1 (R/M)) (which definition applies to the "Contract").

be found in the subsequent substantive provisions.[60] Many of these additional definitions expressly apply only to a specific Sub-Clause or Clause.[61] Care must therefore be taken to determine not only the specific meaning attributed to the defined terms in the Conditions but also the scope of their application.

2.80 These definitions apply only to the interpretation of the Conditions and not the other documents forming the Contract.[62] For convenience, however, the defined terms will frequently be used in the other documents forming the Contract, particularly the Letter of Acceptance and the Contract Agreement. It is therefore important that a provision be included in all other documents which also use the terms defined in the Conditions that such terms shall have the same meaning as given to them in the Conditions (e.g., see Clause 1 of the example forms of Contract Agreement included in all the Books).

2.81 Sub-Clause 1.1 provides that "Words indicating persons or parties include corporations and other legal entities, except where the context otherwise requires". Similarly, Sub-Clauses 1.2(a) and (b) provide that words indicating one gender include all genders and words indicating the singular include the plural and vice versa, except where the context requires otherwise. Such rules are quite common in standard form contracts and are self-explanatory. They enable the draftsman to adopt a more efficient style. Sub-Clauses 1.2(c) and (d) provide helpful clarificatory definitions and set out requirements relating to references to agreements and written communications.[63] The marginal words and headings are also not to be taken into consideration in the interpretation of the Conditions.

2.82 The MDB and the Gold Book also contain additional, Book-specific definitions. By Sub-Clause 1.2(e) of the MDB form, the words "tender" and "tenderer" are deemed to be synonymous with the words "bid" and "bidder" respectively. This reflects the MDB's use of these alternatives in their Standard Bidding Documents. In the Gold Book, Sub-Clauses 1.2(e) and (f) contain definitions of the words "shall" and "may" as used in the Conditions.

Particular Conditions—'Tailored' Provisions

2.83 The General Conditions will need to be tailored to the specific requirements and circumstances of the contract and project. It is intended that any amendments should be set out in the Particular Conditions or, in the case of the MDB and Gold Books, in Part B of the Particular Conditions—Specific (M) or Special (G) Provisions.

2.84 Before amending the General Conditions, it should be appreciated that they have been carefully drafted and rely on the complex interaction between the Sub-Clauses. Consequently, the amendment or deletion of one Sub-Clause may have an unintended but

60. "nominated Subcontractors" (5.1 (R/M); 4.5 (Y/S/G)); "review period" (5.2 (Y/S/G)); "physical conditions" (4.12 (R/M/Y/G)); "Tests" (11.9, 11.10, 11.11 (G)); "table of adjustment data" (13.8 (R/M/Y), 13.7 (G)); "infringement" and "claim" (17.5 (R/M/Y/S); 17.12 (G)); "insuring party" (18.1 (R/M/Y/S)); "*Force Majeure*" (19.1 (R/M/Y/S)); "adjudicator" (20.2 (R/Y/S/G)); "members" (20.2 (R/M/Y/S); 20.3 (G)) and "Operation Service DAB" (20.10 (G)).

61. "nominated Subcontractors" (4.5 (Y/S/G)); "physical conditions" (4.12 (R/M/Y/G)); "infringement" and "claim" (17.5 (R/M/Y/S); 17.12 (G)); "insuring party" (18.1 (R/M/Y/S)); "*Force Majeure*" (19.1 (R/M/Y/S)).

62. Sub-Clause 1.1.

63. Chapter 6, paras. 6.154–6.158.

dramatic effect on the legal operation of the Contract as a whole.[64] Furthermore, because the Particular Conditions have a higher priority than the General Conditions, care must be taken to ensure consistency and to avoid any ambiguity in the Contract or in conflicting provisions of the Particular Conditions themselves. The preparation of the Particular Conditions should therefore be carried out only by people who have relevant expertise in the contractual, technical and procurement aspects of the specific project.[65]

2.85 All the Books apart from the MDB include notes on the preparation of the Particular Conditions, which provide useful guidance as to possible appropriate amendments and additions to the General Conditions, including in some cases example wording or reference to the provisions of other Books could be adopted.[66] However, the example wording should be checked to ensure that it is wholly suitable for the particular circumstances.[67]

2.86 In addition to amendments to the General Conditions, various Sub-Clauses expressly refer to the Particular Conditions as a source of further information.[68]

Priority of contract documents—Sub-Clause 1.5

2.87 Sub-Clause 1.5 sets out the order of priority of the documents forming the Contract in the event of inconsistencies or contradictions between them, where different parts of the Contract cover the same issue or subject matter.[69] The starting point is that "the documents forming the Contract are to be taken as mutually explanatory". Where interpretation is required, Sub-Clause 1.5 then specifies the priority of documents by which the contractual obligations of the parties are to be interpreted. The hierarchy of the documents for the purposes of interpretation in the various contracts is set out in Table 2.3.

2.88 In the Red, MDB and Yellow Books, the Letter of Acceptance and Letter of Tender rank higher in priority than the Conditions of Contract. Through the contents of these documents, their annexes or by the incorporation by reference of other documents at this level, this may have the effect of ranking those documents higher in priority to the Conditions of Contract. Similarly, specific reference in the Conditions of Contract to a lower-ranked document has the effect of elevating the relevant part of that document in the hierarchy. This is most notable in respect of various Sub-Clauses which state that their provisions apply "unless otherwise stated in" a document of lower priority than the Conditions themselves.

64. For example, Sub-Clause 10.2 of the Red Book is sometimes deleted in its entirety. However, in certain common law jurisdictions, this may jeopardise the Employer's entitlement to any liquidated damages for delay if the Employer uses part of the Works before it has been taken over under Sub-Clause 10.1.

65. Foreword of Red, Yellow and Silver Books.

66. For example, in relation to the choice of the type of DAB (i.e., standing or *ad hoc*). In addition, the Guidance for the Preparation of Particular Conditions in the Yellow Book refers to the Guidance in the Red Book for suggested additional Sub-Clauses under Clause 6 [*Staff and Labour*] that may be appropriate to take account of the circumstances and locality of the Site.

67. Foreword of Red, Yellow and Silver Books.

68. For example, the limitation of total liability of the Contractor in Sub-Clause 17.6 in the Red and Yellow Books.

69. *FIDIC Guide*, p. 61.

Table 2.3: Priority of documents under Sub-Clause 1.5

Red Book	MDB	Yellow Book	Silver Book	Gold Book[70]
(a) Contract Agreement (if any)	(a) Contract Agreement (if any)	(a) Contract Agreement (if any)	(a) Contract Agreement	(a) Contract Agreement (if any)
(b) Letter of Acceptance	(b) Letter of Acceptance	(b) Letter of Acceptance		(b) Letter of Acceptance
(c) Letter of Tender	(c) Tender	(c) Letter of Tender		(c) Letter of Tender
(d) Particular Conditions	(d) Particular Conditions —Part A	(d) Particular Conditions	(b) Particular Conditions	(d) Particular Conditions Part A—Contract Data
	(e) Particular Conditions —Part B			(e) Particular Conditions Part B—Special Provisions
(e) General Conditions	(f) General Conditions	(e) General Conditions	(c) General Conditions	(f) General Conditions
(f) Specification	(g) Specification	(f) Employer's Requirements	(d) Employer's Requirements	(g) Employer's Requirements
(g) Drawings	(h) Drawings			
(h) Schedules (and any other documents forming part of the Contract)	(i) Schedules (and any other documents forming part of the Contract)	(g) Schedules		(h) Schedules
		(h) Contractor's Proposal (and any other documents forming part of the Contract)	(e) Tender (and any other documents forming part of the Contract)	(i) Contractor's Proposal (and any other documents forming part of the Contract)

2.89 In the Contractor-design forms, the Employer's Requirements are of a higher priority than the Contractor's Proposal or the Tender in the Silver Book. The Contractor's Proposal or Tender may include, for example, a more detailed design than that (if any) contained in the Employer's Requirements. However, if the Contractor's Proposal includes details which are inconsistent with the Employer's Requirements, the Employer's Requirements will nevertheless take precedence in accordance with the priority set out in Sub-Clause 1.5. This might mean that the Parties are to disregard certain aspects of the Contractor's Proposal or Tender, notwithstanding their contents and their incorporation into the Contract.

2.90 One issue that arises from Sub-Clause 1.5 is that it does not suitably provide for those documents that are not expressly identified in the list of documents under that Sub-

70. Note Sub-Clause 1.5 of the Gold Book does not include the specific identification of the Operating Licence in the hierarchy and thus it would, by default, fall into the "any other documents" category.

Clause. Unless the hierarchy of documents is expressly amended by the Particular Conditions or the memoranda annexed to the Letter of Acceptance or Contract Agreement, these documents may fall by default into the "any other documents" category at the bottom of the hierarchy. Parties must be careful to ensure that, where such a document is intended to have higher importance, appropriate provisions are included in the Contract to amend the default hierarchy in Sub-Clause 1.5.

2.91 Sub-Clause 1.5 deals only with the priority of the different documents which form the Contract. Where the Contract consists of versions of the same document that are written in more than one language, these documents will have equal priority under Sub-Clause 1.5 but their precedence will be decided under the ruling language provision in Sub-Clause 1.4.[71]

2.92 Finally, the Guidance for the Preparation of Particular Conditions[72] provides a possible alternative wording for this Sub-Clause, which not does not include a hierarchical list of documents but instead provides that, if an ambiguity or discrepancy is found, the priority "shall be as may be accorded by the governing law". Unless the governing law provides a sufficiently certain set of rules for dealing with any ambiguity or discrepancy, it is suggested that this alternative wording is not used.

PROCUREMENT AND CONTRACT AWARD

Procurement

2.93 The FIDIC forms contemplate that they are to be used on projects where tenders are invited on an international basis.[73] Certain requirements as the procurement procedure may be imposed under public procurement legislation.[74] If the Employer is a public authority or if the Works relate to a public utility, competitive tendering and the advertisement of the tender may be compulsory. Similarly, many financing institutions, such as the Multi-Lateral Development Banks, have their own procurement rules or policies, which must be complied with as a condition of the provision of the funding. Accordingly, for contracts under the MDB form, competitive tendering may be mandatory under the relevant procurement policies.

2.94 The tendering procedure may involve providing the tenderers with a comprehensive set of tender documents which contain everything necessary for a concluded contract with the exception of the terms left to be proposed by each of the tenderers, such as prices.[75] This process involves little, if any, negotiation. Equally, tenderers may be invited to submit proposals based on the tender documents which are the subject of intense negotiation prior to the award of any contract. The route which is chosen will depend upon various factors, including the complexity of the project, the nature of the procurement methods and the requirements of any funding agency.

71. See paras. 2.136–2.139 below.
72. Notes on the Preparation of Special Provisions (G).
73. Introduction to all Books.
74. For example, European Union procurement legislation will apply to certain contracts procured by public bodies or in relation to entities operating in the water, energy, transport and postal services sectors (see Directives 2004/17/EC and 2004/18/EC).
75. *Hudson*, *op. cit.*, n. 37, para. 3.003 at p. 411.

2.95 FIDIC has published a document entitled "Tendering Procedure", which provides a guide to the procurement of international construction projects.[76] Guidance can also be found in the *FIDIC Guide*.[77]

Table 2.4: Tender documents normally issued for contracts under the different FIDIC forms

<table>
<tr><th>Red Book</th><th>MDB[78]</th><th>Yellow Book</th><th>Silver Book</th><th>Gold Book</th></tr>
<tr><td>Letter of invitation to tender</td><td>Letter of invitation to tender/bid</td><td colspan="3">Letter of invitation to tender</td></tr>
<tr><td>Instructions to Tenderers</td><td>Instructions to Bidders/Tenderers</td><td colspan="3">Instructions to Tenderers</td></tr>
<tr><td>Letter of Tender
– Appendix to Tender</td><td>Letter of Bid/Tender</td><td>Letter of Tender
– Appendix to Tender</td><td>(Letter of Tender)[79]</td><td>Letter of Tender</td></tr>
<tr><td colspan="5">Conditions of Contract:</td></tr>
<tr><td>Particular Conditions
– Form of Securities
– Form of Contract Agreement</td><td>(a) Particular Conditions Part A
(b) Particular Conditions Part B
– Form of Securities
– Form of Contract Agreement</td><td>Particular Conditions
– Form of Securities
– Form of Contract Agreement</td><td>Particular Conditions
– Form of Securities
– Form of Contract Agreement</td><td>(a) Particular Conditions Part A – Contract Data
(b) Particular Conditions Part B – Special Provisions
– Form of Securities
– Form of Contract Agreement</td></tr>
<tr><td colspan="5">General Conditions[80]</td></tr>
<tr><td colspan="2">Specification</td><td colspan="3" rowspan="2">Employer's Requirements</td></tr>
<tr><td colspan="2">Drawings</td></tr>
<tr><td colspan="2">Schedules
– Bill of Quantities</td><td>Schedules</td><td></td><td>Schedules</td></tr>
<tr><td colspan="5">Site data and other available information and data</td></tr>
<tr><td colspan="5">List of other information required from tenderers</td></tr>
<tr><td colspan="5">Qualification questionnaire (if no pre-qualification)</td></tr>
</table>

76. FIDIC, *Tendering Procedure* (2nd Edn, 1994, Fédération Internationale des Ingénieurs-Conseils).
77. *Op. cit.*
78. Under Sub-Clause 1.2(e) of MDB, "tender" and "bid" are synonymous.
79. Note in the Silver Book, the "Letter of Tender" is not defined or specifically identified in the list under the definition of "Contract" (1.1.1.1). Nevertheless, a form of letter of tender will invariably be used by each tenderer to submit its tender.
80. The General Conditions can be included in the tender documents by reference, as opposed to providing a physical copy. The notes in the FIDIC Books provide suitable wording to use.

Tender documents

2.96 The FIDIC forms contemplate that the Contract will be formed primarily of documents included with the Employer's invitation to tender, and the Tender of the successful tenderer. Accordingly, it is envisaged that the Employer will provide certain documents with his invitation to tender, which will become part of the Contract with the successful tenderer. The documents which FIDIC anticipates will comprise the tender documents differ as between the Books and are listed in Table 2.4. Guidance is provided in the notes accompanying each of the Books (except the MDB) on the preparation of these documents. For contracts under the MDB, standard tender or bidding documents prescribed by the specific MDB must be used.[81]

2.97 From a comparison of Table 2.4 and Table 2.1 above, it will be apparent that many of the tender documents will be documents which are ultimately intended to form part of the Contract. These documents are discussed in more detail in the relevant sections of this book where their contents have particular effect. However, the letter of invitation to tender, the Instructions to Tenderers and the "Site data and other available information" referred to in Table 2.4 above will not normally form part of the Contract.

2.98 During the course of the tendering procedure, it may be necessary for the Employer to issue explanations, revisions, additions or deletions to the tender documents. FIDIC envisages that these amendments will be implemented through the issue of addenda to the tender documents. These could, for example, relate to the tender procedure set out in the Instructions to Tenderers, such as extending the deadline for the submission of tenders, but may also amend the contents of other tender documents which will ultimately form part of the Contract, e.g., Particular Conditions, Specification, Employer's Requirements.

Base Date

2.99 The FIDIC forms define the Base Date as "28 days prior to the latest date for submission of the Tender".[82] This date is very important in relation to the Contract because it serves as the reference point for determining the Parties' responsibilities in relation to many matters under the FIDIC forms. The Base Date is featured in the following Sub-Clauses:

- Sub-Clause 1.1.6.8 (M): "Unforeseeable" is defined in the MDB as being "not reasonably foreseeable by an experienced contractor by the Base Date".
- Sub-Clause 4.10: Under Sub-Clause 4.10, the Employer is obliged to have make available certain Site data in his possession prior to the Base Date, and then is under a continuing duty to provide any further data which come into his possession after that Date.
- Sub-Clause 4.15 (M): In the MDB, the Contractor is deemed to have been satisfied as to the suitability and availability of access routes to the site at the Base Date.
- Sub-Clause 5.1 (S): In the Silver Book, the Contractor is deemed to have scrutinised, prior to the Base Date, the Employer's Requirements (including design criteria and

81. For contracts under the MDB, the procurement rules of the Bank may require that the Bank's own Standard Bidding Documents be used, which include forms and guidance.

82. Sub-Clause 1.1.3 (R/M/Y/S); Sub-Clause 1.1.5 (G).

calculations, if any). This is related to the Contractor's greater responsibility for errors in the Employer's Requirements in his Book.

- Sub-Clause 5.4 (Y/S/G): In the Contractor-design Books, reference in the Contract to published standards is to be understood to be references to the edition applicable on the Base Date, unless stated otherwise. This serves as the base point for preparing his design.
- Sub-Clause 13.7 (13.6 (G)): The Base Date serves as the reference point for the Laws of the Country. If any change in the Laws of the Country made after the Base Date affect the Contractor's performance of his obligation under the Contract, the Contractor may be entitled to relief under this Sub-Clause.
- Sub-Clause 13.8 (R/M/Y): The Base Date is the reference point for establishing the base cost indices and reference prices for the purpose of operating the adjustment mechanism under this Sub-Clause in these Books for changes in cost.
- Sub-Clause 14.1 (G): Under the Gold Book, the Contract Price is based upon the Contractor's price submitted to perform the Design-Build and Operation Service priced at the Base Date, with other adjustments as provided for under the Contract.
- Sub-Clause 14.15 (14.17 (GL): The Base Date serves as the reference point for establishing the applicable currency exchange rates if no rates of exchange are stated in the relevant contract document or, in the Silver Book, in the Contract.
- Sub-Clause 17.5 (17.12 (G)): The Contractor is indemnified by the Employer against claims alleging infringement of intellectual or industrial property rights as a result of the Works being used in certain circumstances, where such use was not disclosed to the Contractor prior to the Base Date.
- Sub-Clause 18.2 (not G): The Base Date is also relevant to establishing the Contractor's obligations to maintain insurance for the Works against certain risks allocated to the Employer.

Administration of the tender process

2.100 Traditionally, the employer had great flexibility in the establishment and administration of the tender process. It is no longer safe to assume that in all jurisdictions the Employer has complete control over these matters. Two areas in particular may restrict this traditional freedom, depending on the jurisdiction in question. These are:

- legislative regulation; and
- development of tender contracts.

Legislative regulation

2.101 Some legal systems have legislation governing the administration of the tender process. Probably the example with the widest jurisdictional significance is the European Community (EC)/European Union (EU) system of regulation, since it applies to much of Western Europe and now a significant part of the Eastern European states; 27 sovereign states since the most recent accessions (Bulgaria and Romania) in 2007. On 31 January 2006, two Public Procurement Directives came into force, replacing the four previous directives and since then all the Member States have been engaged in assimilating them into

their national legal systems, as they are obliged to do, albeit not exactly simultaneously. For example, in the UK the Public Contracts Regulations 2006 implemented the Public Sector Directive; the Utilities Directive was implemented by the Utilities Contracts Regulations 2006.

2.102 As a result of these directives, throughout the EU area, there are mandatory requirements for procedures leading to the award of public contracts, covering public supply contracts, public works contracts, some public services contracts, as well as framework agreements and purchasing systems for longer relationships. With some exclusions and above a public works contract current threshold of €5.27 million, the procedures apply to all EU public sector contracts. The awarding authority (the employer) must use either an open or restricted tendering procedure, except in defined circumstances where negotiation or competitive dialogue procedures are allowed.

2.103 Open tender procedures must be advertised in the EU Official Journal with minimum time limits for bids to be made and there are detailed rules relating to each of the procedural routes. There are requirements for the technical specifications given by the awarding authority and conversely constraints on what information can be requested from tenderers. Significantly, there is very detailed regulation of the criteria for the award of a public contract, including any weightings or priorities, which must be made clear in the tender documents. The basis of the award must be either the offer which is "most economically advantageous" from the point of view of the awarding authority or the "lowest price" offered; "economically advantageous" can refer to a number of relevant criteria. A tenderer is entitled to feedback on the outcome of the process.

2.104 Breach of these rules by the awarding authority may give rise to rights for unsuccessful tenderers to challenge the award, either to have the decision set aside or to obtain compensation. Such challenges have become relatively common occurrences in the courts of EU Member States under the existing directives and their predecessors and some result in hearings in the European Court of Justice (ECJ). The challenges are brought either by the disappointed tenderer or by the European Commission itself, seeking to correct perceived abuses.

2.105 One of the most famous examples of the latter was the ECJ case of *Commission of the European Communities* v. *Kingdom of Denmark*,[83] where the Danish government was held to have committed a breach of its obligations under the then Public Works Contracts Directive by inserting in the tender documents a so-called "Danish content Clause" by which tenderers were informed that the greatest possible use was to be made of Danish materials, goods, labour and equipment. A further breach of procedure was the acceptance of an alternative tender which did not comply with the specified general tender conditions.

2.106 In the Scots case of *Aquatron Marine* v. *Strathclyde Fire Board*,[84] the court found a number of significant errors in the tender process which led to the award of compensation to the challengers, who had been wrongly excluded from consideration. The tender documents called for evidence of quality standards in the tenderer's workforce without providing any criterion or means of assessment for success or failure, while tenderers could

83. [1993] Case C-243/89.
84. [2007] CSOH185.

not be penalised for failure to submit documents which had not been requested, which had also happened.

2.107 A recent challenge in the Greek legal system succeeded in the ECJ in *Emm G Lianakis* v. *Dimos Alexandroupolis*[85] after the Municipal Council of Alexandroupolis published a call for tenders for professional services in connection with development planning in the municipality. When unsuccessful tenderers challenged the award, the Council of State of Greece referred the matter to the ECJ, which held that the awarding authority had issued further definition of the weighting of award criteria and added sub-criteria after evaluation of tenders had begun. This disadvantaged the challengers, who had prepared their tenders without this information.

2.108 Naturally, not all challenges are successful. In *SIAC Construction* v. *Mayo County Council*,[86] the Irish Supreme Court referred to the ECJ the question whether the awarding authority was entitled to prefer a tender with a pricing model which offered better financial control by the engineer; the ECJ held that it was, provided the advantage was confirmed by expert evaluation. In *Concordia Bus Finland Oy AB* v. *Helsingin Kaupunki*,[87] the Finnish courts referred to the ECJ the issue as to whether lower emissions and noise levels were valid criteria for the award of a public transport contract. The ECJ held that the awarding authority was entitled to take environmental criteria into account, provided they were expressly stated in the tender/contract documents and were relevant to the subject matter of the contract, as they were.

2.109 Statutory regulation of public sector tendering procedure is, then, an important restriction, where applicable, to the traditional perception of the employer's freedom to undertake the tender process and award the contract however it chooses. Wherever such a statutory regime applies and certainly amongst public sector bodies in EU Member States, management of tendering and tender evaluation have become essential disciplines within the employer's professional team.

Development of tender contracts

2.110 A second reservation must be made about freedom of action by employers in the tender process. Within the common law jurisdictions, there has grown up over about the last 25 years the concept of the tender contract. The earliest example appears to be in Canada, in the case of *Queen in the Right of Ontario* v. *Ron Engineering and Construction Eastern Ltd*,[88] where a successful tenderer was held to be unable to refuse to proceed with the contract, having discovered that he had made a pricing error. He had already entered into a preliminary tender contract by submitting a valid tender, binding himself to execute the contract if successful. He forfeited his tender deposit.

2.111 This approach binds the employer as well as the tenderer and was used successfully in the New Zealand courts in *Pratt Contractors* v. *Palmerston North City Council*,[89] where the disappointed contractor pointed to the successful tenderer being allowed to submit alternative tenders, offering savings for discussion with the employer. The court

85. [2008] Case C0532/06.
86. [2001] Case C-19/00.
87. [2002] Case C513–99.
88. [1981] 1 SCR 111; [1981] 119 DLR (3d) 341.
89. [1995] 1 NZLR 469.

held this to be breach of the tender contract entered into with each tenderer. In the case of *Hughes Aircraft Systems International* v. *Air Services Australia*,[90] the High Court of Australia observed that the client, by the tender contract with each tenderer, had bound itself to follow the tender procedure and apply the award criteria specified in the contract documentation. A general duty of good faith and fair dealing by the employer was also to be implied into the tender contract, which had been breached.

2.112 Tender contracts have also been accepted in English law. In *Blackpool and Fylde Aero Club Ltd.* v. *Blackpool Borough Council*[91] and *Harmon CFEM Facades (UK) Ltd.* v. *The Corporate Officer of the House of Commons*,[92] the breaches of the tender contract were identified in public sector cases and in the latter, the court linked the EU procurement regime with the tender contract, holding that "these contractual obligations derive from a contract to be implied from the procurement regime required by the European directives, as interpreted by the European Court, whereby the principles of fairness and equality form part of a preliminary contract".

2.113 This left open the question as to the application of tender contracts in private sector projects and in those public sector projects where no statutory regulation applies. In *J&A Developments Ltd* v. *Edina Manufacturing Ltd*[93] and *Scott* v. *Belfast Education and Library Board*,[94] the courts of Northern Ireland have gone some way to providing an answer, at least at common law. In the *J&A* case, the tender documents had stated that the tendering procedure would be in accordance with a named Code of Practice. The private sector employer had interviewed the tenderers with the three lowest prices and invited them to reduce their tenders. The court held that "there was a binding contract to the effect that the principles of the Code would be applied". In the *Scott* case, where the project value fell below the EU threshold, ambiguities in the tender documents were held to breach the duty of fairness which was implied in the tender contract.

2.114 Challenges by unsuccessful tenderers based on alleged breaches of tender procedure have become increasingly common where public sector regulation is in force, notably in the EU and in the common law countries where tender contracts are created by the submission of valid bids. Employers in the public sector, where such regulations are applicable, need to have regard in such circumstances for general principles of fairness, transparency and equality in tender procedures and to any more detailed requirements of the jurisdiction to which they are subject. Evaluation needs to be systematic and carried out by experienced and qualified staff[95] according to the stated criteria. Both successful and unsuccessful tenderers should be able to understand the outcome, although feedback is not generally an obligation, except under those regimes where it is expressly made mandatory.

2.115 Employers in the private sector still enjoy a good deal of freedom in choice of tender procedure and award criteria, although any subsequent departure from those stated is likely to be hazardous, or at best confusing.

90. (1997) 146 ALR 1.
91. [1990] 1 WLR 1195; [1990] 3 All ER 25.
92. [1999] 67 ConLR 1.
93. [2007] CILL 2417.
94. [2007] 114 ConLR 209.
95. This point was made expressly by the Scottish court in *Aquatron*, *supra*.

Contract award—formation of the Contract

Red, MDB, Yellow and Gold Books

2.116 Under most jurisdictions, a contract can be formed simply by the process of offer and acceptance,[96] which can take place before, or entirely without, execution of any Contract Agreement. For a valid contract to exist, the Parties signing the necessary documentation must have capacity under the applicable Laws to enter into the Contract.

2.117 The Red, MDB, Yellow and Gold Books all contemplate the possibility of a contract being formed by the exchange of the Letter of Tender and the Letter of Acceptance. The date of the formation of the binding agreement may be either the date of issue or the date of receipt of the Letter of Acceptance, depending on the governing law. A Contract Agreement may however be required under certain governing laws or procurement rules.

2.118 The contemplation of a unilateral Letter of Acceptance in the absence of a Contract Agreement gives rise to two potential difficulties. First, it requires the Tender to be complete and capable of acceptance or, if incomplete, that any outstanding matters have been resolved by memoranda agreed between the Parties prior to the issue of any Letter of Acceptance. Second, the Employer, in issuing the Letter of Acceptance, must include no new terms which have not previously been agreed. If the Employer does introduce new terms, the Letter of Acceptance may not have the effect of creating a contract between the Parties but may operate as a counter-offer for consideration by the Contractor.

2.119 To provide certainty as to the basis of the agreement reached, it is common practice for the Parties to set out formally the basis of the Contract in a Contract Agreement, even though a legally binding agreement may have been formed by the Letter of Acceptance. Moreover, Sub-Clause 1.6 of all the Books other than the Silver Book obliges the Parties to "enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless they agree otherwise". In addition, if the Employer fails to comply with his obligations in respect of the Contract Agreement, for instance, if he fails to enter into the Contract Agreement with the required time period, the Contractor in these Books is entitled to terminate the Contract under Sub-Clause 16.2(e) having given 14 days' notice.[97]

2.120 Example forms of the Contract Agreement are, again, included in all the Books.

2.121 These Books also envisage the possibility that the Parties may enter into a Contract Agreement without a Letter of Acceptance being issued. In this situation, all references to the Letter of Acceptance in the Conditions are to be read to mean the Contract Agreement, and the date of issuing or receiving the Letter of Acceptance to mean the date of signing of the Contract Agreement.[98]

96. Under English law, there is also a requirement that the necessary consideration, certainty of agreement and intention to be legally bound are in place.

97. See Chapter 8, paras. 8.304 *et seq*. Although no corresponding express remedy is provided for the Employer, it is suggested that, if the Contractor has failed to comply with Sub-Clause 1.6, one option would be for the contract administrator to issue a notice (Notice (G)) to correct under Sub-Clause 15.1, which, if not complied with, may entitle the Employer to terminate under Sub-Clause 15.2(a).

98. Sub-Clause 1.1.1.3 (R/M/Y); 1.1.48 (G).

2.122 Stamp duties. Under Sub-Clause 1.6 in all the Books, the Employer is responsible for the costs of any stamp duties (or similar charges) imposed by law in connection with the entry into the Contract Agreement.

Silver Book

2.123 The Silver Book is drafted on the basis that the award of the Contract and the formation of a binding agreement between the Parties will be completed by the execution by the Parties of Contract Agreement. Under Sub-Clause 1.6, the Contract Agreement comes into effect on the date stated in that Agreement. In this respect, the example form of Contract Agreement in the Silver Book includes an optional provision which allows the date on which the Contract comes into effect to occur only upon the satisfaction of certain specified conditions precedent.

2.124 For other general considerations in relation to the Contract Agreement under the FIDIC forms, see paragraph 2.46 above.

APPLICABLE LAWS AND PERMISSIONS

Laws relevant to the Contract

2.125 The FIDIC forms are intended for use in international construction projects.[99] By definition, these projects will invariably involve international elements. At the simplest level, this might mean that one or more of the Parties and related participants may be based in different countries; part, or even most, of the manufacturing work involved may be performed in a country other than the Parties' own; or the Parties may also elect that the forum for finally deciding disputes is arbitration in a neutral country. This 'internationality' gives rise to some potentially complex issues relating to the law or laws that are applicable or relevant to the Contract. Each country has its own laws which are not identical to any others, and may even be contradictory.

2.126 The first legal system that needs to be considered is the law that governs the Contract. This law will primarily determine the rights and obligations of the Parties under the Contract. However, local laws, that is, laws local to where the work is carried out, will apply to some of the actions and obligations of the Parties, even if different to the law governing the Contract. These local laws are often either mandatory as a matter of public policy, such that they cannot be avoided by selecting a different governing law (e.g. health and safety obligations, labour laws), or apply because of the physical location where the work is being performed, particularly the Site (e.g. planning and building regulations, taxes, customs regulations). Local laws will also regulate the rights in relation to immoveable property. Similarly, mandatory laws or rules may apply to the Contract as a result of the identity of one of the Parties or the source of the funding for the project, e.g. procurement law or regulations or the procurement rules of an MDB. Furthermore, where the Contractor is responsible for the design of the Works, the Contractor is required to ensure that the Permanent Works comply with applicable Laws.[100]

99. Foreword to the Red, Yellow, Silver and Gold Books.
100. Sub-Clause 5.4 (Y/S/G). See Chapter 3, paras. 3.203–3.206.

Law governing the Contract

2.127 Sub-Clause 1.4 of all the FIDIC forms is the "governing law" Clause. It provides that the "Contract shall be governed by the law (or other jurisdiction)"[101] stated in the relevant contract document.[102] As explained in the *FIDIC Guide*,[103] the reference to 'other jurisdiction' "takes account of the situation in countries with federal systems of government".

2.128 The governing law will usually be the law of a country, state or jurisdiction. This will determine the validity and enforceability of the contract and its terms, the rights and liabilities of the parties and the legal remedies as a consequence of breaches of the contract. It may imply terms into the contract additional to the express terms. It will also provide the principles for interpreting the contract to determine the exact scope of the parties' agreement set out in these documents and their legal effect.[104]

2.129 In principle, the parties to a contract are free to choose whatever law they wish to govern it, including even the law of a country or jurisdiction which has no connection with the contract. However, this freedom of choice is not entirely unlimited, and may be subject to the choice being *bona fide* and the rules of public policy or *ordre public*. If the employer is a state or public sector body, the domestic administrative (or constitutional law) might also prohibit such bodies from agreeing to a governing law other than their own law.[105] This might particularly be the case in civil law countries such as France.[106]

2.130 Because each jurisdiction will have its own particular law which is not identical to the law of any other jurisdiction, it would simply not be possible for the draftsmen of the FIDIC forms to produce Conditions which would apply unaffected by the governing law in every jurisdiction. It is also far beyond the scope of this book, and indeed not its intention, to provide an analysis of the FIDIC forms under every different jurisdiction. However, in general, it can be said that the legal systems of the world broadly fall into four categories: those grounded in common law, those based on civil law principles, those based on Sharia law and those with communist or socialist origins.

2.131 Nevertheless, the FIDIC forms are still very much drafted and grounded in common law principles. Consequently, there are some common law provisions in the FIDIC forms for which there are no equivalent in the other legal systems. Similarly, some principles of the civil law or other legal systems have not been recognised in the FIDIC forms. For example, under certain civil law jurisdictions, some of the provisions may be considered "unfair trade terms and therefore inapplicable".[107]

101. There is no parenthesis around "or other jurisdiction" in the MDB form.

102. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

103. *FIDIC Guide*, p. 60. For example, USA, Russia, Canada, India, Australia, Germany, Switzerland, Belgium, Austria.

104. *FIDIC Guide*, pp. 3 & 60.

105. Philip Britton, "The Right Law for Construction? Choice of Law and European Reform", [2008] 25(2) ICLR 347 at 354—e.g. the Egyptian Trade Law (Law 17 of 1999) in relation to transfers of technology; Philip Britton, "Choice of Law in Construction Contracts: the View from England" ("View from England"), [2002] 19(2) ICLR 242 at 272—e.g. China, Saudi Arabia.

106. "the doctrine of separation of powers [in these countries] gives public authorities special privileges as contracting parties under a distinct system of administrative contract law, supervised by specialised public law courts." Britton, View from England, *ibid.;* see also Hök, *op. cit.*, n. 55.

107. EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects* (2nd Edn, 2003, European International Contractors), p. 8.

2.132 If the Parties have chosen a governing law other than the law of the Country, the law of the Country should be checked to ascertain whether any principles apply that might affect the interpretation or operation of the Contract, notwithstanding the choice of a foreign governing law.[108] It is therefore essential that the Parties are aware, prior to entering into the Contract, of the application of these local laws. Moreover, the obligations of the Parties under the Contract may conflict with their obligations under these local laws. Therefore, it is suggested that local specialist legal advice is obtained and the provisions of the Contract are checked to ensure consistency with the local laws.

2.133 Despite the fact that it is intended under Sub-Clause 1.4 that the governing law will be stated in the relevant contract document, there is no express default provision which specifies the governing law if the Parties fail to state a law. If a governing law is not chosen, this can give rise to real uncertainty later as to the law (or laws) governing the Contract. Ultimately, this issue will most probably arise in the context of a dispute and will be decided by the forum (e.g., the court or arbitral tribunal) that has jurisdiction over that dispute.

2.134 The Red, Yellow, Silver and Gold Book all provide for the final resolution of disputes by international arbitration under the Rules of Arbitration of the International Chamber of Commerce (unless otherwise agreed by both Parties)[109] and Article 14.1 of these Rules provides:

"The parties shall be free to agree upon the rules of law to be applied by the Arbitral Tribunal to the merits of the dispute. *In the absence of any such agreement, the Arbitral Tribunal shall apply the rules of law which it determines to be appropriate*". (emphasis added)

2.135 On the other hand, the MDB provides that disputes between Parties from different countries be resolved finally by arbitration under the UNCITRAL Rules of Arbitration (unless otherwise agreed by both Parties).[110] Article 33.1 of these Rules provides:

"The arbitral tribunal shall apply the law designated by the parties as applicable to the substance of the dispute. *Failing such designation by the parties, the arbitral tribunal shall apply the law determined by the conflict of laws rules which it considers applicable*." (emphasis added)

Ruling language

2.136 The second paragraph of Sub-Clause 1.4 provides the Parties with an opportunity to specify, in the relevant contract document,[111] the "ruling language" of the Contract. The purpose of specifying a ruling language is to provide a mechanism for resolving any conflict between two (or more) versions of the same part of the Contract which are written in different languages. In international projects, it is not uncommon for parts, if not the whole, of the contract to be written in more than one language. This can give rise to uncertainty, given the difficulties in translating legal and technical principles into different languages. Consequently, the ruling language provision can be important to establish the effect of the Parties' agreement.

108. For example, in England, the Housing Grants Construction and Regeneration Act 1996.
109. Sub-Clause 20.6 (R/Y/S); Sub-Clause 20.8 (G).
110. Sub-Clause 20.6 (M).
111. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

2.137 The Red, Yellow, Silver and Gold Books contain an identical ruling language provision in Sub-Clause 1.4 that the version of the part of the Contract written in the ruling language takes priority over any other versions.

2.138 Sub-Clause 1.4 in the MDB simply provides for the ruling language to be stated in the Contract Data. Unlike the other forms, it does not provide any explanation as to the relevance of this ruling language or restrict its application to the situation where there are versions of the same part of the Contract written in different languages. This can perhaps be explained by the fact that, under the procurement policies of some MDBs at least, the Contract is expected to be written in only one language.[112]

2.139 As with the governing law, there is no default provision if no ruling language is stated in the Contract.[113] In this situation, unless the different versions have been expressly distinguished in the order of priority under Sub-Clause 1.5, the question of precedence of the different versions will be decided in accordance with the principles of contractual interpretation under the governing law.

Compliance with applicable Laws

2.140 Specific aspects of the Parties' performance of their obligations under the Contract may be subject to the laws of countries or jurisdictions other than the governing law, including the law of the country where the Site is located. The Parties will therefore be under a general obligation to comply with these other laws. However, the FIDIC forms, as with many other standard forms, bring the Contractor's compliance with these laws into the confines of the Contract. The reason for this can be explained by the fact that Employers in particular may be liable for the Contractor's failure to comply with the relevant laws, due to the Employer's status as owner or tenant of the Site or ultimate owner of the Works. By placing on the Contractor a contractual obligation (as between the Parties) to comply with these laws, a failure to comply will be a breach of contract for which the Employer may generally be entitled to damages or another legal remedy. This obligation is set out in Sub-Clause 1.13 (1.14 (G)).

2.141 Under Sub-Clause 1.13 (1.14 (G)), the Contractor, "in performing the Contract, must comply with applicable Laws". This is a general obligation. The remainder of Sub-Clause 1.13 (1.14 (G)) specifically requires the Contractor to "give all notices, pay all taxes, duties and fees" as required by the applicable Laws and allocates the responsibility between the Parties for obtaining permits, licences and approvals as required by the applicable Laws.

112. For example, EBRD, "Procurement Policies and Rules", (May 2009) para. 3.18 (http://www.ebrd.com/about/policies/procure/ppr09e.pdf); and World Bank: "Procurement under IBRD Loans and IDA Credits", (May 2004, revised October 2006) para. 2.15) (http://siteresources.worldbank.org/INTPROCUREMENT/Resources/ProcGuid-10–06-ev1.doc).

113. The third paragraph of Sub-Clause 1.4 in the MDB form, which deals with the language for communications provides "If no language [for communications] is stated [in the Contract Data], the language of communications shall be the ruling language of the Contract". One commentary suggests that, based on this provision, if no ruling language is stated in the Contract Data in the MDB the ruling language shall be the language for communications (Jeremy Glover & Simon Hughes, *Understanding the New FIDIC Red Book* (2006, Sweet & Maxwell), para. 1–065 at p. 22). In the authors' view, this interpretation appears to be incorrect, although this is not beyond doubt. It is suggested instead that the proper interpretation of this sentence is that, if the language for communications is not stated in the Contract Data then it shall be the ruling language, and not vice versa.

2.142 FIDIC recognises that the General Conditions may not deal adequately with country-specific requirements or with the situation on a specific project.[114] Consequently, the FIDIC forms provide for exceptions to these provisions to be included in the Particular Conditions (or Employer's Requirements in the Gold Book). For example, if the Employer has already complied with a requirement of the applicable Laws which falls within the scope of sub-paragraph (b) before the Contract has come into effect, and which would otherwise be the responsibility of the Contractor, or will comply with a requirement on behalf of the Contractor, this should be set out in the Particular Conditions (or Employer's Requirements).[115] Such exceptions are unlikely, however, to transfer the Contractor's duties to the Employer under the applicable Laws.

2.143 In addition, in the Yellow, Silver and Gold Book, the Contractor's contractual obligation to comply with the applicable Laws is not limited to obligations under Sub-Clause 1.13. In these Books where the Contractor is primarily responsible for the design of the Works, under Sub-Clause 5.3, the Contractor undertakes that "the design, Contractor's Documents, the execution and the completed Works will be in accordance with the Laws of the Country". In addition, under Sub-Clause 5.4 the Contractor is required to: design the Works such that the completed Works

> "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".[116]

2.144 Sub-Clause 5.4 states expressly that the Laws with which the Works and each section are to comply are those prevailing when the Works or section are taken over by the Employer under Clause 10 or, in the Gold Book, when the Commissioning Certificate is issued in accordance with Sub-Clause 11.7.[117]

"Laws"

2.145 The FIDIC forms adopt a general and wide definition of "Laws", namely "all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority".[118] Laws, as defined, are therefore not restricted to any particular country or jurisdiction.[119] Instead, each reference to Laws in the FIDIC forms is accompanied by qualifying terms, such that the Laws in question are either "Laws of the Country" or "applicable Laws". The "Laws of the Country" are the Laws of the "country in which the Site (or most of it) is located, where the Permanent Works are

114. *FIDIC Guide*, p. 72.

115. For further guidance, see *FIDIC Guide*, *ibid.*

116. The Contractor's obligations under Sub-Clauses 5.3 and 5.4 are considered further in Chapter 3, paras. 3.203–3.206.

117. Sub-Clause 5.4 further provides that "References in the Contract to the published standards shall be understood to be references to the edition applicable on the Base Dates, unless stated otherwise".

118. Sub-Clause 1.1.6.5 (R/M/Y/S); Sub-Clause 1.1.47 (G). It should be noted that the *FIDIC Guide* uses the term "Laws" somewhat indiscriminately and not solely when referring to laws as defined.

119. Indeed, the *FIDIC Guide* states that "Unless the context indicates otherwise, the word 'Laws' may refer to the laws of any relevant jurisdiction", p. 57.

to be executed".[120] The "applicable Laws" are the Laws which apply in the context of the particular Sub-Clause, and thus may include Laws of the Country. Therefore, the onus will be on the Contractor to ensure that he is fully aware of the laws that might apply to the performance of his obligations under the Contract in order to be able to identify the "applicable Laws" in each particular context. Nevertheless, if there is a particular piece of legislation, for instance, that is required before construction can begin, the *FIDIC Guide* suggests that the Employer may wish to consider drawing this to the attention of tenderers or dealing with it in the Contract.[121] In addition, once the Contract has come into effect, the Employer is required under Sub-Clause 2.2(a) to provide the Contractor with some limited assistance in obtaining copies of the Laws of the Country "which are relevant to the Contract but are not readily available".

Permissions, permits, licences and approvals

2.146 As indicated above, in construction projects, one particular but important element of the local laws that will apply to the Contract, and in the particular the Laws of the Country, will be the requirement to obtain permissions, licences or approval from state, regional or other regulatory bodies or authorities relating to various elements of the Works.[122] These permissions and licences are invariably essential for the Works to commence and proceed, and their timely procurement can be critical to progress.

2.147 Under the FIDIC forms, the allocation of responsibility between the Parties is set out in Sub-Clause 1.13 (1.14 (G)). The provisions of all the forms are almost identical, with small differences in the MDB and the Gold Book. Under this Sub-Clause:

- The Employer is responsible for obtaining the "planning, zoning or similar permission" for the Permanent Works and any other permissions specified in the relevant contract document.[123] The drafting of this provision offers flexibility such that the Employer's responsibility for obtaining permissions covers both the permissions that the Employer has already obtained pre-contract and those permissions that the Employer will obtain in the future.[124] The MDB also allocates responsibility for obtaining the building permit to the Employer.
- The Contractor is responsible for obtaining "all permits,[125] licences and approvals as required by applicable Laws in relation to the [design,] execution and completion of the Works [and Operation Service] and the remedying of any defects".

120. Definition of "Country" (Sub-Clause 1.1.6.2 (R/M/Y/S); Sub-Clause 1.1.25 (G)). As suggested in the Guidance Notes, this definition may need to be amended if the Site extends over two countries to provide certainty as to which country (or both) is to be deemed to be the "Country" in the Conditions. The Gold Book suggests an alternative definition of "either xxxxx or yyyyy depending on the location to which the reference will apply". This alternative is not recommended without amendment because it does not take into account that a reference to "Country" in the Conditions might apply to *both* countries.

121. *FIDIC Guide*, p. 72 and p. 144.

122. These may include planning permission for the Works, design approval, approval of methods of working, permits to work and import and export licences.

123. Specification (R/M); Employer's Requirements (Y/S/G).

124. Note that all the Books except the MDB refer to the "other permissions" described in the Specification/ Employer's Requirements "as having been (or being) obtained". The MDB replaces the words in parenthesis with "or to be". This difference is unlikely to be material.

125. The Gold Book states "all further permits" as opposed to "all permits" (Sub-Clause 1.14(b)).

2.148 The exact allocation of responsibilities under this Sub-Clause is potentially ambiguous.[126] For example, the meaning of "similar permission" is uncertain and so it is not entirely clear for which permissions not listed in the relevant contract document the Employer will be responsible. There is also a potential conflict between the Parties' obligations in this Sub-Clause in all the Books apart from the Gold Book. Under Sub-Clause 1.13(a), the Employer may be responsible for obtaining permits which are also required by applicable Laws, and thus for which the Contractor is also responsible under Sub-Clause 1.13(b). It is suggested that, in this situation, the obligations of the Contractor to obtain permits should be construed as not overlapping with the Employer's obligations. This potential conflict has been resolved in the Gold Book which includes the word "further" between "all permits" to read "all further permits . . . ". In any event, the FIDIC forms allow for exceptions to the general principles for the allocation of responsibility to be made in the Particular Conditions (or Employer's Requirements (G)). In the authors' experience, this Sub-Clause is often amended to refer to a detailed schedule which sets out expressly the permits required and which Party has the responsibility for obtaining each permit.

2.149 In the Gold Book only, the Contractor is under an additional obligation under sub-paragraph (c) to:

"at all times and in all respects comply with, to give all notices under, and pay all fees required by any licence obtained by the Employer in respect of the Site or the Works or Operation Service whether relating to the Works or Operation Service on or off the Site".[127]

2.150 This is potentially a far-reaching and onerous obligation on the Contractor because it applies to *any* licence at all obtained by the Employer from third parties in respect of the project and the operation of the final product. Moreover, under this provision the Contractor is not only required to comply with the licences but also takes over responsibility from the Employer in relation to the administrative aspects of the licences by being required to give all notices and pay all fees required.

2.151 Sub-Clause 1.13 (1.14 (G)) is silent as to the time when the Employer is required to obtain the permissions. Moreover, unlike many other Sub-Clauses in the FIDIC forms, this Sub-Clause does not expressly set out the Contractor's remedy (if any) as a result of delays by the Employer in obtaining the relevant permissions which cause consequential delays to the Contractor. Such delay to the Contractor may be considered to have been caused by a delay "attributable to the Employer" and thus, in principle, entitling the Contractor to an extension to the Time for Completion[128] under the general Employer-prevention ground in Sub-Clause 8.4 (9.3 (G)).[129] However, the Contractor will, in the absence of an express time by which the permissions must be obtained, be faced with difficulties in establishing the point that the delay in obtaining a permission is such as to entitle him to an extension of time.

2.152 On the other hand, the Contractor is likely to bear the risk of delays in the obtaining of permits, licences and approvals for which he is responsible, unless they are to

126. Joseph A. Huse, *Understanding and Negotiating Turnkey and EPC Contracts* (2nd Edn, 2002, Sweet & Maxwell), para. 5–76 at p. 102.
127. Sub-Clause 1.14(c) (G).
128. Time for Completion of Design-Build (G).
129. Sub-Clause 8.4(e) (R/M/Y); Sub-Clause 8.4(c) (S); Sub-Clause 9.3(e) (G).

be obtained from a public authority in the Country, in which case he may be entitled to an extension of the Time for Completion under Sub-Clause 8.5 (9.4 (G)) if the necessary conditions under that Sub-Clause are met[130] or if the delays can be attributed to the Employer's failure to provide assistance under Sub-Clause 2.2.

2.153 Assistance from Employer. The Contractor's responsibilities under Sub-Clause 1.13 (1.14 (G)) must be read in conjunction with Sub-Clause 2.2, by which the Employer is required to give reasonable assistance to the Contractor in his applications for the permits, licences and approvals required under Sub-Clause 1.13 (1.14 (G)). The Employer's assistance under this Sub-Clause relates to the obtaining of permits, licences and approvals under sub-paragraph (b), and also extends to the obtaining of copies of the relevant Laws of the Country (which are not readily available) and in the Contractor's applications for permits, licences and approvals required by the Laws of the Country for the delivery of Goods (including clearance of customs) and for export of the Contractor's Equipment when it is removed from the site.

2.154 Under the Red, Yellow and Silver Books, the Employer's obligation to provide reasonable assistance is qualified so that he is required to provide assistance only where he is in a position to do so. It is not possible to define what would amount to "reasonable assistance". This will depend on the specific circumstances of each case. The *FIDIC Guide*[131] however, provides an example of "reasonable assistance" as authenticating the Contractor's application documents, but notes that it would not be reasonable for the Contractor to expect the Employer to do anything which the Contractor can do himself.

2.155 It will nevertheless be apparent that the concept of "reasonable assistance" is uncertain. Therefore, the Contractor may be faced with difficulties in proving that any delays in obtaining the permits, licences and approvals for which he is responsible were caused or attributable to the Employer.[132]

Indemnities

2.156 Under Sub-Clause 1.13, (1.14 (G)) the Employer and the Contractor each indemnifies the other against the consequences of failing to comply with their respective obligations under sub-paragraphs (a) and (b).

2.157 In the MDB only, the Contractor's obligation to indemnify the Employer against consequences of the Contractor's failure to comply with his obligations under sub-paragraph (b) is qualified and does not extend to such a failure if the Contractor is "impeded to accomplish these actions and shows evidence of its diligence".[133]

Change in laws

2.158 The Parties' obligation to comply with the applicable Laws is established by the Laws themselves and not the Parties' obligations under the Contract, notwithstanding the Contractor's express obligation to comply with the applicable Laws under Sub-Clause 1.13 (1.14 (G)). The Parties are therefore more generally required, not only to comply with these

130. See Chapter 8, paras. 8.236 *et seq.* in relation to extensions of time.
131. *FIDIC Guide*, p. 76.
132. See Sub-Clause 8.4(e) (R/M/Y); Sub-Clause 8.4(c) (S); Sub-Clause 9.3(e) (G).
133. Sub-Clause 1.13(b) (M).

Laws at the time that the Contract was awarded, but also to comply with any changes that there might be to them during the course of the project. Moreover, the Contractor's obligation under Sub-Clause 1.13 (1.14 (G)) to comply with the applicable Laws is also not restricted to applicable Laws at the date of the Contract award. Further, Sub-Clause 5.4 in the Yellow, Silver and Gold Books provides that the technical standards and other specified Laws in respect of which the Works and each Section are to comply are those prevailing when the Works or Section are taken over by the Employer under Clause 10 or, in the Gold Book, when the Commissioning Certificate is issued in accordance with Sub-Clause 11.7.

2.159 Generally, each Party bears the risk of any such changes to the applicable Laws to the extent that it affects that Party. However, the FIDIC forms expressly allocate the risk to the Employer of changes to the Laws of the Country to the extent that such changes affect the Contractor's performance of his obligations under the Contract. In addition, in the extreme situation in which it becomes unlawful for either or both Parties to fulfil its or their obligations under the Contract, Sub-Clause 19.7 (18.6 (G)) provides that, upon notice,[134] by either Party, both Parties are discharged from future performance of their obligations.[135]

Changes in Laws of the Country

2.160 Sub-Clause 13.7 (13.6 (G)) of all the Books provides that the Contract Price is to adjusted to take into account "any increase or decrease in Cost resulting from a change in the Laws of the Country" made (i) after the Base Date and (ii) which affect the Contractor in the performance of his obligations under the Contract. This would apply to changes in the Laws of the Country which affect the performance by the Contractor of his obligations under Sub-Clause 1.13 and, in the Yellow, Silver and Gold Books, under Sub-Clauses 5.3 and 5.4.[136]

2.161 "Changes" covers not only the introduction of new Laws and modifications to existing Laws, but also changes in the "judicial or official governmental interpretation of such Laws". This latter expression is open to considerable interpretation by both the Employer and Contractor since, in its widest sense, it could be construed to include even *ad hoc* policy interpretation of an existing piece of legislation—so long as it satisfied the "official government interpretation" test.

2.162 Under the second paragraph of Sub-Clause 13.7 in the Red, MDB, Yellow and Silver Books, if the change in Law of the Country causes, or will cause, the Contractor to incur additional Cost, the Contractor is entitled to payment of the such additional Cost after giving notice to the contract administrator and subject to Sub-Clause 20.1. It is suggested that the reference in the first paragraph of Sub-Clause 13.7 to adjustments in the Contract Price must be intended to cover the Contractor's entitlement to Cost in this respect. In addition, the Contractor is similarly entitled to an extension of time under Sub-

134. "Notice" (G).

135. See Chapter 8, paras. 8.358–8.363.

136. In the event that there is a change or new applicable standard which comes into force in the Country after the Base Date, but is not mandatory, Sub-Clause 5.4 of the Yellow, Silver and Gold Books provides that the contract administrator may initiate a Variation under Clause 13 to require the Contractor to comply with the changed or new standard.

Clause 8.4 if the Contractor suffers or will suffer any delay as a result of the change in the Laws of the Country and if completion is or will be delayed.[137]

2.163 Sub-Clause 13.6 in Gold Book includes similar but not identical provisions to the second paragraph of Sub-Clause 13.7 in the other Books. In addition, the Gold Book includes a new provision, found in the first paragraph of Sub-Clause 13.6, which prescribes that "Adjustments to the execution of the Works or provision of the Operation Service necessitated by a change in Law shall be dealt with as a Variation and as provided for under Clause 13". It would appear, from the second sentence of this paragraph, that the expression "adjustments necessitated by a change in Law" is intended to mean adjustments "as are necessary to enable the Contractor to comply with changes in Law". Such an adjustment may be required by either Party upon given written Notice to the other. However, it is unclear how this new paragraph relates to the later provisions in this Sub-Clause, making the Contractor's entitlement to an extension of time and payment of additional Cost subject to Sub-Clause 20.1.

137. Sub-Clause 13.7 in the MDB contains an extra final paragraph which states that the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time, nor to additional cost if the same has already been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8.

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CHAPTER THREE

PRODUCT

INTRODUCTION

3.1 The "Product"—that which is to be constructed for the Employer by the Contractor under each of the five core FIDIC construction contracts[1]—is fundamentally shaped by the Contract between the Parties, irrespective of whether the product has been fully documented by the Employer, as the Red and MDB Books contemplate, or developed from the Employer's Requirements by the Contractor, as contemplated in the Yellow, Silver and Gold Books.

3.2 The FIDIC forms do not, of course, contain substantive information about the product. Provisions defining the product are not to be found at any single location in the FIDIC forms, which provide only links to the locations of the documents setting out what the product is to be. These are contemplated in the General Conditions variously as being the Specifications and Drawings (R/M), the Employer's Requirements and Contractor's Proposal (Y), the Employer's Requirements and Tender (S), the Employer's Requirements, Contractor's Proposal and Operation Management Requirements (G), along with any additional schedules and documents otherwise specified as forming part of the Contract that set out what the product is to be.[2]

3.3 The Product chapter does not seek to distinguish the Works based on how they are being procured, i.e., whether the Works are to be civil engineering under a construct-only contract in the Red or MDB Books, an architectural design-build under the Yellow Book, or a plant under the Silver or Gold Books. Likewise, although the product obligations are collected and discussed together in this chapter, in the FIDIC forms they are spread throughout the whole of the document. The Product chapter also examines the Operational Service Period and related issues in the Gold Book.

3.4 Table 3.1 on p. 58 below lists certain product elements and differences in the product under the various FIDIC forms.

3.5 While the 'product' provisions in the FIDIC forms do not address what the Works are, it does address *how* they are to be commenced, designed (where applicable), carried out, varied, tested and rectified, should any defects occur. Chapter 3 deals with quality obligations, including the manner and methods of construction, health and safety, and execution of the Works.

1. Red, MDB, Yellow, Silver and Gold Books.
2. Table 2.1 in Chapter 2 sets out the various documents that form the Contract.

Table 3.1: The Product—Key Features in the FIDIC Forms

Title	Red Book	MDB	Yellow Book	Silver Book	Gold Book
	Conditions of Contract for Construction For building and engineering works designed by the Employer	Conditions of Contract for Construction Multilateral Development Bank Harmonised Edition For building and engineering works designed by the Employer	Conditions of Contract for Plant and Design Build For electrical and mechanical plant, and for building and engineering works, designed by the Contractor	Conditions of Contract for EPC/Turnkey Projects	Conditions of Contract for Design, Build and Operate Projects
Contemplated for[3]	Building and engineering works if most or all Works are to be designed by or on behalf of the Employer	A modified Red Book in which the General Conditions would contain wording previously incorporated by Multilateral Development Banks in Particular Conditions as part of the standard bidding documents that the MDBs require their borrowers or aid recipients to follow	Electrical and/or mechanical plant, and for building and engineering works if most or all Works is to be designed by or on behalf of the Contractor	Process or power plant, a factory or similar facility or infrastructure project if (i) a higher degree of certainty of final price and time is required and (ii) the Contractor takes total responsibility for Project design and execution	Green-field Design-Build-Operate scenario, with a 20-year operation period, with a single contract awarded to a single entity, where the contractor has no responsibility for financing.
Fundamental Contractor obligations	Execute works in accordance with Contract (including Specification and Drawings), design only to extent specified	Execute works in accordance with Contract (including Specification and Drawings), design only to extent specified	Provide plant and design (except as specified) and execute other works, which includes Employer's Requirements and Proposal	Provide plant and design (except as specified) and execute other works ready for operation, which includes Employer's Requirements and Tender	Provide plant and design (except as specified) and execute other works, which includes Employer's Requirements Proposal and, operate and maintain the facility for the Operation Service Period

3. Source: Red, Yellow, Silver: FIDIC, *The FIDIC Contracts Guide* (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils) ("*FIDIC Guide*"), p. 4, FIDIC form Forewords.

Title	Red Book	MDB	Yellow Book	Silver Book	Gold Book
Contractor's General obligations (4.1)	Execute and complete, remedy any defects in the Works. Design the Works only to the extent specified in the Contract.	Execute and complete, remedy any defects in the Works. Design the Works only to the extent specified in the Contract.	Design, execute and complete the Works, remedy any defects in the Works. When completed, the Works shall be fit for the purposes defined in the Contract.	Design, execute and complete the Works, remedy any defects in the Works. When completed, the Works shall be fit for the purposes defined in the Contract.	Design, execute and complete the Works, remedy any defects in the Works. When completed, the Works shall be fit for the purposes defined in the Contract. Ensure Works shall be fit for such purposes during the Operation Service Period
Works	Permanent Works and Temporary Works	Permanent Works and Temporary Works	Permanent Works and Temporary Works	Permanent Works and Temporary Works	Permanent Works, Temporary Works and the facility to be operated by the Contractor during the Operation Service Period
Contract Administration by	Engineer, appointed by Employer	Engineer, appointed by Employer	Engineer, appointed by Employer	Employer (unless he appoints Employer's Representative)	Employer's Representative

3.6 Some key areas considered in the Product chapter include the scope of work, the Site including discussions on Unforeseeable physical conditions and unforeseeable difficulties, Site data, Site access, use and possession; design, including the design review/approval process, design risk and fitness for purpose obligations; Variations—including powers and limits on Variations, the process and procedure; testing of the Works, including tests before completion, Tests on Completion, Tests after Completion, and the Gold Book Tests Prior to Contract Completion; and defects, including the process for remedying defects, the Defects Notification Period and cessation of liability.

THE SCOPE OF WORK

Contractor's general obligations: Red Book and MDB

3.7 Under Sub-Clause 4.1 of the Red and MDB Books, the Contractor is to:

(i) design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and the Engineer's instructions, and remedy any defects in the Works;

(ii) provide the Plant and Contractor's Documents, Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for the Contractor's design, execution, completion and remedying of defects.

3.8 Under the MDB, the Contractor is further obliged to ensure that all equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by the Bank, so as to accommodate any requirements of World Bank/export credit agency financing, where funding is typically linked to an obligation to source such equipment, material, and services from the country of the relevant funder. In cases where such financing is being obtained, the precise requirements for satisfying the funders will have to be determined and specified in the Particular Conditions.

3.9 Both the Red Book and MDB, and indeed all FIDIC forms, make clear in Sub-Clause 4.1 that the Contractor shall be responsible for the adequacy, stability and safety of all site operations and of all methods of construction of the Works. (See paragraphs 3.26 *et seq*. below.)

3.10 Unlike the Yellow, Silver and Gold Books, the Red Book and MDB contain no obligation to carry out all unspecified works that are necessary for the safe and proper operation of the Works. This is understandable as the design (and hence the scope of work) is principally to be provided by the Employer.

3.11 Sub-Clause 4.11 provides that the Contractor is deemed to have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount (Contract Price in the Silver Book), and to 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*] (see paragraphs 3.139–3.146 below).

Contractor's general obligations: Yellow, Silver and Gold Books

3.12 Sub-Clause 4.1 of the Yellow, Silver and Gold Books requires the Contractor to design, execute and complete the Works, and remedy any defects in the Works.

3.13 The Works also include any work necessary to satisfy the Employer's Requirements, Contractor's Proposals and Schedules[4] or is implied by the Contract, and all work necessary for the stability, completion, or safe and proper operation of the Works.

3.14 Unlike the Red and MDB Books,[5] Sub-Clause 4.1 of the Yellow, Silver and Gold Books requires that "When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract". This distinction reflects the fact that under the Red and MDB Books the Contractor has limited design obligations when compared to the other Books. In relation to fitness for purpose, see paragraphs 3.192–3.202 below.

4. The Contractor's Proposals and Schedules are excluded in the Silver Book.

5. Except where the Contract specifies that the Contractor is to design part of the Permanent Works, in which case Sub-Clause 4.1(c) imposes a fitness for purpose obligation in respect of that part.

Implied Works

3.15 The Works are stated in Sub-Clause 4.1 of the Yellow, Silver and Gold Books to include:

- any work necessary to satisfy the Employer's Requirements, Contractor's Proposal and Schedules;
- any work implied by the Contract; and
- all work which (although not mentioned in the Contract) is necessary for stability or for the completion, or safe and proper operation, of the Works.

3.16 The imposition of obligations in relation to work implied by, and work not mentioned in, the Contract reflects the Contractor's extended design obligations, and is an expansion of the obligation present in all FIDIC forms to provide all "things and services . . . whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects".[6]

3.17 Sub-Clause 4.11 provides that the Contractor is deemed to have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount (Y/G) Contract Price (S). In the Yellow and Gold Books, the Contractor is deemed to 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 (see also paras. 3.139–3.142 below). There is no equivalent provision in the Silver Book.

Contractor's general obligations: Gold Book—Operation Service

3.18 Fundamentally, the Gold Book is a design-build, operate and maintain contract,[7] notwithstanding that the maintenance aspects of the Contractor's obligations are not as explicit as the operation aspects.

3.19 The Gold Book Sub-Clause 4.1 extends the Contractor's obligation to design, execute and complete the Works and remedy any defects in the Works, to include providing the Operation Service in accordance with the Contract.

3.20 As with the Yellow and Silver Books, Sub-Clause 4.1 of the Gold Book requires that "When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract . . . " In the Gold Book, the Contractor is responsible for ensuring that the Works remain fit for such purposes during the Operation Service Period, and by Sub-Clause 17.9 indemnifies the Employer against errors in the Contractor's design of the Works and other professional services that result in the Works not being fit for purpose, or result in the Employer suffering damage.[8] Similarly, the Contractor's obligation to be responsible for the adequacy, stability and safety of all site operations and methods of construction encompass both the Design Build Period and the Operation Service Period.

6. Sub-Clause 4.1.

7. Maintenance obligations are referred to, for example, in the definition of Operation Service (1.1.57), the requirements of the Operating Licence (1.7), reference to O&M personnel (10.1), the obligation of the Contractor to operate and maintain the Plant (10.8), maintenance required under the Contract (14.19).

8. In relation to fitness for purpose, see paras. 3.192–3.202 below.

3.21 Sub-Clause 4.11 provides that the Contractor is deemed to have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount. As in the Yellow Book, in the Gold Book the Contractor is deemed to 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 (see paragraphs 3.139–3.142 below).

Permanent Works, Temporary Works, Goods, Plant and Materials

3.22 "Works"[9] in all FIDIC forms are defined as the Permanent Works[10] and the Temporary Works[11] or either of them, as appropriate. The "Permanent Works" are those works to be executed by the Contractor under the Contract—that which is to be handed over to the Employer. "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. Temporary Works are those works that are not handed over to the Employer, but are removed by the Contractor, which might include falsework, cofferdams, temporary retaining walls, formwork, scaffolding and the like. "Goods"[12] is defined to mean the Contractor's Equipment and Temporary Works, both of which remain the Contractor's property, and Materials and Plant, both of which become part of the Permanent Works. "Plant"[13] is defined to mean apparatus, machinery and vehicles intended to form or forming part of the Permanent Works, and the complementary definition "Materials"[14] is defined as things of all kinds, excluding Plant, that form part of the Permanent Works. "Contractor's Equipment"[15] is defined broadly, to mean all apparatus, machinery, vehicles and other things required in executing and completing Works and rectifying any defects, whether owned or merely used by the Contractor, and includes mechanical equipment owned or used by Subcontractors.

Manner of execution

3.23 The Red, MDB, Yellow and Silver Books contain identical provisions in Sub-Clause 7.1 regarding the Contractor's obligation to carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works. Paragraph (a) provides a link to any more detailed provisions in the Contract, stating that activities must be performed "in the manner (if any) specified in the Contract". In addition paragraphs (b) and (c) further provide that such carrying-out must be done "in a proper workmanlike and careful manner, in accordance with recognised good practice", and "with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract". The Gold Book contains the same provisions as the other FIDIC forms,

9. Sub-Clause 1.1.5.8 (R/M/Y/S), 1.1.82 (G). In the Gold Book, "Works" also includes the facility to be operated by the Contractor during the Operation Service Period.
10. Sub-Clause 1.1.5.4 (R/M/Y/S), 1.1.61 (G).
11. Sub-Clause 1.1.5.7 (R/M/Y/S), 1.1.79 (G).
12. Sub-Clause 1.1.5.2, (R/M/Y/S), 1.1.45 (G).
13. Sub-Clause 1.1.5.5, (R/M/Y/S), 1.1.62 (G).
14. Sub-Clause 1.1.5.3, (R/M/Y/S), 1.1.52 (G).
15. Sub-Clause 1.1.5.1, (R/M/Y/S), 1.1.18 (G).

augmented by: (i) provisions reflecting the Operation Service period;[16] and (ii) a clarification that such carrying out must be "*in accordance with the applicable Laws* in the manner (if any) specified in the Contract" (emphasis added)—notwithstanding that Sub-Clause 1.14 of the Gold Book (and 1.13 of the other Books) separately obliges the Contractor to comply with applicable laws when performing the Contract. The obligations to use "a proper workmanlike and careful manner", "recognised good practice" and "properly equipped facilities" are inexact obligations that may well vary by industry, jurisdiction and the nature of the Works. "Workmanlike manner", although imprecise, has a long history of usage under English law;[17] similarly, it is submitted that "recognised good practice" has sufficient parallels in the construction industry with terms such as 'prudent industry practice' or 'good industry practice' that compliance with the obligation should ultimately be measureable by being the subject of expert evidence in an arbitration.

3.24 The obligation to use non-hazardous Materials is subject to any express provisions to the contrary being specified in the Contract. Consequently, if the Contractor wishes to use hazardous Materials, he may be entitled to use them if they are either expressly contemplated by the Contract, or subsequently approved under the value engineering provisions in Sub-Clause 13.2. Additionally, "Materials" refers only to those things forming part of the Permanent Works—hazardous items such as explosives will be Goods rather than Materials, and are accordingly not prohibited by Sub-Clause 7.1(c).

3.25 The Contractor's obligation in Sub-Clause 4.1 is to design (to the extent specified), execute and complete the Works "in accordance with the Contract", which is to be read, and the terms of the Contract to be considered, in the context of the Contract as a whole.[18] The scope of the Contractor's work is determined expressly by the documents forming the Contract, the range of which is listed in part in Table 2.1 of Chapter 2, The FIDIC Contract, and which are augmented by the Parties as required for each particular project. Chapter 2 contains a further discussion of those documents.

Methods of construction

3.26 The FIDIC forms variously use terms relating to the 'manner' of execution and the 'method' of constructing the Works. All FIDIC forms set out several related obligations, including that the Contractor:

(i) is "responsible for . . . all methods of construction of the Works";[19]
(ii) must "submit details of the arrangements and methods" proposed for the execution of the Works and must not make any significant alteration to these arrangements and methods without prior notification to the contract administrator;[20]
(iii) "shall be responsible for his construction *and operation* activities on the Site";[21]

16. The Gold Book, the first paragraph states "The Contractor shall carry out the manufacture *and/or replacement and/or repair* of Plant, the production and manufacture of Materials, and all other *activities during the* execution of the Works *and provision of the Operation Service*:" (Gold Book changes shown italicised).

17. See, for example *Pearce* v. *Tucker* (1862) 3 F & F 136; 176 ER 61.

18. In the US, this is codified as the third rule (Primary Rule (c)) of the Restatement of Contracts. In English law, see *Throckmerton* v. *Tracy* (1555) 1 Plowd 145 at 161; *Bettini* v. *Gye* (1876) 1 QBD 183; *Butler Machine Tool Co. Ltd* v. *Ex-Cell-O Corporation (England) Ltd* [1979] 1 WLR 401; [1979] 1 All ER 965.

19. Sub-Clause 4.1.

20. Sub-Clause 4.1.

21. Sub-Clause 4.6 (Y/S/G). Gold Book additional text italicised.

(iv) must carry out the execution of the Works "in the manner (if any) specified in the Contract";[22]
(v) must execute the Works "in a proper workmanlike and careful manner";[23] and
(vi) must execute the Works in accordance with the Engineer's instructions (R/M only).[24]

3.27 In respect of method, FIDIC has taken much the same approach in all forms. The contract administrator is entitled to see details of the arrangements and methods, which the Contractor is obliged to submit "whenever required by the [contract administrator]".[25] The contract administrator has no right of approval, absent a Particular Condition to this effect, and as a consequence his only right would seem to be to notify the Contractor if the method does not comply with any aspect of the Contract. Additionally, from the use of "method" and "manner" above, FIDIC presumably intended in this context that the manner of carrying out the Works relates generally to standards of skill and care, while "method" relates to the practicalities of construction. In this respect, the approach is borne out by the Contractor's obligation only to give prior notice, rather than seek approval, for any significant alterations to the methods. If a method of construction is incorporated as a Contract document, the Contractor is obliged by Sub-Clause 7.1 to comply, which provision reflects the position under English law.[26]

Contractor's Documents

3.28 "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 further described in Sub-Clause 5.2 [*Contractor's Documents*] (Y/S/G)).[27]

3.29 "Contractor's Documents" is defined similarly in all FIDIC forms, although the obligations arising in relation to the Contractor's Documents vary between the construction forms (R, M) and the plant/design-build forms (Y, S, G).[28] As between the Parties, the Contractor retains copyright and other intellectual property rights in the Contractor's Documents and other design documents made by or on behalf of him.[29] See Chapter 7, paras. 7.32 *et seq.* regarding care of the Contractor's Documents.

22. Sub-Clause 7.1(a).
23. Sub-Clause 7.1(b).
24. Sub-Clause 4.1, para. 1 Red or MDB Books. There is no equivalent obligation in the other Books, although this does not make any difference. The Red or MDB Books provision does not confer a power on the Engineer. In all Books, the power to issue instructions is similar in Sub-Clause 3.3 (R/M/Y/G) "which may be necessary for the execution of the Works and remedying defects" and Sub-Clause 3.4 (S) "which may be necessary for the Contractor to perform his obligations under the Contract".
25. Sub-Clause 4.1.
26. *Yorkshire Water Authority* v. *Sir Alfred McAlpine & Son (Northern) Ltd* (1986) 32 BLR 114; *Holland Dredging (UK) Ltd* v. *The Dredging and Construction Co Ltd* (1987) 37 BLR 1.
27. Sub-Clause 1.1.6.1, (R/M/Y/S), 1.1.19 (G).
28. In the Red and MDB Books, certain key provisions for Contractor's Documents are in Sub-Clause 4.1; in the Yellow, Silver and Gold Books, key design related Contractor's Document provisions are in Sub-Clause 5.2.
29. See Sub-Clause 1.10 regarding copyright and intellectual property rights in the Contractor's Documents.

Red Book and MDB

3.30 By Sub-Clause 4.1, the Contractor is to provide, and is responsible for, the Contractor's Documents specified in the Contract. The Employer is entitled to use the Contractor's Documents (and other design documents made by or on behalf of the Contractor) for the purposes of "completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works",[30] throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works and otherwise only with the Contractor's consent.

3.31 In the Red and MDB Books, where the Contractor is to design part of the Permanent Works, Sub-Clause 4.1(a) requires him to submit the Contractor's Documents (including relevant as-builts) to the Engineer in accordance with the procedures specified in the Contract. The procedures are not specified in the General Conditions, but Sub-Clause 4.1(b) requires the Contractor's Documents to be in accordance with the Specification and Drawings. Thus, another contract document will need to set out the procedures relating to Contractor's Documents (for example, for submission for review and approval). Contractor's Documents are defined only as those "supplied by the Contractor under the Contract". Sub-Clause 4.1 does not oblige the Contractor to submit all of the documents he prepares in connection with the Contract (e.g., calculations and preliminary sketches may not be included as documents to be supplied under the Contract)—they are not documents to be supplied under the Contract. The Contract should therefore specify what documents are to be Contractor's Documents.

3.32 It should also be noted that by Sub-Clause 11.9, the Engineer's obligation to issue the Performance Certificate is predicated on the Contractor having supplied all the Contractor's Documents, such as 'as-built' documents and operation and maintenance manuals required by the Contract, as contemplated in Sub-Clause 4.1(d).

Sub-Clause 5.2: Yellow and Silver Books

3.33 Sub-Clause 5.2, relating to Contractor's Documents, is largely identical in the Yellow Book and Silver Book, and diverges primarily in respect of the Engineer's consent requirements. As with the Red and MDB Books, Contractor's Documents are only those documents the Contractor has to submit. The Yellow and Silver Books modify the Red Book definition of Contractor's Documents, specifying that they are those "described in Sub-Clause 5.2 [*Contractor's Documents*]". Not all documents prepared by the Contractor fall within the definition of Contractor's Documents—which by Sub-Clause 5.2 comprise:

- the technical documents specified in the Employer's Requirements;
- documents required to satisfy regulatory approvals;
- as-built documents (per Sub-Clause 5.6); and
- operation and maintenance manuals (per Sub-Clause 5.7).

3.34 The Contractor is not only obliged to prepare the Contractor's Documents (i.e., those to be submitted), but also "any other documents necessary to instruct the Contractor's Personnel".[31] Sub-Clause 5.2 of the Yellow Book, but not the Silver Book, gives

30. Sub-Clause 1.10.
31. Sub-Clause 5.2.

the Employer's Personnel the right to inspect the preparation of these documents. The absence of such a provision in the Silver Book is consistent with the policy undertaking in that Book that the Contractor should take overall responsibility for design-build with limited interference from the Employer.

Contractor's Documents submitted for review: Yellow and Silver Books

3.35 Sub-Clause 5.2 of the Yellow Book does not itself stipulate whether the Contractor's Documents are to be provided for review only, or for approval. However, as the fourth paragraph is drafted variously "for review and/or for approval" and " . . . for review and (if so specified) for approval", any requirement for approval will have to be expressly specified in the Employer's Requirements. Clause 5 [*Design*] in the Silver Book makes no provision for Contractor's Documents to be submitted for approval, and accordingly, absent a Particular Condition, Contractor's Documents submitted in the Silver Book will be for review only.

3.36 The third paragraph of Sub-Clause 5.2 requires that if the Employer's Requirements describe the Contractor's Documents which are to be submitted to the contract administrator for review ((and/or for approval) (Y)), they shall be submitted accordingly. By the fourth paragraph of the Sub-Clause, each review period is not to exceed 21 days from the date the contract administrator receives the Contractor's Document and notice, although a different period may be specified in the Employer's Requirements.[32]

3.37 Paragraph 5 of the Sub-Clause provides that the "[contract administrator] 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." In such case, the relevant Contractor's Document is to be rectified, resubmitted and reviewed ((and, if specified, approved) (Y)) in accordance with Sub-Clause 5.2 again, and at the Contractor's cost. The provision raises two important items.

3.38 First, the contract administrator's entitlement to give notice expires at the end of the review period. While the word "may" gives the contract administrator discretion not to give such notice—which approach is consistent with the remainder of the Sub-Clause—it does not entitle the contract administrator to do so after the review period. Under common law, such a provision may be problematic for a tardy contract administrator who finds himself facing a Contractor's challenge that his notice given out of time is invalid and of no effect. On the other hand, the objections in any notice must, by Sub-Clause 5.2, be predicated on the Contractor's non-compliance with the Contract, and the fact that a notice is given out of time will not make a non-compliant Contractor's Document compliant with the Contract.

3.39 Secondly, the Sub-Clause places limits on the contract administrator's entitlements to comment. The obverse of such a limit is that a Contractor is arguably not obliged to take account of comments in a contract administrator's notice if they go beyond the question of whether or not the documents comply with the Contract. In practice, this can be a potential area of commercial difficulty, in part because the Contract may be unclear as to the details

32. The Contractor's notice is to state (i) that the Contractor's Document is considered ready, both for review (and approval, if so specified (Y)) in accordance with Sub-Clause 5.2, and for use, and (ii) that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

being considered in the notice, and in part because the contract administrator may not restrict comments solely to Contract compliance.

3.40 Paragraph 5 further requires the Contractor to rectify and resubmit the relevant documents, "if a Contractor's Document so fails to comply", which is an objective test, determinable irrespective of the contract administrator's view. The additional cost not only of document revision, but the contract administrator's further review is to be borne by the Contractor.

3.41 By Sub-Clause 5.2(b) ((a) (S)),[33] the Contractor may undertake work relating to documents 'to be reviewed' (rather than approved) upon the expiry of the review period.[34] If the Contractor receives notice from the contract administrator that the documents to be reviewed do not comply with the Contract, and elects to proceed, he will do so at his risk.

3.42 Sub-paragraph (c) ((b) (S)) obliges the Contractor to execute the Works in accordance with these reviewed documents. Sub-paragraph (d) ((c) (S)) requires the Contractor immediately to give notice to the contract administrator if the Contractor wishes to modify any previously reviewed Contractor's Document, and thereafter, to submit the revised documents to the contract administrator, whereupon the review procedure in Sub-Clause 5.2 applies again.

3.43 The penultimate paragraph of Sub-Clause 5.2 obliges the Contractor to prepare promptly any further Contractor's Documents if the contract administrator instructs that further Contractor's Documents are required. In this respect, the *FIDIC Guide* observes that, if the further Contractor's Documents "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".[35]

3.44 Finally, Sub-Clause 5.2 concludes with an express statement, as is the case in most construction contracts, that no approval, consent or review relieves the Contractor from any obligation or responsibility.[36]

Contractor's Documents submitted for approval: Yellow and Silver Books

3.45 The Yellow and Silver Books diverge in their treatment of documents to be submitted for approval. The Yellow Book provisions in Sub-Clause 5.2 sub-paragraphs (a)(i) to (iii), dealing with the regime for approval, are absent from the Silver Book, which makes no fundamental provision for approvals. This is consistent with the policy of the Silver Book to give greater flexibility to the Contractor in the way the work is carried out,[37] and thus any requirement to the contrary will be in a Particular Condition. As such, only the General Conditions of the Yellow Book deal with Contractor's Documents submitted for approval. For that reason, the remainder of this section is relevant only to the Yellow Book.

33. Sub-Clause 5.2(a) deals with circumstances where Contractor's Documents are submitted for approval. See paras. 3.45 *et seq.* below.
34. Sub-Clause 5.2(b) (Y), 5.2(a) (S), (and 5.2(b) (G)).
35. *FIDIC Guide*, p. 144.
36. See also paras. 3.45–3.50 below.
37. Foreword to the Silver Book.

3.46 The process for approval is the same as for, and indeed is combined in the Contract with the process for, review discussed above.[38] By Sub-Clause 5.2(a)(i), where a Contractor's Document is submitted for approval, the Engineer shall give notice that "the Contractor's Document is approved, . . . or that it fails (to the extent stated) to comply with the Contract". Importantly again, the Engineer's right of objection may only be predicated upon non-compliance with the Contract. Within that scope, the Engineer has full discretion to approve or reject in whole or in part, and to give comments which, it is submitted, may include conditional approvals, for example subject to specified changes.

3.47 Unlike Contractor's Documents submitted for review only, where documents are required to be approved, the Contractor is prohibited by Sub-Clause 5.2(a)(ii) from commencing execution of the relevant part of the Works until the Engineer has approved the Contractor's Documents. If the Engineer fails to issue notice by the expiry of the period for review, by paragraph (a)(iii), the Engineer is deemed to have approved the relevant Contractor's Document. Accordingly, any subsequent notice to the contrary will arguably be invalidly given and of no effect (but, as noted in paragraph 3.38 above, will not alter whether the Contractor's Documents do objectively comply with the Contract).

3.48 As for review resubmissions, the additional cost of not only document revision itself but the Engineer's further approval is to be borne by the Contractor. Unlike review, however, where approval is required and documents must be resubmitted, the Contractor also bears programme risk associated with the resubmission, and the delays arising from any unanticipated extended approval times, assuming any rejection is given for proper reasons.

3.49 Sub-Clauses 5.2(c) and (d) provide that the Contractor is obliged to carry out the Works in accordance with the approved Contractor's Documents, and any modifications must be resubmitted via the approval process in Sub-Clause 5.2.

3.50 Finally, Sub-Clause 5.2 concludes with an express statement, as is the case in most construction contracts, that no approval, consent or review relieves the Contractor from any obligation or responsibility. Despite this provision, it may be in some jurisdictions that the contract administrator will have difficulties in denying all liability for the Engineer's approval of Contractor's Documents. As the *FIDIC Guide* observes, "Even a 'deemed approval' under Sub-Clause 5.2(a)(iii) could give rise to such problems".[39]

Contractor's Documents: Gold Book

3.51 While generally following the Yellow Book, the Gold Book contains several changes in Sub-Clause 5.2. Most are of a 'clarifying' nature, although the Gold Book does incorporate a conceptual change in relation to consent and approval. Uniquely, in the Gold Book, the Employer's Requirements are to describe the Contractor's Documents to be submitted "for review leading to consent and/or for approval". The Gold Book contemplates that the process can lead to the Employer's Representative giving consent to a document when he is satisfied that the Contractor's Documents conform to the Employer's Requirements. Similarly, the Gold Book makes clear that those Contractor's Documents that require approval from the Employer's Representative are to be listed in the Contract Data.

38. As such, relevant comments in paras. 3.35–3.44 above will apply equally to approval.
39. *FIDIC Guide*, p. 143.

Presumably, this new distinction arises from Engineers', Employers' and Employer's Representatives' reluctance to give 'approval', and was added as another plank in a platform of denial of liability to the Contractor. The Gold Book also explicitly clarifies the situation discussed in paras. 3.45–3.50 above, in that where any resubmission and review causes the Employer to incur additional costs, the Contractor is, subject to Sub-Clause 20.2,[40] to pay these costs to the Employer.

Training

3.52 The Red Book and MDB General Conditions contain no training obligations. Sub-Clause 5.5 of the Yellow and Silver Books (10.5 (G)) contains what amount to 'sign-posts' for linking to the Parties' agreed training regime, if any. Although training is a critical component of process plants, and the interaction of training, tests on completion, risk and achievement of taking over involves significant legal and practical issues, these are beyond the scope of the FIDIC standard forms. Instead, the FIDIC forms (appropriately) provide only the link to the training regime.

3.53 The Yellow, Silver and Gold Books all require the Contractor to 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". By the Yellow and Silver Books Sub-Clause 5.5, training is required to be completed as a condition precedent to taking over under Sub-Clause 10.1 "*If* the Contract specifies training which is to be carried out before taking-over" (emphasis supplied by authors).

3.54 Under the Gold Book, training is not a condition precedent to completion of the Design-Build under Sub-Clause 9.12, no doubt because the Operation Service is being carried out by the Contractor and not the Employer.

3.55 Sub-Clause 10.5 of the Gold Book provides only that the programme and scheduling of the training "shall be agreed with the Employer, and the Contractor shall provide experienced training staff, and all training materials as stated in the Employer's Requirements", and that the Employer is responsible for providing the training facilities and nominating and selecting suitable personnel for training. Accordingly, and appropriately, it is left to the Parties to determine the timing, duration, nature and location of the training, and the numbers of personnel to be trained. If training involves any Employer's Personnel operating the Plant before completion of Design-Build, the Employer's Requirements will also need to contemplate who is taking responsibility for such Employer's Personnel, both if they are acting under the Contractor's authority and if or when they are not. These considerations apply equally to the Yellow and Silver Books.

As-Built Documents

Red and MDB Books

3.56 Under the Red and MDB Books, unless otherwise stated in the Particular Conditions, the Contractor is only responsible for as-built documents related to any design he might

40. Sub-Clause 20.2 [*Employer's Claims*] contains the regime for making the Employer's claim.

have provided for the Permanent Works.[41] However, no as-builts are required by default under the General Conditions.

3.57 Although not expressly listed in the definition,[42] any as-built documents required are Contractor's Documents. Sub-Clause 4.1(b) requires Contractor's Documents (including any as-builts) to be in accordance with the Specification and Drawings. Under Sub-Clause 4.1(d), to the extent the Contractor provided some design, as-built documents must be submitted to the Engineer for that part of the Works prior to commencement of the Tests on Completion and taking-over under Sub-Clause 10.1. By the last sentence of Sub-Clause 4.1(d), provision of the documents is also a condition precedent to achievement of taking over under Sub-Clause 10.1.

3.58 Additionally, by Sub-Clause 11.9, submission of any such required as-built documents and operation and maintenance manuals[43] is a prerequisite to the issuance of the Performance Certificate.

Yellow, Silver and Gold Books

3.59 The Contractor is obliged by Sub-Clause 5.6 (5.5 (G)) to 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. The as-builts are to be kept on the Site and used exclusively for the purposes of as-builts. While the timing of such preparation is not specified, the obligation to keep the as-builts up to date is clearly ongoing during execution of the Works.

3.60 Two (Y, S) (At least two (G)) copies are to be supplied to the contract administrator prior to the commencement of the Tests on Completion (of Design Build (G)). The first paragraph of Sub-Clause 5.2 specifies that as-builts are Contractor's Documents. In this respect, see also the relevant comments regarding Contractor's Documents in paragraphs 3.28 *et seq*. and 3.56–3.58 above. The second paragraph of Sub-Clause 5.6 (5.5(G)) provides that the Contractor must also submit as-built drawings of the Works as executed to the contract administrator for review under Sub-Clause 5.2. The contract administrator's consent must be obtained as to the size, the referencing system and other relevant details of the as-builts, by the second paragraph.

3.61 Under the third paragraph, the Contractor is to supply the contract administrator with as-builts in the numbers and types specified in the Employer's Requirements, prior to the issue of any Taking-Over (Y/S)/Commissioning (G) Certificate. The Works (Y/S) (relevant work (G)) is not considered completed for the purposes of taking-over (Y/S)[44] or issuing the Commissioning Certificate (G))[45] until the contract administrator has received the as-builts.

3.62 Submission of any such as-builts is also a prerequisite to the issuance of the Performance Certificate under Sub-Clause 11.9 (Y/S) or completion of Design-Build under Sub-Clause 9.12(c) (G).[46]

41. Along with any operation and maintenance manuals, both in accordance with the Specification. The MDB adds the clarification "if applicable, operation and maintenance manuals . . . ".
42. Sub-Clause 1.1.6.1.
43. As "Contractor's Documents" to be supplied.
44. Under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] (Y/S).
45. Under Sub-Clause 11.7 [*Commissioning Certificate*] (G).
46. As Contractor's Documents to be supplied.

Operation and maintenance manuals

3.63 Under Sub-Clause 5.7 of the Yellow and Silver Books, the Contractor is to supply "provisional" operation and maintenance manuals prior to commencement of the Tests on Completion. The provisional manuals are required to contain sufficient detail for the Employer to "operate, maintain, dismantle, reassemble, adjust and repair" the Plant.[47] Additionally, the "final" operation and maintenance manuals and any other manuals specified in the Employer's Requirements are required to be completed as a condition precedent to taking over under Sub-Clause 10.1. Under the Red Book and MDB, if the Contract specifies that the Contractor is to design any part of the Permanent Works, the Contractor is required, under Sub-Clause 4.1(d), similarly to submit to the Engineer operation and maintenance manuals in accordance with the Specification, prior to the commencement of the Tests on Completion.

3.64 Nothing in these Books specifies the numbers or form of the manuals, or limits whether they can be delivered in physical print form, or electronically, with or without their being capable of being printed, or possibly edited by the Employer. If an Employer wishes to oblige the Contractor to comply with any such requirements, he will need to specify them in the Contract.

3.65 Sub-Clause 5.6 of the Gold Book requires that operation and maintenance manuals be delivered prior to the Commissioning Period. The entitlement to deliver provisional manuals has been deleted, although the Contractor is obliged only to ensure that the manuals are in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant and the Works. The Gold Book also adds a default requirement that two copies of the manuals be provided. If there is any balance of the required operation and maintenance manuals the Contractor must supply the balance prior to the issue of the Commissioning Certificate. The Contractor is obliged to supply all operation and maintenance manuals as a condition precedent to the issue of the Commissioning Certificate.

Operation Service: Gold Book

Generally

3.66 The Operation Service is, along with the Design-Build, the second fundamental plank in the Gold Book scope of Works and services. In this respect, the Gold Book is unique among the FIDIC forms, in its integration of the operation and maintenance period.

3.67 "Operation Service" in the Gold Book is defined as the "operation and maintenance of the *facility* as set out in the Operation Management Requirements" (emphasis added).[48] Curiously, "facility" is not defined, and makes only three appearances in the Contract—all in the definitions. In addition to its inclusion in Operation Service, "facility" is referred to as part of the "Works", along with the Permanent Works and Temporary Works. It is also the thing being operated and maintained in the definition of "Operation and Maintenance Plan".[49] It would have been helpful in the Gold Book to define more

47. See further comments at n. 76 in Chapter 5.
48. Sub-Clause 1.1.57.
49. Sub-Clause 1.1.56.

precisely the thing that is to be operated and maintained—which may be the Permanent Works. By Sub-Clause 1.1.61, "Permanent Works" means the permanent works to be designed, executed and operated by the Contractor under the Contract. Notwithstanding the circularity of the definition, from the definition one would presume that the 'thing' being operated and maintained is the Permanent Works or the Plant.[50]

3.68 On the whole, the provisions in Sub-Clause 10.1 and Clause 10 provide only a 'skeleton' outline of what obligations the parties would typically expect to see in an operation and maintenance contract, and the authors note the comments from the European International Contractors that "Clause 10 [*Operation Service*] is not adequate to regulate the Operation Service Period. In EIC's experience, the contract provisions relative to the Operation Service Period need to be much more detailed than FIDIC has provided for under Clause 10. Thus, the FIDIC DBO Contract appears to be under-dimensioned in respect of the Operation Service Period".[51]

3.69 This is because FIDIC has adopted the policy that the Operation Service obligation should be subject to the Operation Management Requirements, which form part of the Employer's Requirements (and further documents discussed below), and which will need to be drafted in relation to the individual project. The use of a 'skeleton' outline in the General Conditions does, however, mean that the Operation Management Requirements and other documents will have to be comprehensive.

General requirements

3.70 The Operation Management Requirements are the subset of the Employer's Requirements that specify the purpose, scope and other technical criteria for the carrying out of the Operation Service. The Gold Book contemplates them as the "set of procedures and requirements, provided by the Employer, included in the Employer's Requirements for the proper implementation of Operation Service" (Sub-Clause 1.1.55).

Table 3.2: Documents Relating to Operation Service—as contemplated in Contract

Document	Prepared by	Notes
Particular Conditions Part A—Contract Data	Employer	As appropriate
Particular Conditions Part B—Special Provisions	Employer	Particular Conditions relevant to Operation Service
Employer's Requirements Operation Management Requirements[52]	Employer	

50. For ease of reference only, the authors refer to the thing being operated as the "facility". Sub-Clause 10.8 also refers to the "Plant" being operated.

51. EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for Design, Build and Operate Projects*, (2009, European International Contractors), p. VI.

52. Sub-Clause 1.1.55 (G).

Document	Prepared by	Notes
Operating Licence[53]	Employer	
Contractor's Proposal[54]	Contractor	Submitted with Contractor's Letter of Tender
Schedules[55] Schedule of guarantees Asset Replacement Schedule Schedule of Rates and Prices (if any) Schedule of Payments (if any)	Contractor	Submitted with Contractor's Letter of Tender
Operation and Maintenance Plan[56]	Contractor	

3.71 Sub-Clause 10.1 obliges the Contractor to comply with the (Employer-provided) Operation Management Requirements and any agreed revisions during the Contract Period, as well as:

- the Operation and Maintenance Plan, which is to be "submitted by the Contractor, and agreed and included in the Contract";[57] and
- the operation and maintenance manuals, which are generated by the Contractor during the Design-Build Period.[58]

3.72 Nothing in the Gold Book clarifies expressly when the Operation and Management Plan is to be submitted, although one would expect as a practical matter that it would be developed during the design-build phase, and finalised once the detail of the Works was completed. It may also be probable that an outline of the Operation and Management Plan might be sought from tenderers at an earlier stage. If this is desirable, the Employer would need to make such a request expressly.

3.73 Under the second paragraph of Sub-Clause 10.1, any significant alterations to the arrangements and methods in the Operation and Management Plan must have the prior approval of the Employer's Representative.

3.74 The third paragraph of Sub-Clause 10.1 sets out one key aspect of the Operation Service requirements, namely that, during the Operation Service, the Contractor remains responsible for ensuring that the Works remain fit for the purposes for which they are intended.[59] This obligation mirrors the second portion of the obligation specified in the first paragraph of Sub-Clause 4.1. While the drafting of the obligations varies—Sub-Clause 4.1 refers to the Works being "fit for the purposes for which the Works are intended *as defined*

53. Sub-Clause 1.1.54 (G).
54. Sub-Clause 1.1.20 (G).
55. Sub-Clause 1.1.68 (G).
56. Sub-Clause 1.1.56 (G).
57. Sub-Clause 1.1.56 (G).
58. Required under Sub-Clause 5.6.
59. The authors, like the authors of the *EIC Contractor's Guide to the FIDIC Conditions of Contract for Design, Build and Operate Projects* (*op. cit*. n. 51), have assumed that Works = Design-Build + Operation Service.

in the Contract" (emphasis added) which Sub-Clause 10.1 does not, the authors suggest that this difference is one of drafting, rather than substance. In essence, this provision extends the fitness for purpose warranty given in Sub-Clause 4.1 throughout the entire Operation Service Period, by making the Contractor responsible for operation and maintenance until some 20 years after completion of the Design-Build.

3.75 The final paragraph of Sub-Clause 10.1 requires the operators and maintenance personnel for the Works to have appropriate experience and qualifications, and obliges the Contractor to submit specified details of all personnel to the Employer for approval, prior to their being engaged.

Commencement and carrying-out of Operation Service

3.76 Sub-Clause 10.2 states that the commencement of the Operation Service shall be from the date stated in the Commissioning Certificate issued under Sub-Clause 11.7 [*Commissioning Certificate*], unless otherwise stated in the Employer's Requirements. Further, by Sub-Clause 10.2, Operation Service is not to commence until the Design-Build of the Works or any Sections has been completed in accordance with Sub-Clause 9.12 [*Completion of Design Build*]. This seems rather tautologous, as the second proviso, completion of Design-Build under Sub-Clause 9.12 itself requires the Commissioning Certificate to have been issued under Sub-Clause 11.7.[60]

3.77 The third paragraph of Sub-Clause 10.2 makes provision for requirements or restrictions over and above those in the Contract being included in the Commissioning Certificate or any attached Notice. To the extent the Contractor suffers additional Cost as a result of its compliance, he is reimbursed subject to Sub-Clause 20.1 [*Contractor's Claims*] unless such requirements or restrictions were as a result of his fault or failure.

3.78 Once commenced, the Contractor's obligations in relation to provision of the Operation Service are set out in the fourth paragraph of Sub-Clause 10.2, namely to provide the Operation Service in compliance with the Operation Management Requirements, the Operation and Maintenance Manuals, and in accordance with Sub-Clause 5.5 [*As Built Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*].

3.79 Sensibly, Sub-Clause 10.2 also makes provision for ongoing modification of approved documents, which is in the authors' estimation inevitable over a 20-year Operation Service Period. If the Contractor wishes to modify an approved document, he is immediately to notify the Employer's Representative, and shall subsequently submit revised documents for review, accompanied by a written explanation of the need for such modification. The Contractor is prohibited from implementing any proposed modification until such modification has been reviewed by the Employer's Representative, and consent to proceed has been given in writing. The drafting clearly contemplates an *ad hoc* approach to updating the various documents, although in practice one might expect the Parties to prefer a more structured regime.

Independent compliance audit

3.80 Sub-Clause 10.3 sets out a mechanism for compliance audits by an independent Auditing Body appointed jointly by the Parties. The Sub-Clause contemplates that the

60. See also Chapter 5, paras. 5.119–5.125 and paras. 5.176–5.181.

terms of the Auditing Body's appointment are stipulated as included in the Employer's Requirements. In this respect, the authors contend, as the EIC Contractor's Guide observes, "the role, power and authority of such Auditing Body would have deserved to be specified and clarified". For example, the Contract makes no pronouncement regarding the identity or composition of the Auditing Body, provision for retirement of Auditing Body members, or replacement of any members. The Contract also leaves the constitution of the Auditing Body wide open, with the consequence that the Parties could appoint an individual, a panel, or a corporate entity.

3.81 The introduction of the role of the Auditing Body does not make the Auditing Body responsible for carrying out any part of the role of the Employer's Representative in overseeing the Contractor's performance of its Operation Service, and that role remains unchanged.[61] The Auditing Body is expressly to audit and monitor the performance of both parties during Operation Service, in compliance with the Operation Management Requirements.

3.82 The Sub-Clause makes further provisions for appointment and payment of the Auditing Body, and obliges the parties to co-operate with the Auditing Body. From the drafting, it is clear that the Auditing Body's role is reporting only, and that (absent anything to the contrary in the terms of its appointment), it has no powers of determination or sanction. Indeed, even the reporting obligations of the Auditing Body are left to the Employer's Requirements. Finally, the Sub-Clause obliges the Parties to "give due regard to the matters raised in each report issued by the Auditing Body", but gives no indication or guidance as to what FIDIC considers this will entail.

Delivery of raw materials

3.83 Sub-Clause 10.4 of the Gold Book makes the Employer responsible "for the free issue and supply and delivery to the Site (or other designated place) of the raw materials, fuels, consumables and other such items specified in the Employer's Requirements".[62] The second sentence of the first paragraph states that the Employer is responsible for ensuring that all such items are fit for purpose and comply with the requirements of the Contract in respect of quality, purpose and function.

3.84 By the second paragraph, if any item is not delivered in accordance with the agreed programme or specified quality, and the Contractor subsequently suffers additional cost, he is entitled to give notice to the Employer of the nature of the costs incurred and, subject to Sub-Clause 20.1, is entitled to recover Cost Plus Profit.

3.85 The final paragraph lists various carve-outs from the Employer's liability to the Contractor, providing that the Sub-Clause will not apply in cases where delays are due to: (a) breakdown, maintenance, repair, replacement or other operational failure under the responsibility of the Contractor; (b) health, safety and environmental risks carried by the Contractor; or (c) any act or omission of the Contractor under the Contract.

61. The Employer's Representative retains obligations, for example, under Sub-Clauses 10.1, 10.2, 10.6 (by way of determination in Sub-Clause 3.5), and 10.7 (implied, likely as agent for the Employer's obligations).

62. In respect of free issue materials in other Books, see Free issue materials, paras. 3.278–3.279.

Delays and interruptions during the Operation Service

3.86 Sub-Clause 10.6 sets out the regime for dealing with delays and interruptions during the Operation Service. For delays or interruptions caused by the Contractor or "by a cause for which the Contractor is responsible" the Contractor, under paragraph (a), is to "compensate the Employer for any losses including loss of revenue, loss of profit and overhead losses". The compensation is to be determined or agreed by the typical mechanism under Sub-Clause 3.5, and subject to Sub-Clause 20.2 [*Employer's Claims*]. The Employer is entitled to recover the amount due by deduction from the next payment due to the Contractor.

3.87 Importantly, these heads of loss are carved out of the exclusion on consequential loss in the first paragraph of Sub-Clause 17.8. In this context, the EIC have observed that, "The compensation obligation of the Contractor encompassing loss of revenues, loss of profits and overheads is far too wide and therefore not acceptable to most Contractors".[63] Paragraph (a) does cap the total amount of compensation payable by the Contractor to the Employer at an amount stated in the Contract Data. The Contract Data itself gives no guidance as to how the amount is to be cast. The authors suggest that it may be appropriate for the Parties to specify an annual cap. This would be consistent with the authors' experience on liability caps in bespoke operation and maintenance contracts. The amounts payable also remain within the Contractor's overall liability to the Employer under the second paragraph of Sub-Clause 17.8.

3.88 Paragraph (b) of Sub-Clause 10.6 imposes on the Employer a mirror liability to that imposed on the Contractor under paragraph (a). This provision obliges the Employer to "compensate the Contractor for any cost and losses including loss of revenue and loss of profit". The compensation is to be determined or agreed by the typical mechanism under Sub-Clause 3.5, and subject to Sub-Clause 20.1 [*Contractor's Claims*]. The Contractor is entitled to compensation by adjustment to the next payment due to him.

3.89 The final sentence of both paragraphs makes clear that there will be no extension of the period of the Operation Service as a result of any such delay or interruption.

3.90 Paragraph (c) sets out a skeleton regime for suspension by the Employer. Fundamentally, the Employer's Representative is entitled at any time during Operation Service to instruct a suspension. During the suspension, the Contractor is obliged to "protect, store, secure and maintain the Plant against any deterioration, loss or damage". Costs of the suspension are referred back to the mechanisms in paragraphs (a) or (b) of the Sub-Clause, as applicable, with the Employer bearing costs of suspension attributable to third parties.

3.91 The penultimate paragraph of the Sub-Clause contains a familiar long-stop regime for prolonged suspension. If a suspension that is due neither to any failure by the Contractor nor to circumstances for which the Contractor is responsible under the Contract has continued for more than 84 days, the Contractor may request the Employer's Representative's permission to proceed. If the Employer's Representative does not give permission within 28 days after being requested to do so, the Contractor may give notice of termination under Sub-Clause 16.2 [*Termination by Contractor*].

3.92 Under the final paragraph of Sub-Clause 10.6, after the permission or instruction to proceed is given, the Contractor and the Employer's Representative are to examine the

63. EIC, *op. cit.* n. 51, p. 26.

Works jointly, and the Contractor is to make good any deterioration or defect in the Plant. The Employer's Representative is charged with making a written record of all making good required to be carried out by the Contractor. Where the suspension is due neither to any failure by the Contractor nor to circumstances for which the Contractor is responsible under the Contract, he is entitled to be paid, subject to Sub-Clause 20.1 [*Contractor's Claims*], the "Cost Plus Profit of making good the Works prior to re-commencing the Operation Service".

3.93 See additional discussion on suspension of Operation Service in Chapter 8, paragraphs 8.129–8.130 and 8.283–8.284.

Failure to reach production outputs

3.94 The Contractor has an ongoing obligation during the Operational Service to achieve the "production outputs" required under the Contract. Where the Contract does not specify the production outputs, then it follows that the relevant Clause will not apply.

3.95 If the Contractor fails to achieve the production outputs required, under Sub-Clause 10.7 the Parties should "jointly establish the cause of such failure". If the cause of the failure lies with the Employer or any of his servants or agents, then, by Sub-Clause 10.7(a) "after consultation with the Contractor, the Employer shall give written instruction to the Contractor of the measures which the Employer requires the Contractor to take".

3.96 If the cause of the failure lies with the Employer or any of his servants or agents and the Contractor suffers any additional cost as a result of the failure or the measures instructed by the Employer, he is entitled to Cost Plus Profit, subject to the operation of the claim mechanisms in Sub-Clauses 3.5 and 20.1.

3.97 By Sub-Clause 10.7(b), if the cause of the failure lies with the Contractor then, after "due consultation with the Employer, the Contractor shall take all steps necessary to restore the output to the levels required under the Contract". If the Employer suffers any loss as a result of the failure or the measures taken by the Contractor, the Contractor is to pay the non-performance damages specified in the Contract Data.[64]

3.98 The final paragraph of Sub-Clause 10.7 sets out the Employer's options where (unless otherwise stated in the Contract Data) the failure continues for more that 84 days and the Contractor is unable to achieve the required production output; see Chapter 8, paragraphs 8.126 *et seq*.

3.99 Sub-Clause 10.7 [*Failure to Reach Production Outputs*] is discussed further at Chapter 8, paragraphs 8.131–8.134.

Completion of Operation Service

3.100 Sub-Clause 10.8 deals with completion of the Operation Service in circumstances where the Parties have not agreed to prolong the Operation Service. In such case, "the obligation of the Contractor to operate and maintain the *Plant* under the Operation Service" is to cease at the end of the Operation Service Period.[65] The Sub-Clause contains a list of preconditions to receipt of the Contract Completion Certificate under Sub-Clause

64. In respect of liquidated damages generally, see Chapter 8 paras. 8.38 *et seq*.

65. Emphasis on Plant added. See also paras. 3.66–3.69 above regarding "Permanent Works" and "facility".

8.6 [*Contract Completion Certificate*],[66] and contemplates that such services may need to be performed after cessation of Operation Service. The preconditions include a joint inspection under Sub-Clause 11.8 and remedying of the defects found during that inspection, completion of Tests Prior to Contract Completion under Sub-Clause 11.9, and updating the Operation and Maintenance manuals and providing records and data in accordance with Sub-Clause 5.6. See also paragraphs 3.439 *et seq.*

3.101 The issuance of the Contract Completion Certificate is an important point in the Contract, as it defines the moment from which the Employer takes over responsibility for the Works.[67]

Ownership of output and revenue

3.102 During the Operation Service, any production output and revenue shall be the exclusive property of the Employer, by Sub-Clause 10.9.

SITE

Site and possession

3.103 The FIDIC forms each define the Site[68] as being (i) the places where the Permanent Works are to be executed; (ii) the places to which Plant and Materials are to be delivered; and (iii) any other places as may be specified in the Contract as forming part of the Site. FIDIC has explained that the Site is defined in terms consistent with the Employer's obligation under Sub-Clause 2.1, which is to give the Contractor right of access to, and possession of the Site.[69]

3.104 This definition is typical for construction contracts, although the definition of Site does not extend to all places where the Works are being carried out. For example, Sub-Clause 4.23 (discussed below) contemplates additional areas being obtained by the Contractor and agreed by the contract administrator as working areas. Equally, under Sub-Clause 7.3, the Employer's Personnel are entitled to examine and check the progress of off-Site production and manufacturing.

3.105 The Gold Book definition of the Site is expanded to include those areas where the Operation Service is to be provided.[70] Parties will have to consider how this is to be in practice in the Gold Book, particularly where any part of the Operation Service is carried out remotely or by telemetry, far from what is traditionally considered the "Site".[71]

3.106 Sub-Clause 2.1 provides that: "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

66. See paras. 3.470–3.473 and 3.483–3.486 below in relation to the Contract Completion Certificate and its consequences.

67. Sub-Clause 8.6: the Employer becomes "fully responsible for the care, safety, operation, servicing and maintenance of the Works".

68. Sub-Clause 1.1.6.7 (R/M/Y/S); 1.1.72 (G).

69. *FIDIC Guide*, p. 57.

70. Sub-Clause 1.1.72.

71. For example, many power generation contracts involve monitoring over the Internet, often from the turbine supplier's offices in another country. A similar issue will arise where there is centralised accounting (e.g., of revenue). As drafted, those offices would fall within the "Site", which Contractors may consider problematic.

[Appendix to Tender (R/Y); Particular Conditions (S); Contract Data (M/G)]. The right and possession may not be exclusive to the Contractor."[72] Fundamentally, the Contractor will be entitled to occupy the whole of the Site from the time it is turned over to him until it is returned to the Employer, although this right is subject to being made non-exclusive. The FIDIC forms do not expressly state that the Employer's obligation is ongoing, but it is implicit.

3.107 Where no time for access is stated in the Appendix to Tender (R/Y), Particular Conditions (S) or Contract Data (M/G) the Employer must 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 [*Programme*]. The timing of this approach raises an anomaly. That is, the Programme is not due to be submitted to the Employer until 28 days after the notice of commencement of the Works. Conversely, the contract administrator must give the Contractor only 7 days' notice to commence the Works (except in the MDB).[73] Accordingly, the Employer may become obliged to give the Contractor access to the Site some 21 days before the Contractor is obliged to submit the programme identifying when he needs such access.

3.108 The Employer may, by Sub-Clause 2.1, withhold any such right or possession until Performance Security has been received from the Contractor.

3.109 Sub-Clause 2.1 also entitles the Contractor, subject to Sub-Clause 20.1, to an extension of time and Cost plus profit 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 the required time. Accordingly, the Employer will need to ensure that he is capable of giving the necessary access in time before the notice to commence is issued. Where, however, and to the extent that the failure to give access was caused by any error or delay by the Contractor, such as for failure to deliver the Performance Security, the Contractor will not be entitled to such extension of time, cost or profit.

3.110 Failure to give the necessary possession of the Site may also give rise to a Contractor claim under Sub-Clause 16.2(d) (16.2(c) (S)), for the Employer's substantial failure to perform his obligations, and termination of the Contract for default upon 14 days' notice.

3.111 Although the respective Books differ somewhat in their reference to access requirements being stated in the:

- Appendix to Tender and Specification (R)
- Contract Data and Specification (M)
- Appendix to Tender and Employer's Requirements (Y)
- Particular Conditions and Employer's Requirements (S)
- Contract Data and Employer's Requirements (G),

there are few substantive differences in the approach.

72. Sub-Clause 2.1 also provides that if the Contract requires the Employer to give possession of any foundation, structure, plant or means of access, it is to be in the time and manner stated in the Specification (R/M)/Employer's Requirements (Y/S/G).

73. Sub-Clause 8.1 (R/Y/S/G).

Setting out

3.112 Fundamental errors in setting-out can have far reaching consequences, although the criticality of setting-out the Works will vary between autonomous 'greenfield' projects in the middle of a large site and urban projects built to the property boundary.

3.113 Under Sub-Clause 4.7 of the Red, MDB, Yellow and Gold Books, the Employer is responsible for any setting-out errors in the items of reference specified or notified to the Contractor, but the Contractor must "use reasonable efforts to verify their accuracy before they are used". The Contractor is required to set out the Works as specified in the Contract or notified by the contract administrator.

3.114 The Contractor is entitled, subject to Sub-Clause 20.1, to time and Cost plus profit from executing work resulting from an error in the Employer's items of reference, which entitlement is subject to the test that an experienced contractor could reasonably have discovered such error and avoided such delay and/or Cost. By the imposition of this test, the Books apply a third-party, 'objective' standard, which standard applies irrespective of whether the Contractor himself is, in fact, experienced.

3.115 The Silver Book takes a fundamentally different approach to setting-out, by retaining only the first paragraph of Sub-Clause 4.7, which requires the Contractor to set out the Works in relation to original points, lines and levels of reference specified in the Contract, to be responsible for the positioning of the Works and to rectify any error in the positions, levels, dimensions or alignment of the Works. As Sub-Clause 5.1 of the Silver Book deems the Contractor responsible for the accuracy of the Employer's Requirements (with certain limited exceptions), the Silver Book risk arising from setting-out remains with the Contractor.

Access, transport and rights of way

Access and access routes

3.116 The Employer's obligation under Sub-Clause 2.1 is to grant the Contractor right of access to and possession of the Site. However, the Employer is not obliged to ensure that access to the Site is available, or even existent, from beyond the Site boundaries. That, under the FIDIC forms, is the responsibility and the risk of the Contractor. In all Books but the Silver Book, the Contractor is deemed by Sub-Clause 4.10(e) to have, to the extent practicable taking account of cost and time, inspected and examined the Site, its surroundings and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including his requirements for access.

3.117 More explicitly, in all Books the Contractor is deemed by Sub-Clause 4.15 to have been satisfied as to the suitability and availability of access routes to the Site. The Sub-Clause also obliges the Contractor to use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel, which efforts are to include the proper use of appropriate vehicles and routes. Paragraphs (a) to (e) of Sub-Clause 4.15 impose a set of obligations and responsibilities on the Contractor, and set out various denials of Employer obligations and responsibilities, broadly including (except as otherwise stated in the Conditions) that the Contractor is responsible for any maintenance required as a result of his use of access routes, is responsible for all necessary signs or directions along access routes (and their related permissions), and is to bear all

costs due to non-suitability or non-availability of access routes for the use required by the Contractor. Conversely, the Employer has no responsibility for claims arising from the use or otherwise of any access route, and does not guarantee the suitability or availability of particular access routes.

3.118 By the operation of these Clauses, the Contractor is fundamentally responsible for resolving the practical difficulties in getting himself, the Contractor's Equipment, Materials and Plant to and from the Site.[74] Additionally, the Contractor is explicitly responsible, as between the Parties, "for any maintenance which may be required for his use of access routes".[75] "As between the Parties" recognises cases, for example, where another entity may have exclusive rights to maintain the route, and where the Contract cannot grant the Contractor rights over third-party property. In such cases, the Contractor's obligation may, in fact, be to pay that third party for repairing any damage caused or for additional maintenance burden arising out of the Contractor's use.[76]

3.119 Sub-Clauses 15.2 (second and fourth paragraphs) and 16.3(c) deal with the Contractor departing the Site for termination by the Employer and termination by the Contractor. The second paragraph of Sub-Clause 15.2 gives the Employer the right to expel the Contractor from the Site, while the fourth paragraph obliges the Contractor to leave the Site, and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him to the contract administrator. Sub-Clause 16.3(c) entitles the Contractor, once his notice of termination has taken effect, to remove all other Goods from the Site, except as necessary for safety, and leave the Site.

Transport

3.120 Sub-Clause 4.16 deals with transportation of Plant and Goods. Except where the Sub-Clause is amended by the Particular Conditions, the Contractor is to give 21 days' notice of the date of arrival on Site of "any Plant or a major item of other Goods"; is to pack, load, transport, receive, unload, store and protect all Goods and other things required for the Works; and is to indemnify the Employer in relation to claims arising from their transport.

3.121 While the Employer indemnifies the Contractor for damage which is the unavoidable result of the construction of the Works in accordance with the Contract,[77] the indemnity does not extend to damage arising from the methods the Contractor elected to use, which remain the Contractor's responsibility.[78]

3.122 Sub-Clause 4.13 obliges the Contractor to bear all costs and charges for special and/or temporary rights of way which he may require, including those for access to the Site, and to obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works. In this respect, there is no obligation imposed

74. Note here that Sub-Clause 8.5 (9.4 G) may also apply if the Contractor is delayed by the relevant public authority in obtaining permits, e.g., for large or heavy loads.

75. Sub-Clause 4.15(a) (R/M/Y/S). The Gold Book Sub-Clause 4.15(a) drafting replaces "for" with "as a result of", possibly to clarify that the Contractor is responsible only for maintaining any off Site access in the condition it was, but not improving it.

76. In this respect, the third-party property damage indemnity in Sub-Clause 17.1 (R/M/Y/S) or 17.9(b) (G) may also apply.

77. By operation of (R/M/Y/S) Sub-Clauses 18.3(d)(ii) and 17.1 (17.1(b)(i) and 17.10) (G).

78. Sub-Clause 4.1.

(or implied) on the Employer to provide such facilities, and accordingly the ability to obtain any land required by the Contractor outside the Site will be a Contractor risk. 'Additional facilities outside the Site' may be required, for example, to accommodate the Contractor's yard/laydown area, or administrative offices. Additionally, under Sub-Clause 4.23 the Contractor must obtain the contract administrator's agreement to any off Site working areas.

Security of the Site

3.123 Broadly speaking, Sub-Clause 4.22 makes security of the Site the Contractor's responsibility, except where otherwise stated in the Particular Conditions. The Contractor must keep unauthorised persons off the Site. Authorised persons are to be limited to the Contractor's Personnel and the Employer's Personnel; and any other personnel the Employer or contract administrator notifies to the Contractor as authorised personnel of the Employer's other contractors on the Site.

3.124 This Clause is typical, but may require physical separation of the Site,[79] and may in practice involve resolving complex access issues. The express reference to the Particular Conditions relates to the fact that the Guidance for the Preparation of Particular Conditions makes note of potential issues that may arise when the Employer has more than one contractor on Site, or the Works (and Site) are to interface with an existing Employer's facility.

Contractor's operations on Site

3.125 While Sub-Clause 4.22 obliges the Contractor to keep others off the Site, Sub-Clause 4.23 obliges the Contractor, among other things, to keep his operations confined to the Site and any additional areas obtained by the Contractor and agreed by the contract administrator as working areas. Clearly, this obligation in the plant/design-build forms is contemplated in respect of the 'build' portion only, as the 'design' portion will almost certainly be carried out in various locations remote from those contemplated. The Contractor is obliged to 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.

3.126 The second paragraph of the Sub-Clause compels the Contractor, during the execution of the Works (except G, which says "At all times"), to keep the Site free from all unnecessary obstruction, store or dispose of any Contractor's Equipment or surplus materials, and clear away and remove any wreckage, rubbish and Temporary Works which are no longer required. This is cast as an ongoing obligation, and failure by the Contractor to do so at any time will be a breach. The Gold Book amendments state that the Contractor must "promptly clear away", and must also remove any "surplus material".

3.127 The Contractor is obliged to 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, "upon the issue of a Taking-Over Certificate", and to leave that part of the Site and the Works in a clean and safe condition.

79. Fencing is dealt with in Sub-Clause 4.8.

This obligation is not required as a precondition to taking-over, and accordingly (absent a Particular Condition) a Taking-Over Certificate may not be withheld merely for failure to comply with this Sub-Clause.

3.128 The last sentence of Sub-Clause 4.23 (except G) states that 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.

3.129 See paras. 3.131–3.135 below in relation to clearance of the Site after the Performance Certificate and in relation to the Gold Book arrangements at the end of Operation Service.

Access after Taking Over

3.130 The Contractor's right of access after taking-over arises under Sub-Clause 11.7 [*Right of Access*], (except in the Gold Book, where the Contractor remains on Site). By that Sub-Clause, the Contractor in the Yellow and Silver Books retains a right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions. The Contractor in the Red Book and MDB retains a right of access to the Works as is reasonably required to comply with Clause 11, again except as may be inconsistent with the Employer's reasonable security restrictions. The Contractor's right of access expires when the Performance Certificate has been issued.

Clearance of Site

Red, MDB, Yellow and Silver Books

3.131 Sub-Clause 11.11 sets out the regime governing the process for 'final' clearance of the Site after the end of the Defects Notification Period and the issuance of the Performance Certificate. Upon receiving the Performance Certificate, the Contractor is to 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 (receipt from the Contractor (M)) of the Performance Certificate, the Employer is entitled to sell or otherwise dispose of any remaining items.

3.132 The Employer is entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site, and any balance of the moneys from the sale shall be paid to the Contractor, unless they are less than the Employer's costs, in which case the Contractor is to pay the outstanding balance to the Employer.

3.133 As a practical matter, the Employer will have been in possession of the Permanent Works for a significant period of time, and most surplus material, wreckage, rubbish and Temporary Works would have been long removed by the Contractor.

3.134 Under the Silver Book Sub-Clause 11.9, where the Employer fails to issue the Performance Certificate within the specified period, by paragraph 11.9(b), Sub-Clause 11.11 is deemed to be inapplicable.

Gold Book

3.135 Sub-Clause 4.23 of the Gold Book adds a final paragraph dealing with arrangements at the end of Operation Service, stating that the Contract Completion Certificate shall not

be issued until the Contractor has removed any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site which are not required, and that the Contractor shall leave the Site and the Works in a clean and safe condition.

Site data and tender information

Red, MDB, Yellow and Gold Books

Site Data

3.136 Under the first paragraph of Sub-Clause 4.10 of the Red, MDB, Yellow and Gold Books, the Employer is required to have made available to the Contractor all relevant data in the Employer's possession on sub-surface and hydrological conditions on the Site, including environmental aspects prior to the Base Date,[80] and is then under a continuing obligation to make such data available which comes into his possession. The Contractor is, however, responsible for interpreting all such data.

3.137 This is potentially a far-reaching obligation on the Employer, because this data will not only include reports on any investigations on ground conditions or similar initiated by the Employer in respect of this project[81] but also might be contained in information obtained from other projects executed at the Site.[82] This may be particularly the case where the Contract involves the expansion of an existing facility. The Employer's obligations are, however, limited to making this data available as opposed to providing it to the Contractor. Consequently, it may be enough for the Contractor to be allowed sufficiently free access to this information in the Employer's offices in order to assess its contents.

3.138 In practice, should any such information made available between the Base Date and the date of the Contract have a bearing on the Contract, the Parties would be well advised to ensure that the issue is addressed (for example, by way of a Particular Condition and, if appropriate, an adjustment to the Contract Price) before the Contract is executed.

All necessary information and sufficiency of Accepted Contract Amount

3.139 Although the first paragraph of Sub-Clause 4.10 in the Red, MDB, Yellow and Gold Books is limited to making available information of certain site data to the Contractor, the second paragraph of this Sub-Clause, as well as Sub-Clause 4.11, essentially sets out the basis upon which the Parties have contracted. Sub-Clause 4.11 [*Sufficiency of Accepted Contract Amount*] provides that the Contractor is deemed to have satisfied himself as to the correctness of the sufficiency of the Accepted Contract Amount and that the Accepted Contract Amount is based on the matters referred to in Sub-Clause 4.10 and, in the Yellow and Gold Books, any further data relevant to the Contractor's design.

80. "Base Date" is defined as "the date 28 days prior to the latest date for submission [and completion (M)] of the Tender" (1.1.3.1 (R/M/Y/S); 1.1.5 (G)).

81. *FIDIC Guide*, pp. 19 and 112.

82. Indeed, this obligation is broader than in Sub-Clause 11.1 in the 4th Edition of the Red Book, which only required data from investigations relevant to the Works to be disclosed. The data from other projects may be relevant to the sub-surface and hydrological conditions on the site which is contained, for example, in progress reports, minutes of meetings or correspondence, as opposed to being the results of investigations. Edward Corbett, "FIDIC's New Rainbow 1st Edition—An Advance?", [2000] 17(2) ICLR 253 at 259.

3.140 By the second paragraph of Sub-Clause 4.10 in the Red, MDB, Yellow and Gold Books, the Contractor is deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence the Tender or Works 'to the extent which was practicable (taking account of cost and time)'. This information is clearly not limited to the information provided by the Employer. The Contractor is also deemed, again to the extent that was practicable (taking account of cost and time), to have "inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters". It then provides the following non-exhaustive list of matters as to which the Contractor is deemed to have been satisfied:

"(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 [of regulatory and other authorities (G)] and labour practices of the Country, and
(e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services."[83]

3.141 To at least some degree, then, the Contractor will be deemed to have reviewed any other information readily available in respect of either the Site or the assessment of the risks relating to the physical conditions at the Site. From an international contracting perspective, this approach is consistent with the skill and expertise expected of a large, experienced Contractor. Precisely what this is will be a matter of fact and circumstance, dependent upon the time and information available at the time of tender. This information is directly relevant for establishing the basis for the allocation of risk of the Contractor encountering adverse physical conditions during the course of the Works, the consequences of which are primarily governed by Sub-Clause 4.12 [*Unforeseeable Physical Conditions*].

3.142 The other matters in sub-paragraphs (c) to (e) are related to the actual work involved in executing the Works and the conditions in which this work will be carried out, the risk of which matters are allocated more generally under these Books to the Contractor.

Silver Book

3.143 The Silver Book takes a fundamentally different approach from the other Books to Sub-Clauses 4.10 and 4.11. Sub-Clause 4.10 begins by repeating the Employer's obligation as found in the first paragraph of this Sub-Clause in the other Books to "make 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" and his continuing duty in this respect regarding such data which comes into the Employer's possession after the Base Date. However, at this point, the Silver Book diverges from the other Books.

3.144 Under Sub-Clause 4.10, the Contractor is deemed to be responsible, not only for the interpretation of this information, but also for verifying this data. It then goes further

83. Sub-Clause 4.10.

and relieves the Employer of responsibility for the accuracy, sufficiency or completeness of such data as he provides. This is, however, subject to the express items identified in Sub-Clause 5.1 [*General Design Obligations*], discussed in paragraphs 3.184–3.191 below, which are stated in that Sub-Clause as being the responsibility of the Employer and include "portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer"[84] and "portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract".[85]

3.145 Sub-Clause 4.11 [*Sufficiency of the Contract Price*] in the Silver Book then simply confirms that the Contractor is deemed to be satisfied as to the correctness and sufficiency of the Contract Price and that the contract price covers all the Contractor's obligations under the Contract "unless otherwise stated in the Contract".

3.146 Consequently, by Sub-Clauses 4.10 and 4.11, the Contractor generally bears all the risks involved in carrying out the Works, except for the matters listed in Sub-Clause 5.1.

Adverse physical conditions

3.147 Adverse physical conditions on the Site, particularly adverse ground conditions, when encountered during the execution of the Works, can significantly both delay and increase the cost of completing the Works. Where it is known that such conditions will be encountered, the contractor can assess the likely effect that they will have on the project and reflect this in his tender. However, the risk of encountering adverse conditions that are not known at the time of tender (or at least not known for certain) necessarily requires careful consideration by the Parties. This risk, and particularly the risk of encountering adverse physical conditions that were unforeseeable, is one of the greatest risks involved in construction projects involving a civil engineering element and thus one of the most significant grounds for dispute.

3.148 The FIDIC forms provide two contrasting approaches as to the allocation of the risk of encountering adverse physical conditions. This is primarily governed by Sub-Clause 4.12, although this Sub-Clause should also be considered in the context of the provisions of Sub-Clauses 4.10 [*Site Data*] and 4.11 [*Sufficiency of the Accepted Contract Amount* [*Contract Price* (S)]] discussed above. Sub-Clause 4.12 in all the Books apart from the Silver Book, is headed "Unforeseeable Physical Conditions" and is virtually identical in these Books.[86] On the other hand, in the Silver Book, this Sub-Clause is headed "Unforeseeable Difficulties" but the difference between this Sub-Clause and that in the other Books goes far beyond the terminology used:

- In the Red, MDB, Yellow and Gold Books, the risk of adverse physical conditions is borne by the Employer to the extent that such physical conditions were "Unforeseeable" by the Contractor.

84. Sub-Clause 5.1(a).
85. Sub-Clause 5.1(d).
86. The final paragraph of Sub-Clause 4.12 in the MDB and the Red Book differ slightly in that the MDB states that "The Engineer *shall* take account of any evidence of the physical conditions foreseen by the Contractor when submitting the tender, which *shall* be made available by the Contractor but shall not be bound by *the Contractor's interpretation of* any such evidence" (emphasis added), whilst the Red Book substitutes the words "shall" (emphasised) for "may" and in the final sentence, does not include the words "the Contractor's interpretation of".

- The Silver Book seeks generally to place all risk of encountering adverse physical conditions on the Contractor. This is part of a greater allocation of risk, in this Book, to the Contractor. The allocation of the risk of unforeseeable adverse physical conditions to the Contractor in the Silver Book is one, if not the, feature of that Book that has attracted the most comment—the most vociferous group being dissenters from the proposed approach.[87]

3.149 More generally, the most appropriate approach to ground risk has been a much debated topic amongst the construction industry. In the authors' experience, internationally, both approaches to risk allocation that are found in the FIDIC forms have been applied, and both appear to have adherents in construction contracting. On many major projects, unsurprisingly, considerable time and energy is expended in negotiation of the allocation of risk of unforeseeable adverse physical conditions. In the authors' experience, such negotiations result in a number of different solutions which are intermediate between the approaches by the Red, MDB, Yellow and Gold Books, on the one hand, and the Silver Book on the other. The allocation of this risk between the parties will be influenced by the nature of the work involved and also by commercial factors. An employer will understandably be expected to have to pay a premium for allocating all risk of physical conditions to the Contractor. It will also depend on the extent to which contractors are willing to bear such a risk. FIDIC itself acknowledges, in the Guidance for the Preparation of Particular Conditions included in the Silver Book, that the risk allocation adopted in this Book may not be appropriate where the Works include tunnelling or other substantial sub-surface construction, in such a case "it is usually preferable for the risk of unforeseen ground conditions to be allocated to the Employer".

Red, MDB, Yellow and Gold Books

3.150 Sub-Clause 4.12 in the Red, MDB, Yellow and Gold Books applies where the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable.[88] Both "physical conditions" and "Unforeseeable" are defined in these Books, and thus the consequences that follow such an event, as set out in Sub-Clause 4.12, are dependent on whether these definitions are satisfied.

Physical conditions

3.151 Sub-Clause 4.12 in the Red, MDB, Yellow and Gold Books defines "physical conditions" very broadly as meaning "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". "Physical conditions" for the purposes of Sub-Clause 4.12, therefore,

87. See, for example, the debate in 2000–2002 on the Rainbow Series Books, and the Silver Book in particular, in both articles in and letters to the *International Construction Law Review*.

88. As an aside, the origin of this Sub-Clause can be traced back to Clause 12 of the 5th Edition of the ICE form of contract and it is interesting to observe that that the draftsmen of the current forms, when updating the structure into the 20-Clause format, included the unforeseeable physical conditions Clause as Sub-Clause 4.12. Clause 12 in the ICE 5th Edition has been considered in a significant number of proceedings, many of which are instructive in the understanding of the principles involved in these Books.

only relate to matters "at the Site" and can include man-made obstructions, for example utilities and cables. Subsurface conditions include conditions not only below ground, but beneath all surfaces, including those of a river bed or ocean. Furthermore, climatic conditions are expressly excluded from the definition, but may entitle the Contractor to an extension of time (without any accompanying entitlement to payment of cost) under Sub-Clause 8.4(c) (9.3(c) (G)).

Unforeseeable

3.152 "Unforeseeable" is defined[89] in the Red, Yellow and Gold Books as "not reasonably foreseeable by an experienced contractor by the date for submission of the Tender". The definition in the MDB[90] moves the point at which the relevant matter must not have been reasonably foreseeable by an experienced contractor back 28 days, to the Base Date.[91] The test of reasonable foreseeability is well known to common law jurists and construction practitioners. The intention of this test is to apply an objective measure of foresight to the factual circumstances surrounding the physical conditions known at the time of submission of the Tender (or Base Date (M)), and to use that foresight as a basis for determining the Contractor's entitlement.

3.153 Three important factors in the definition of "unforeseeable" should be noted. First, the test to be applied is not whether an event or circumstance was foreseeable, but whether it was reasonably foreseeable. It is arguable that most events or circumstances could strictly be said to be foreseeable, even if they are very unlikely. Second, the standard to be applied when assessing whether an event or circumstance was reasonably foreseeable is that of an experienced contractor, which is higher than that of an ordinary contractor, and is an industry standard, not that of a layman.

3.154 Third, the test concerns what was reasonably foreseeable at the date of the submission of the Contractor's Tender or, in the MDB, at the Base Date. It must therefore be considered within the context of Sub-Clauses 4.10 and 4.11, and it is on the basis of these provisions that the issue of whether an event or circumstance was reasonably foreseeable must be assessed. Under Sub-Clause 4.10, the Contractor is deemed to have obtained "all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or the Works" and deemed to have inspected and examined the Site, its surroundings, and all data provided by the Employer under the first paragraph of Sub-Clause 4.10 in relation to sub-surface and hydrological conditions at the Site. Moreover, he is deemed to the extent that was practicable (taking account of cost and time) to have been satisfied before submitting the Tender as to the "form and nature of the Site, including sub-surface conditions" and "hydrological and climatic conditions" and, under Sub-Clause 4.11, deemed to have satisfied himself as to the sufficiency of the Accepted Contract Amount on the basis of all the matters in Sub-Clause 4.10. However, these provisions of Sub-Clause 4.10 are subject to one important qualification, namely that the Contractor is deemed to have carried out the inspections and examinations, and deemed

89. Sub-Clause 1.1.6.8 (R/Y); Sub-Clause 1.1.80 (G).
90. Sub-Clause 1.1.6.8 (M).
91. "Base Date" is defined as "the date 28 days prior to the latest date for submission and completion of the Tender" (Sub-Clause 1.1.3.1 (M)).

to be satisfied as to the relevant conditions only 'to the extent practicable (taking account of cost and time)'.

3.155 The burden of proof is on the Contractor to establish that an event or circumstance was Unforeseeable. Whether a particular event or circumstance was "reasonably foreseeable" necessarily involves the exercise of judgement and thus can attract conflicting views (sometimes markedly so). It would be unsurprising to discover that this issue is the one that generally causes the greatest difficulty in the operation of Sub-Clause 4.12 and, for this reason, contractors are often unhappy with this test. Nevertheless, the fact that it has been used (and will be continued to be used) for many years must indicate, at least empirically, that it is not entirely unsuitable, even if it does give rise to many disputes. Ultimately, the question of what is reasonably foreseeable will be a matter for expert evidence.

Procedure and consequences

3.156 Sub-Clause 4.12 sets out the procedures and consequences if the Contractor encounters what he considers to be Unforeseeable physical conditions, including the Contractor's entitlement to an extension of time and payment from the Employer of Cost as a result.

3.157 Notice to contract administrator. If the Contractor encounters "adverse physical conditions" which he considers to have been Unforeseeable, the Contractor is required to give notice[92] "as soon as practicable" to the contract administrator.[93] The purpose of an early notice obligation is to give the contract administrator the maximum opportunity to review the "physical conditions", and assess the best mechanism for addressing the problem. For this reason, the Contractor's notice[94] is required to (i) describe the physical conditions, so that they can be inspected by the contract administrator, and (ii) set out the reasons why the Contractor considers them to be Unforeseeable.

3.158 The Contractor is then required to continue executing the Works using "such proper and reasonable measures as are appropriate for the physical conditions", and to comply with any instructions given by the contract administrator. In essence, the effect of this provision is that the Contractor is not relieved of his obligations in relation to the Works as a result of encountering what he considers to be Unforeseeable adverse physical conditions. Instead, he is required to keep working and, if necessary, liaise as to the appropriate way forward with the contract administrator, who may issue an instruction. In some instances, such an instruction might be an instruction under Sub-Clause 8.8 (9.7 (G)) [*Suspension of Work*] to suspend progress of the Works or a part of the Works affected by the adverse physical conditions to allow a proper investigation so that the appropriate solution, including any changes to the Works, can be fully considered.

92. "Notice" (G).

93. The requirement to give notice "as soon as practicable" can be compared with the time within which equivalent notice must be given in other standard forms of contract: for example, ICE (7th Edn): "as early as practicable"; Singapore Public Sector Standard Conditions of Contract for Construction Works (2005) "if he intends to make any claim forthwith give notice in writing to the Superintending Officer"; Australian AS-4300 1995: "forthwith and where possible before the Latent Condition is disturbed"; JCT (Major Project Form 2003): "forthwith" (per Clause 12.2); GC/Works/1: "must immediately notify Project Manager"; AIA A201 General Conditions of Contract for Construction (1997) "promptly before conditions are disturbed and in no event later than 21 days after first observance".

94. "Notice" (G).

3.159 If the effect of any instruction is to change the Works (or the Employer's Requirements), Sub-Clause 4.12 expressly confirms that Clause 13 [*Variations and Adjustments*] will apply. In such a case, the Contractor's entitlement to payment for executing the Variation will be governed by Sub-Clause 13.3, and he may be entitled to an extension of time if completion is or will be delayed as a result, under Sub-Clause 8.4(a) (9.3(a) (G)).

3.160 Entitlement to an extension of time and payment of Cost. The fundamental characteristic of the allocation of risk for Unforeseeable physical conditions in all the Books apart from the Silver Book is that the Contractor has an entitlement to an extension of time and money if he suffers delay and/or incurs Cost as a result of Unforeseeable physical conditions properly notified under Sub-Clause 4.12.

3.161 Sub-Clause 20.1, which governs the Contractor's claims for such entitlements, is expressly stated to apply.[95] This Sub-Clause requires that the Contractor give notice to the contract administrator within 28 days after he became aware, or should have become aware, of the event or circumstance if he proposes to make any claim for either time or money, after which he is time barred. The Contractor is therefore, in principle, required to give two notices if he encounters Unforeseeable physical conditions: the first under Sub-Clause 4.12 "as soon as practicable" after he encounters adverse physical conditions which he considers to be Unforeseeable; the second under Sub-Clause 20.1 within 28 days after he became aware (or should have become aware) that he has suffered delay and/or incurred cost due to the Unforeseeable physical conditions. Ostensibly, the tests to be applied under these separate Sub-Clauses as to when the Contractor is required to give the respective notice to the contract administrator are different: the first is subjective and the second objective, and in practice it is likely that such notices can be given at the same time.

3.162 The Contractor is entitled to an extension of time if he suffers delay as a result of encountering Unforeseeable physical conditions, to the extent that completion for the purposes of Sub-Clause 10.1 (11.5 (G)) will be delayed. This extension of time for the delay is to be assessed under the extension of time provisions in Sub-Clause 8.4 (9.3 (G)). In respect of payment, the Contractor is entitled to be paid any Cost incurred "due to the Unforeseeable adverse conditions". "Cost", as defined, means all expenditure reasonably incurred (or to be incurred) and includes overhead "and similar charges", but expressly excludes profit. Such Cost will include prolongation and disruption costs (if any) incurred due to the effects of the Contractor encountering the Unforeseeable physical conditions.

3.163 The final paragraph of Sub-Clause 4.12 in the Red, Yellow and Gold Books, empowers, but does not oblige, the contract administrator to take account of any evidence that the Contractor may make available as to the physical conditions actually foreseen by the Contractor when submitting the Tender. In the MDB, the options of the Contractor to make available to the contract administrator any such evidence, and of the contract administrator as to whether to take this evidence into account are replaced by obligations (i.e., "may" has been replaced by "shall").

3.164 Favourable conditions. The Contractor's entitlement to payment of additional Cost incurred due to the Unforeseeable physical conditions is, however, subject to a power of the contract administrator to take into account whether "other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been

95. The MDB provides "subject to notice under Sub-Clause 20.1". See Chapter 6, para. 6.187 in relation to the significance of this wording.

foreseen when the Contractor submitted the Tender". If these more favourable conditions were encountered by the Contractor, the contract administrator may proceed in accordance with Sub-Clause 3.5 to agree or determine the reductions in Cost to the extent attributable to these conditions. This power arises only in relation to favourable conditions that were not *reasonably foreseeable*, and does not allow the contract administrator to take into account any conditions which, for example, were more favourable than expected but nevertheless reasonably foreseeable. Moreover, the extent to which the Employer gains the benefit of any such reductions in the Contract Price is expressly limited, in that the net effect of all adjustments for both adverse and more favourable physical conditions must either be an increase or no change in the Contract Price. No net reduction in the Contract Price is permitted.

3.165 The contract administrator is stated to have this power of review before the Contractor's entitlement to additional Cost due to the Unforeseeable physical conditions has been "finally agreed or determined". The *FIDIC Guide* explains[96] that the word "finally" here confirms that "there may well (and should) have been previous interim determinations of Cost for the purposes of the Interim Payment Certificates". It also presumably means that, once the additional Cost has been finally agreed or determined, it cannot then be revised if the Contractor subsequently encounters physical conditions more favourable than could have been reasonably foreseen. Furthermore, any reductions in the Contract Price can only be agreed or determined in the context of a claim by the Contractor for payment of Cost under Sub-Clause 4.12. The Employer has no right to claim for a reduction. Consequently, if the Contractor encounters more favourable physical conditions than were reasonably foreseeable and no Unforeseeable adverse physical conditions, the Contractor alone obtains the financial benefit of these more favourable conditions.

3.166 The operation of this provision is not entirely unproblematic. This is because its application is limited to "similar parts of the Works", the meaning of which is ambiguous. "Similar parts of the Works" could be construed to mean, for example, a part of the Works in the same place (such as in-ground or underground, or in similar anticipated subsurface ground conditions); works using the same processes such as caisson foundations, or a tunnel-boring machine, or even works within the same general vicinity. The *FIDIC Guide* indicates[97] that 'similarity' is intended to relate to the "overall construction requirements", which is potentially of very wide scope. It also provides the following examples:[98]

- "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."

What will constitute a "similar part of the Works" will be highly dependent on the particular factual situation in the particular project.

Risk sharing

3.167 The intent in any contractual cost- and risk-sharing mechanism is to ensure that the Contractor remains incentivised to overcome the risk in the most economical and efficient

96. *FIDIC Guide*, p. 118.
97. *Ibid*.
98. *Ibid*.

manner, while relieving him of potentially considerable exposure to costs. The Guidance for the Preparation of Particular Conditions in all the Books, apart from the Silver Book, contemplates an alternative means of sharing risk, by agreeing that a specified percentage of any Cost incurred by the Contractor due to Unforeseeable physical conditions will be allocated to the Employer, with the remainder borne by the Contractor. If adopted, this would not, however, affect the Contractor's entitlement under Sub-Clause 4.12 to an extension of time.

Silver Book

3.168 Sub-Clause 4.12 in the Silver Book provides:

"Except as otherwise stated in the Contract:

(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."

3.169 By this Sub-Clause, the Silver Book seeks generally to allocate all the risks involved in the successful completion of the Works to the Contractor. As a result, the Contractor will, generally, bear the risk of encountering what would otherwise be Unforeseeable physical conditions in the other Books.

3.170 However, this general allocation of risk to the Contractor is subject to the qualification "except as otherwise stated in the Contract". In Sub-Clause 5.1, the Employer "shall be responsible for" various data and information provided by or on behalf of him to the Contractor, including "portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer"[99] and "portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract".[100] Consequently, notwithstanding the general allocation of risk to the Contractor under Sub-Clause 4.12, information falling within either of these categories, if incorrect, which the Contractor has relied upon when submitting his Tender and which reliance has caused him to suffer delay to the progress of the Works, may entitle him to an extension of time under Sub-Clause 8.4(c), because it could be said that the delay was "attributable to the Employer". There is, however, no express entitlement in the Silver Book for the Contractor to recover Cost in these circumstances under the Contract and so the Contractor's ability to claim a financial remedy will depend on the governing law where the Employer is stated expressly "to be responsible for" the correctness of certain data and that data turns out to be incorrect.

DESIGN OBLIGATIONS

3.171 The Red Book and MDB are distinct from the Yellow, Silver and Gold Books in respect to the approach to design. The Red and MDB are traditional "construction"

99. Sub-Clause 5.1(a).
100. Sub-Clause 5.1(d).

contracts which envisage that the Contractor will carry out the construction of the Permanent Works to the Employer's detailed design. These Books accordingly impose limited design obligations on the Contractor. By contrast, the Yellow, Silver and Gold Books are "design-build" contracts, which each impose significant design obligations on the Contractor. Furthermore, the approach of these three Books can be distinguished, in that the Silver Book seeks to make the Contractor responsible, not only for the design, but also for errors in the Employer's Requirements.

Red Book and MDB

3.172 As the Red Book's proper title, *Conditions of Contract for Construction for Building and Engineering Works designed by the Employer*, suggests, this Book, and the MDB which is based on it, are contemplated for use where the Contractor is to construct the Works in accordance with a design provided by the Employer.[101] This design will be set out in the Specification and any Drawings included in the Contract, as well in further modified or additional Drawings provided by or through instructions of the Engineer (acting on behalf of the Employer) during the course of the project. In this way, it could be said that, generally, the risk of the Permanent Works being fit for purpose and the risk for correction of errors in the design of the Permanent Works are borne by the Employer.

3.173 However, the general obligation of the Contractor as set out in Sub-Clause 4.1 to "design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract" recognises that the Red Book and MDB also make provision for the possibility that the Employer may wish the Contractor to design a part or parts of the Works. This design obligation on the part of the Contractor arises only if the Contract specifies that he is to design any part of the Permanent Works. The *FIDIC Guide* recommends[102] that the extent to which the Contractor is required to design any part of the Works is set out in the Specification. In such a case, the fifth (sixth (M)) paragraph of Sub-Clause 4.1 applies, which sets out a skeleton procedure for the submission of the Contractor's Documents containing the Contractor's design and the Contractor's specific obligation in respect of this design.[103] Importantly, under sub-paragraph (c), the Contractor is stated to be responsible for the part of the Permanent Works that he is required to design and, when the Works are completed, it must be "fit for such purposes for which the part is intended as specified in the Contract" unless otherwise stated in the Particular Conditions.[104]

3.174 Whether or not the Contract specifies that the Contractor is required to design any parts of the Works, the Contractor in the Red Book and MDB has, in any event, some limited design obligations as part of his more general obligation to execute and complete the Works in accordance with the Contract. Under the third (fourth (M)) paragraph of Sub-Clause 4.1, except as otherwise stated in the Contract, the Contractor is responsible for the Temporary Works, including the design of the Temporary Works, and the design of each

101. Red Book, Foreword.

102. *FIDIC Guide*, p. 96.

103. This provision should be contrasted with Sub-Clauses 5.1 and 5.2 of the Yellow, Silver and Gold Books, which set out these matters in detail.

104. The fitness for purpose obligation in the FIDIC forms is considered further below at paras. 3.192–3.202.

item of Plant and Materials "as is required for the item to be in accordance with the Contract". There will also usually be an element of design required in the preparation by the Contractor of construction drawings (if required) for the purposes of implementing the Employer's design.

Errors or defects in documents prepared for the execution of the Works

3.175 Although, as stated above, in the Red Book and MDB the Employer is primarily responsible for the design of the Permanent Works, under Sub-Clause 1.8, the Contractor (as well as the Employer) is under an express duty to notify the Employer (or the Contractor) if he becomes aware of an error or defect in any document prepared for use in executing the Works. In the Red Book, this duty relates only to errors or defects "of a technical nature". If either Party becomes aware of such an error or defect, it must promptly give notice to the other Party of the error or defect. It is suggested that this does not place a contractual obligation upon any Party to search for such errors or defects, but arises only once an error or defect is found. Prompt notice will allow the Employer a better opportunity to mitigate the consequences of the error or defect in the document.

Yellow and Gold Books

3.176 In the Yellow and Gold Books, the Contractor's design obligations are essentially identical and are primarily set out in Sub-Clause 4.1 and repeated in Sub-Clause 5.1. Under these Sub-Clauses, the Contractor is expressly required to carry out and be responsible for the design of the Works in accordance with the Contract. This forms part of the Contractor's more general duty under Sub-Clause 4.1 to "design, execute and complete the Works in accordance with the Contract" such that, when completed, the Works are "fit for the purposes for which the Works are intended as defined in the Contract".[105] Furthermore, the Contractor gives an undertaking under Sub-Clause 5.3(b) that the design will be in accordance with "the documents forming the Contract, as altered or modified by Variations". The criteria to which the Contractor is required to design the Works are principally set out in the Employer's Requirements as complemented by the Contractor's Proposals submitted with his Tender.

3.177 Sub-Clause 5.1 in the Yellow and Gold Book requires the Contractor's design to be prepared by "qualified designers who are engineers or other professionals who comply with the criteria (if any) stated in the Employer's Requirements".[106] Unless otherwise stated in the Contract, the Contractor must submit to the contract administrator details of each proposed designer and design Subcontractor for the contract administrator's consent, which by Sub-Clause 1.3 must not be unreasonably withheld or delayed. The Contractor also "warrants that he, his designers and design Subcontractors have the experience and capability necessary for the design". The Contractor further undertakes in Sub-Clause 5.1 that the designers shall be available to attend discussions with the contract administrator at all reasonable times (until the expiry date of the relevant Defects Notification Period (Y)).

105. See n. 104 above.
106. Unlike the Silver Book, where there is no such express requirement.

Errors in the Employer's Requirements

3.178 Although the Contractor is required to design the Works in accordance with the Contract such that, when completed, the Works are fit for purpose, the principle adopted in the Yellow and Gold Books is that the Contractor is not responsible for any error, fault or defect in the Employer's Requirements to the extent that 'an experienced contractor exercising due care' would not have discovered the error, fault or defect by the relevant time specified in the Contract.

3.179 The starting point is the example form of Letter of Tender included in the Yellow Book which is to be submitted by the Contractor with his Tender. This requires the Contractor to confirm that he has "examined, understood and checked these documents [including the Employer's Requirements] and [has] ascertained that they contain no errors or other defects". The example form of Letter of Tender in the Gold Book contains a similar statement, although with a slight difference in wording.

3.180 Period for scrutiny. Then, after the Commencement Date has been notified to the Contractor under Sub-Clause 8.1, the Contractor is required, under the third paragraph of Sub-Clause 5.1, to scrutinise the Employer's Requirements (including any design criteria and calculations) and give notice[107] to the contract administrator of "any error, fault or other defect" found within the period agreed between the Parties and stated in the relevant contract document.[108] In effect, this provides the Contractor with a further period after the submission of the Tender to examine the Employer's Requirements for errors or defects. The question of whether there is an 'error' or 'defect' in the Employer's Requirements is potentially open to confusion. This is because the Employer's Requirements will have been prepared by or on behalf of the Employer and, as its name suggests, will set out his requirements for the Works. Therefore, some may wonder how the Contractor can decide whether the requirements of the Employer contain errors or defects. The reality lies in the fact that the Employer's Requirements must be considered in the context of the Contractor's obligations under the Contract as a whole, with which the Employer's Requirement may conflict. In particular, notwithstanding the Contractor's responsibility for the design of the Works, it is not uncommon for the Employer's Requirements to include elements of design. In this respect, the *FIDIC Guide* advises[109] that "The detailed effects of [the third paragraph of Sub-Clause 5.1] 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".

3.181 If the Contractor has given notice[110] of an error or defect, the contract administrator is required to determine whether the Variation provision in Clause 13 should apply in order to change the Employer's Requirements to address the error or defect and to give notice to the Contractor accordingly. The Contractor's entitlement as a consequence of the discovery of the error or defect is dependent on the extent to which, taking account of cost and time, "an experienced contractor exercising due care" would have discovered the error or defect before submitting the Tender. This obviously accords with the statement that it is envisaged will be made by the Contractor in the Letter of Tender. If an experienced

107. "Notice" (G).
108. Appendix to Tender (Y); Contract Data (G).
109. *FIDIC Guide*, p. 138.
110. "Notice" (G).

contractor would have discovered the error, the Contractor is not entitled to any extension of time or adjustment to the Contract Price in respect of any consequent Variation.

3.182 Errors not found during period for scrutiny. Sub-Clause 1.9 (1.10 (G)) governs the Contractor's entitlement in the event that the Contractor does not discover any error in the Employer's Requirements during the period stated in the relevant contract document as part of his obligations under Sub-Clause 5.1 but the Contractor subsequently suffers delay and/or incurs Costs during the course of the project as a result of an undiscovered error. Under this Sub-Clause, the relevant test is whether "an experienced contractor exercising due care" would have discovered the error when scrutinising the Employer's Requirements under Sub-Clause 5.1. If the error would not have been discovered, the Contractor is entitled, subject to Sub-Clause 20.1, to an extension of time to the extent that completion will be delayed and/or payment of Cost plus profit, both as a result of the error in the Employer's Requirements.

Indemnity due to errors

3.183 In Sub-Clause 17.9, the Gold Book has introduced a requirement for the Contractor to indemnify the Employer against "all errors in the Contractor's design of the Works and other professional services which result in the Works not being fit for purpose or result in any loss and/or damage for the Employer". This indemnity is onerous, particularly because the Contractor's liability for loss of profit and other consequential losses under this indemnity is an exception to the general exclusion in Sub-Clause 17.8 of such liability.

Silver Book

3.184 In the Silver Book, the Contractor is under the same principal design obligations under Sub-Clause 4.1, 5.1 and 5.3 as in the Yellow Book.[111] By these provisions, the Contractor is responsible for design of the Works, is required to "design, execute and complete the Works in accordance with the Contract" such that, when completed, the Works are "fit for the purposes for which the Works are intended as defined in the Contract"[112] and gives an undertaking that the design will be in accordance with "the documents forming the Contract, as altered or modified by Variations". In the Silver Book, the Works, or at least the criteria with which the Works must comply, will be contained in the Employer's Requirements and other documents in the Tender which are included in the Contract.

3.185 However, unlike under the Yellow Book, the Contractor has no obligation to comply with requirements for designers and the Employer has no contractual right to object to such designers, absent any stipulations in the Particular Conditions.

Errors in the Employer's Requirements

3.186 Whilst the example form of Letter of Tender in the Silver Book contains the same statement that the Contractor has "examined, understood and checked these documents

111. See paras. 3.176–3.177 above.

112. The fitness for purpose obligation in the FIDIC forms is considered further below at paras. 3.192–3.202.

[including the Employer's Requirements] and [has] ascertained that they contain no errors or other defects", at this point the position in the Silver Book diverges significantly from that under the Yellow Book in relation to responsibility for errors in the Employer's Requirements.

3.187 Under Sub-Clause 5.1 in the Silver Book, the Contractor is deemed to have scrutinised the Employer's Requirements prior to the Base Date,[113] and, notwithstanding that he may not have designed the Works, is expressly responsible for the accuracy of the Employer's Requirements (including design criteria and calculations), except for:

"(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".

3.188 Conversely, the Employer is stated expressly not to be responsible for "any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract", except in relation to the above matters. The Silver Book nevertheless seems to contemplate circumstances where the Employer is to design at least elements of the Works, and even possible circumstances where the basic or conceptual design of the Works (or preponderance of it) are set out in the Employer's Requirements. In both cases the Contractor will nevertheless assume responsibility for the Employer's design, except for the matters set out in sub-paragraphs (a) to (d) of Sub-Clause 5.1.

3.189 In effect, therefore, the Contractor bears the risks of errors in the Employer's Requirements, apart from the matters identified in sub-paragraphs (a) to (d) in Sub-Clause 5.1. It is perhaps self-evident that, even where the Contractor takes responsibility for the design of the Works and accuracy of much of the Employer's Requirements, the responsibility for certain key requirements remains the responsibility of the Employer and these are reflected in items (b) and (c) above. Whilst the testing criteria are to be the responsibility of the Employer, it is common for the details of the testing procedure to be left to the Contractor to prepare for the Employer's approval as part of the design development process. By (a) above, the Employer also has the option of retaining the responsibility for certain aspects of the Employer's Requirements. However, the operation of (d) is potentially problematic and may lead to considerable uncertainty: for example, the provision gives no guidance as to what extent of verification the Contractor might be expected to undertake before being able to argue that the information "cannot be verified".

3.190 Design risk in the Silver Book (along with the Silver Book generally) has been the subject of some criticism since its release. FIDIC itself encourages use of the Silver Book "whenever price certainty takes high priority in the thinking of the employer . . . ",[114] and the allocation of design risk to the Contractor clearly reflects this thinking.

3.191 FIDIC itself contemplates use of the Silver Book as follows:

"Employers on many turnkey projects know relatively little about the technicalities of equipment manufacture, supply and construction; they may be businessmen, government officials, financiers,

113. The "Base Date" is defined as "the date 28 days prior to the latest date for submission of the Tender".

114. Edward Corbett, "Delivering Infrastructure: International Best Practice—FIDIC's 1999 Rainbow: Best Practice?" August 2002, published by the Society of Construction Law, Paper D23.

developers, etc. It is the contractors, suppliers or manufacturers who know the technicalities, the process engineering, and so on. Therefore it is necessary for the contractor to take over responsibility for the design criteria, the calculations, and all other matters necessary to ensure a final bottle top factory performing fit for its purpose. The employer prepares his 'Employer's Requirements' to whatever degree of detail suits him (often merely a performance specification), but it is then essential on a turnkey project for the contractor to check all basic data and other necessary information, and take over responsibility for it before work commences."[115]

Fitness for purpose

3.192 All of the Books contain, in one variant or another, an obligation on the Contractor that the product be "fit for purpose", although, appropriately, the fitness for purpose obligations in the Red Book and MDB are cast differently from those in the Yellow, Silver and Gold Books, where the Contractor has greater responsibility for the design.

3.193 A fitness for purpose obligation places a more absolute obligation on the Contractor as to the final product. It can be distinguished from typical contract obligations that will, for example, be implied in common law jurisdictions in absence of express provision, such as the duty of designers to exercise reasonable skill and care.[116] Compliance with a fitness for purpose obligation is assessed on the basis of whether the characteristics and performance of the final product achieve the purpose for which it is intended. If the contractor is under a fitness for purpose obligation but the product, when completed, is not fit for purpose, the contractor is liable, in principle at least, irrespective of fault or the causes behind the product not being fit for purpose. Accordingly, a fitness for purpose obligation does not only concern the design of the product, but also includes matters such as the selection of materials and quality of workmanship.

3.194 Importantly, however, the FIDIC forms adopt a narrow "fitness for purpose" test in that the intended purposes for which the Works (or part of the Works to be designed by the Contractor in the Red Book and MDB) must be "fit" are those as *specified* (R/M) *or defined (*Y/S/G) *in the Contract*.[117] It is, therefore, important that the intended purposes are properly, adequately and expressly defined or specified in the Contract. This should be done with care so as not to define the purposes too narrowly or too broadly.

115. Christopher Wade, "The Silver Book: the Reality", [2001] 18(3) ICLR 497 at 509–510. However, this approach is predicated on two critical bases. First, the intent is that "all matters which could cause a change in price shall be settled before Contract signature". Second, a simple tendering procedure is not envisaged to apply. As Wade says, "Time and opportunity has to be allowed before Contract signature for the short-listed or 'preferred bidder(s)' to examine and find out everything necessary".

116. Note, however, that an obligation of fitness for purpose may be implied under common law in certain circumstances, in the absence of an express term or term to the contrary effect: "Where a contractor agrees in the course of his business both to design and construct the works, a term of fitness for purpose of the completed works will be readily implied unless excluded by the express terms of the contract or other particular circumstances": *Brunswick Construction Ltd* v. *Nowlan* (1974) 49 DLR (3d) 93 Can and (1983) 21 BLR 27 (Canada SC); see also *Viking Grain Storage Limited* v. *T H White Installations Ltd* (1986) 33 BLR 103 QBD (OR) and *IBA* v. *EMI and BICC* (1980) 14 BLR 1, HL.

117. This modifies the fitness for purpose obligation that would be otherwise implied under common law, in the absence of a term negating such an obligation, where the contractor is responsible for both the design and construction of a part of the works. In these circumstances, a term would be implied that the part of the works would be fit for the purpose communicated to them (whether or not it was stated in the contract). See, for example, *IBA* v. *EMI*, *supra*. n. 116.

3.195 As such, there is potential uncertainty as to whether "specified" in the Contract must mean 'expressly specified', or whether a less than express specification (e.g., fitness for an item's natural purpose) will be sufficient for the contractual provision to apply.

Red Book and MDB

3.196 In the Red Book and MDB, the Contractor's limited fitness for purpose obligation is set out in Sub-Clause 4.1(c) and arises only if the Contract specifies that the Contractor is to design any part of the Permanent Works. In such a case, when the Works are completed, the part to be designed by the Contractor is required to be "be fit for such purposes for which the part is intended as are specified in the Contract".

Yellow and Silver Books

3.197 Sub-Clause 4.1 of the Yellow and Silver Books require the entire Works, when completed, to be "fit for the purposes for which the Works are intended as defined in the Contract". This fitness for purpose obligation can mean that, even where the Contractor's design meets the remainder of the Employer's Requirements (assuming that is where the intended purposes of the Works have been defined), the Contractor will remain liable if the Works are not fit for the defined purposes.

3.198 The fitness for purpose obligation in the Yellow and Silver Books must also be considered in light of the different allocation of responsibility for errors in the Employer's Requirements as between the Books, as discussed above.[118] In the Yellow Book, the Contractor is provided relief if there any "errors or defects" in the Employer's Requirements which would not have been discovered by an experienced contractor exercising due care either prior to the submission of Tender or then within the period stated in the Appendix to Tender for scrutinising the Employer's Requirements.[119]

3.199 On the other hand, in the Silver Book, the Contractor is responsible for accuracy of the Employer's Requirements except for the matters set out in sub-paragraphs (a) to (d) of Sub-Clause 5.1, which are set out in paragraph 3.187 above. Therefore, difficulties will arise where the requirements for the Works as set out in the Employer's Requirements are inconsistent with or insufficient to meet the fitness for purpose obligation. As Wade says, "Consequently, the Contractor must be in the position to guarantee fitness for purpose, which means he must have found out all necessary information and data, and have fully scrutinised and understood the Employer's Requirements, *before the Contract is signed*" (emphasis in article).[120]

3.200 This combination of the Contractor being under a fitness for purpose obligation and also being responsible for errors in the Employer's requirements is one of the features that have attracted most criticism from certain commentators.[121]

118. See paras. 3.176–3.191 above.
119. Sub-Clauses 1.9 and 5.1.
120. Wade, *op. cit.*, n. 115 at 510.
121. See, for example, AH Gaede Jr, "The Silver Book: An unfortunate shift from FIDIC's tradition of being evenhanded and of focusing on the best interests of the project", [2000] 17(4) ICLR 477; EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects* (2nd Edn, 2003, European International Contractors).

Gold Book

3.201 Sub-Clause 4.1 of the Gold Book requires the entire Works, when completed, to be "fit for the purposes for which the Works are intended as defined in the Contract". However, this Sub-Clause also makes the Contractor expressly responsible "for ensuring that the Works remain fit for such purposes during the Operation Service Period".[122] The Gold Book therefore essentially adopts the same position as the Yellow Book, as discussed above,[123] as to the Contractor's fitness for purpose obligation relating to the Design-Build. This obligation then continues during the Operation Service Period. However, it should also be noted that, under Sub-Clause 17.9, the Contractor is required to indemnify the Employer against "all errors in the Contractor's design of the Works and other professional services which result in the Works not being fit for purpose".[124]

3.202 However, interestingly, the Contractor's fitness for purpose obligation as to the Works during the Design-Build Period must also be considered in light of the definition of the Tests on Completion of Design-Build in Sub-Clause 1.1.76. Under this Sub-Clause, these tests are defined as "the tests which are specified in the Contract . . . and which are to be carried out under Clause 11 [*Testing*] before the Works or a Section (as the case may be) are *deemed to be fit for purpose* as defined in the Employer's Requirements" (emphasis added). Accordingly, it might be argued that, on the basis of the definition of Tests on Completion of Design-Build, the measure for whether the Works are fit for purpose as defined in the Contract is the passing of the Tests on Completion of Design-Build and not, strictly, whether the Works are fit for the intended purpose as defined. If this is correct, it would reduce the strictness of the fitness for purpose obligation. In any event, this definition emphasises the need to specify the Tests on Completion of Design-Build with care.

Design compliance with law and standards

3.203 By Sub-Clause 5.3(a) of the Yellow, Silver and Gold Books, the Contractor undertakes (among other things) that the design, the Contractor's Documents, and the completed Works will be in accordance with the Laws in the Country.[125] Sub-Clause 5.3(b) contains the other essential criteria with which the Works must comply, namely the Contract as modified by any Variations.[126]

3.204 Sub-Clause 5.4 expands this obligation to include the Country's technical standards, building, construction and environmental Laws, Laws applicable to the product

122. In the Gold Book, the Contractor's obligation to ensure that the Works remain fit for the purposes for which they are intended is repeated in Sub-Clause 10.1.

123. Paras. 3.197–3.200 above.

124. Note also that, under Sub-Clause 19.2(c), the Contractor is required to effect and maintain professional indemnity insurance, which is required to contain an extension indemnifying the Contractor for his liability "arising out of negligent fault, defect, error or omission in the carrying out his professional duties which result in the Works not being fit for the purpose specified in the Contract and resulting in any loss and/or damage to the Employer".

125. The obligations for payment of fees arising from regulations and laws are dealt with under Sub-Clause 1.13 (S/Y) and 1.14 (G).

126. The Gold Book contains an additional first sentence in Sub-Clause 5.3, which is essentially the penultimate paragraph of Yellow Book Sub-Clause 5.2, relocated. The express obligation is absent in the Silver Book, presumably on the basis that it is already inherently a Contractor's obligation under the Silver Book.

being produced from the Works, and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws. The *FIDIC Guide* suggests that if any of these conflict, it will be necessary to ascertain their order of precedence under Sub-Clause 1.5—although in practice, as the obligations arguably all arise in the General Conditions under Sub-Clause 5.4, this can be difficult to ascertain.

3.205 The applicable Laws under the Sub-Clause are those prevailing when the Works or Section are taken over by the Employer. The Contractor's compliance with his obligations under Sub-Clauses 5.3 and 5.4 may necessitate a claim for change in law under Sub-Clause 13.7 (13.6 (G)), discussed at Chapter 4, paragraphs 4.95–4.103, for any changes in the Laws made between the Base Date and the date the Works or the relevant Section are taken over by the Employer under Clause 10 (not G). In cases where changes in Laws have not been 'made', but are contemplated in legislation not yet in force, the Parties may wish to deal with such a possibility (whether by the Employer setting aside a contingency, or building the cost of future compliance into the Contract Price, where appropriate) prior to entering into the Contract.

3.206 Sub-Clause 5.4 also provides that references in the Contract to published standards are to be interpreted as references to the edition applicable on the Base Date, unless stated otherwise. The Contractor is required under Sub-Clause 5.4 to notify the contract administrator if changed or new applicable standards come into force in the Country after the Base Date, and (if appropriate) submit proposals for compliance. The Contractor is not obliged, however, to comply with these standards, absent a Variation. Further, and more relevantly in international contracting, the Sub-Clause only requires such notice to be given if the new or changed standards come into force in the "Country" which is the location of the Site or Permanent Works. In cases where the Employer's Requirements specify standards not from the Country, as is commonly the case in international work, the Contractor will have no obligation to notify the Employer that such standards are being changed or replaced.

See also Chapter 2, paragraphs 2.140 *et seq.*

STANDARDS AND QUALITY

Materials and workmanship

Generally

3.207 The FIDIC forms make identical provisions in respect of the contract provisions pertaining to the manner of execution of the Works, which is regulated by Sub-Clause 7.1. Sub-Clause 7.1 (discussed paragraphs 3.23–3.25) obliges the Contractor to carry out: (i) the manufacture of Plant, (ii) the production and manufacture of Materials, and (iii) all other execution of the Works (and provide Operation Service (G)):

(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
(c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract".

3.208 As Totterdill aptly remarks, "Phrases such as 'proper workmanlike and careful manner', 'recognised good practice' and 'properly equipped facilities' which are used in this Sub-Clause are imprecise. These requirements will be interpreted by the Engineer in relation to the actual Goods supplied and the work that is executed by the Contractor".[127]

3.209 Notably, and unlike some other standard forms of contract, the Sub-Clause does not specify quality requirements for the materials themselves, such as an obligation for the Contractor to use only "new" or "suitable" materials. As the FIDIC forms are standard form contracts, any such requirement must be identified in the Employer's Requirements, Specification and/or the Contractor's Proposals (as may be appropriate). Fundamentally, the Contractor's obligation in this Sub-Clause is to ensure that the Materials comply with the standards specified in the Contract.

3.210 Parties should be aware that contractors may also be subject to additional obligations implied by local or the governing law. Many common law jurisdictions, for example, may impose warranties (often statutory) that the goods will be of merchantable or satisfactory quality.

3.211 In many common law jurisdictions, a contractor's express duties as to materials and workmanship may also import certain design responsibility, notwithstanding his employer may have chosen the materials or nominated a supplier.[128] In the English case *Young & Marten Limited* v. *McManus Childs*,[129] the contractor McManus Childs had engaged Young & Marten as subcontractors, who had in the course of the subcontract installed roofing tiles specified by its employing contractor on a housing project. Irrespective of the fact that Young & Marten had not itself selected the tiles and that McManus Childs had done so relying on its own skill and judgement, the court held that Young & Marten was nevertheless bound to supply tiles of merchantable quality, and had failed to do so. However, the warranty would have been excluded had it been inconsistent with express terms, or had the contractor expressly disclaimed liability in the contract.[130]

3.212 In respect of the MDB obligations that equipment, materials and services have their origin in any eligible source country as defined by the Bank, see para. 3.8 above.

Samples: Red, MDB, Yellow and Gold Books

3.213 The Red and MDB Books contain obligations at Sub-Clause 7.2 requiring the Contractor to submit both "manufacturer's standard" samples of Materials and samples specified in the Contract as well as "relevant information" to the Engineer for consent prior to using the Materials in or for the Works. The expression "manufacturer's standard samples of Materials" may be insufficiently certain in the context of a particular project. Indeed, a particular manufacturer may not even provide samples where others do. In such

127. Brian W. Totterdill, *FIDIC users' guide: A practical guide to the 1999 Red and Yellow Books* (2nd Edn, 2006, Thomas Telford), p. 167.

128. The *FIDIC Guide* observes that disputes under the Red Book, for example, "can arise where [the Contractor's design obligations] 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)": p. 97.

129. *Young & Marten Limited* v. *McManus Childs* [1969] 1 AC 454 HL.

130. [1969] 1 AC 454 HL at 471.

cases, it would be prudent for the Employer to specify its requirements in the Contract —most likely in the Specification (or the Employer's Requirements (Y/G)).

3.214 In the Yellow Book and Gold Book, the Contractor's obligation is to submit specified samples and relevant information to the contract administrator "for review" in accordance with the procedures for Contractor's Documents under Sub-Clause 5.2. Under Sub-Clause 5.2, the review period is not to exceed 21 days. See paragraphs 3.35–3.44.

3.215 The Contractor's obligation to supply samples at his cost is limited to the manufacturer's standard samples of Materials and samples specified in the Contract. Typically, the Contract would specify not only individual samples, but categories of items for which the Contractor will be obliged to provide samples. Any additional samples may be instructed by the contract administrator as a Variation, at the Employer's cost (if any). What constitutes "relevant information" is unclear, but would probably be limited to readily available materials, specifications, data sheets, published testing reports, and the like.

Samples: Silver Book

3.216 Under Sub-Clause 7.2 of the Silver Book, the Contractor is to submit samples to the Employer for review in accordance with the procedures for Contractor's Documents under Sub-Clause 5.2. The samples are to be as specified in the Contract and at the Contractor's cost.

Royalties and material disposal

3.217 Sub-Clause 7.8 states that unless otherwise stated in the Specification (R, M) Employer's Requirements (Y/S/G), the Contractor shall pay all royalties, rents and other payments for:

- natural Materials obtained from outside the Site, and
- 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.

Quality assurance

3.218 Sub-Clause 4.9 obliges the Contractor to institute a quality assurance system in accordance with the details stated in the Contract, and gives the contract administrator a right to audit any aspect of the system. The Sub-Clause identifies further minimal obligations for procedures and compliance, although the provision is effectively only a link to further express provisions to be identified in the Contract. However, the authors would consider that, as a practical matter, the provisions of most quality assurance systems themselves will far exceed the obligations in the Sub-Clause.

Compliance with law

Generally

3.219 The Contractor is required by Sub-Clause 1.13 (1.14 (G)) to "comply with applicable Laws" in performing the Contract. "Laws" are defined to mean all national (or state)

legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.[131] The definition of "Laws" is broad and extends to all activities connected with the Contractor's performance of the Works, including employment, environmental and taxation laws.

3.220 The onus is on the Contractor to acquaint himself fully with applicable Laws, which can be burdensome for Contractors performing international work in unfamiliar jurisdictions. It is for this reason, presumably, that Sub-Clause 2.2 (discussed below) provides that "The Employer shall (where he is in a position to do so) provide reasonable assistance to the Contractor at the request of the Contractor . . . (a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available . . . ". (R, S and Y). The qualification "(where he is in a position to do so)" is omitted in the Gold Book and MDB.

3.221 Sub-Clause 1.13(a) (Gold Book 1.14(a)) contemplates that the Employer either has obtained, or will obtain, the planning, zoning or similar permits for the Permanent Works, along with any other permits described in the Specification/Employer's Requirements. The Employer is to indemnify the Contractor against the consequences of any failure to do so.

3.222 Sub-Clause 1.13(b) (Gold Book 1.14(b)) requires the Contractor to give all notices, pay all taxes, duties and fees, and obtain all (Gold Book: "further") permits, licences and approvals, as required by the Laws, in relation to the design, execution and completion of the Works and (Gold Book: "Operation Service and") the remedying of any defects, and further stipulates that the Contractor indemnifies the Employer against the consequences of any failure to do so.

3.223 See also paras. 3.203–3.206 above in relation to compliance with applicable Law and design. See Chapter 2, paras. 2.140 *et seq*. in relation to compliance with applicable law generally.

Gold Book: Operation Service

3.224 Gold Book Sub-Clause 1.14 extends the compliance with law obligation through the Operation Service Period, and by additional sub-paragraph (c) obliges the Contractor at all times and in all respects to "comply with, give all notices under, and pay all fees required by any licence obtained by the Employer in respect of the Site or the Works or Operation Service, whether relating to the Works or Operation Service on or off the Site".

Permits, licences or approvals assistance

3.225 The FIDIC forms recognise that additional information, permits, licences or approvals may be necessary when the Contractor is carrying out work outside his home country. See also Chapter 2, paragraphs 2.153–2.155.

3.226 Sub-Clause 2.2(a) in all FIDIC forms requires the Employer to provide reasonable assistance to the Contractor at the request of the Contractor, by obtaining copies of relevant Laws of the Country which are not readily available, for applications for any permits, licences or approvals required by the Laws of the Country. Sub-Clause 2.2(b) expressly

131. Sub-Clause 1.1.6.5 (R/M/Y/S); 1.1.47 (G).

contemplates delivery of Goods, including customs clearance, and export of Contractor's Equipment when it is removed from Site. In the Red, Yellow and Silver Books, the Employer's obligation to provide reasonable assistance is qualified: "where he is in a position to do so".

3.227 The Gold Book amendments to the drafting of Sub-Clause 2.2 are of style and clarification, rather than substance, although paragraph (b) does perhaps expand the Employer's obligations to include "details of the information required to be submitted by the Contractor in order to obtain such permits, licences or approvals". The Gold Book (and MDB) also deletes the conditional qualifier that the Employer must only assist "where he is in a position to do so".

Working hours

3.228 The working hours provisions in Sub-Clause 6.5 are, terminology and extended Operation Service Period aside, nearly identical in the FIDIC forms. Under Sub-Clause 6.5, no work shall be carried out on the Site on "locally recognised days of rest" or outside the normal working hours, subject to certain exceptions (discussed below). All the Books other than the Silver Book specify that the working hours are those stated in the Appendix to Tender or Contract Data. The general prohibition is subject to exceptions where (a) otherwise stated in the Contract, (b) the contract administrator gives consent, (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, or (d) (Gold Book only) required for the proper fulfilment of the requirements of the Operation Service Period. In case (c) above, the Contractor is immediately to advise the contract administrator. If consent is requested in sub-paragraph (b), it must not be unreasonably withheld or delayed: Sub-Clause 1.3.

3.229 The basic obligation in the working hours Sub-Clause requires compliance with locally recognised days of rest rather than, for example, the customary days of rest of any expatriate Contractor or Employer personnel. Additionally, working hours may also be prescribed in the planning or building consent conditions, in which case the working hours will have force of law, and cannot merely be extended by contract administrator's consent[132] or any statement to the contrary in the Contract. In circumstances where the Contractor is granted extended working hours, any additional administration/supervision costs incurred by the contract administrator may be claimable by operation of the final sentence of Sub-Clause 8.6 (9.5 (G)).

Technical standards and regulations: Yellow, Silver and Gold Books

3.230 Sub-Clause 5.4 requires that (unless otherwise stated (G)) the design, Contractor's Documents, the execution and completed Works must be compliant with 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.[133] This may also include compliance with any statutory approvals and/or certification for the Works required

132. Unless, of course, consent is also obtained from the relevant authority.
133. This Sub-Clause is in addition to Sub-Clause 1.13 [*Compliance with Laws*] (1.14 (G)).

by the relevant Laws, but this is usually mentioned as part of the Employer's Requirements. The second paragraph of the Sub-Clause states that the applicable Laws with which the Works and Section must be compliant are those prevailing when the Works or Section are taken over by the Employer.

3.231 In the event that an applicable standard changes after the Base Date, the burden of notification is placed on the Contractor and the Contractor must also submit proposals to the contract administrator for compliance. The contract administrator is then to initiate a Variation if he determines that compliance is required and the proposals constitute a Variation.

3.232 There is no similar discrete technical standards and regulations Sub-Clause in the Red or MDB Books.

SAFETY, PERSONNEL AND EXECUTION

Health and safety

3.233 Sub-Clause 4.1 of all the Books states (among other things) that the Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction of the Works.

3.234 The Contractor's obligations in relation to safety during the carrying out of the Works are augmented in various places in the Contract, including at Sub-Clauses 4.8 and 6.7. Sub-Clause 4.8 [*Safety Procedures*] sets out various basic safety obligations that require the Contractor to do various things; namely:

> "(a) comply with all applicable safety regulations,
> (b) 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,
> (d) provide fencing, lighting, guarding and watching of the Works until (completion and taking over under Clause 10 [*Employer's Taking Over*] ('the issue of the Contract Completion Certificate' (G)), 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".[134]

3.235 Notably, the obligation in paragraph (b) does not extend to persons on the Site without an entitlement, such as trespassers. In this regard, the Contractor's liability for such persons will vary under, and be governed by, the applicable Laws as well as the Contract. In paragraph (c), what will constitute "reasonable efforts" by the Contractor to keep the Site clear of unnecessary obstruction "so as to avoid danger" is unclear. Similarly, the obligations in paragraph (d) to provide "fencing, lighting, guarding and watching of the Works" are equally generic, as is the obligation in paragraph (e) to provide any Temporary Works that may be necessary. While this is understandable in a standard form model contract, the Employer will need to set out any specific requirements he has.

3.236 There is also a corresponding obligation on the Employer under Sub-Clause 2.3(b) to ensure that the Employer's Personnel and the Employer's other contractors on the

134. Sub-Clause 4.8.

Site take actions similar to those that the Contractor is to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8.

3.237 Correspondingly, Sub-Clause 6.7 sets out the Contractor's primary responsibilities in respect of the health and safety of the Contractor's Personnel. Similar issues arise in relation to the generic nature of the Contractor's obligations. For example, while the Contractor must "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, he is entitled to do so "in collaboration with local health authorities". FIDIC itself postulates in the *FIDIC Guide* both that "Liaison with local health authorities may result in their facilities being used as an ambulance service, for example" but that "In certain circumstances, it may be even be necessary for him to provide a fully-equipped hospital".[135] The Contractor's other obligations are procedural, such as ensuring suitable arrangements for welfare, hygiene and prevention of epidemics, and the appointment of a qualified accident prevention officer at the Site.

3.238 In addition to the health and safety requirements under Sub-Clause 6.7, the MDB further obliges the Contractor to conduct HIV-AIDS awareness programmes "via an approved service provider", by conducting various "information, education and consultation communication" campaigns, and carrying out certain clinical and counselling obligations further detailed in the Sub-Clause.

Personnel

Labour and labour laws

3.239 Except as otherwise stated in the Specification/Employers Requirements, the Contractor is required under Sub-Clause 6.1 to make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and, transport.[136] Sub-Clause 6.2 obliges the Contractor to 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. Where no established rates or conditions are applicable, the wages and conditions are to be "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".

3.240 Sub-Clause 6.4 [*Labour laws*] sets out a two-part provision. First, the provision obliges the Contractor to 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 to allow them all their legal rights. Secondly, the Contractor must require his employees to obey all applicable Laws, including those concerning safety at work. Importantly, by the last sentence of the limitation of liability Sub-Clause,[137] the cap on the Contractor's liability carves out "liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party".[138]

135. *FIDIC Guide*, p. 154.
136. Sub-Clause 6.1. The MDB (only) states that the requirement for housing is to apply "when appropriate". See also paras. 3.272–3.273 below.
137. Sub-Clause 17.6 (17.8 (G)).
138. Sub-Clause 17.6 (17.8 (G)).

3.241 Sub-Clause 6.3 contains a prohibition on the Contractor recruiting, or attempting to recruit, staff and labour from among the Employer's Personnel. The FIDIC forms do not contain a mirror prohibition on the Employer, although the *FIDIC Guide* does suggest that each Party should seek the other Party's prior agreement to the recruitment of its personnel.[139]

3.242 Sub-Clause 6.1 of the MDB includes a 'soft obligation' by which the Contractor "is encouraged, to the extent practicable and reasonable" to employ staff and labour with appropriate qualifications and experience from sources within the Country.

Contractor's Personnel

3.243 Sub-Clause 6.9 in all FIDIC forms is a Contractor's Personnel Clause, imposing a positive obligation on the Contractor to ensure that the Contractor's Personnel are appropriately qualified, skilled and experienced in their respective trades or occupations, and rights of the Employer to have certain Contractor's Personnel removed. In respect of the second limb of the Sub-Clause, the Employer is entitled to require the Contractor to remove any person on certain limited grounds, namely where that person:

"(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".[140]

3.244 Notably, the Sub-Clause is written as an objective test, which may require an Employer to establish that the relevant person has actually acted as the Employer considers. Additionally, while a single instance is sufficient to trigger the Employer's right in respect of (b) and (c) above, in paragraphs (a) and (d), the person must have persisted after a prior instance of the event. If the removal of any Contractor's Personnel is disputed, by Sub-Clause 3.3 the Contractor is nevertheless obliged to comply with the removal, but may refer the matter for dispute resolution under Sub-Clause 20.4 (20.6 or 20.10 (G)).

3.245 By Sub-Clause 6.11 (all FIDIC forms), the Contractor must at all times take all "reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site." Accordingly, Sub-Clause 6.11 extends the Contractor's "reasonable precautions" responsibility beyond the Site, which may include any nearby Site camp.

MDB obligations

3.246 The MDB extends the Contractor's obligations under the General Conditions,[141] to requirements regarding alcohol and drugs, arms and ammunition. By MDB Sub-Clause 6.16 [*Alcoholic Liquor or Drugs*], the Contractor is obliged not to, otherwise than in accordance with the Laws of the Country, sell, give, barter or otherwise dispose of any

139. *FIDIC Guide*, p. 151.
140. Sub-Clause 6.9.
141. These provisions were also suggested in the Guidance for the Preparation of Particular Conditions, but have been fully incorporated in the MDB.

alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel. Accordingly, what will be prohibited is determined by reference to the Laws of the country. By MDB Sub-Clause 6.17 [*Arms and Ammunition*] the Contractor is not to give, barter, or otherwise dispose of, to any person, any arms ammunition of any kind, or allow Contractor's Personnel to do so.

MDB labour and social obligations

3.247 In respect of labour and social obligations, the MDB goes beyond the general conditions in the other FIDIC forms. The MDB imposes a variety of additional obligations on the Contractor in connection with its use by the multilateral development banks, including supply of foodstuffs (as stated in the Specification),[142] supply of drinking and other water,[143] protection of the Contractor's Personnel employed on the Site from insect and pest nuisance.[144]

3.248 Under Sub-Clause 6.1 of the MDB, the Contractor "is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country".

3.249 Sub-Clause 6.2 of the MDB contains a further paragraph obliging the Contractor to inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are taxable under the laws of the Country, and to make any deductions as may be imposed on him by Law.

3.250 The MDB also obliges the Contractor to respect the Country's recognised festivals, days of rest and religious or other customs,[145] to make any funeral arrangements, to the extent required by local regulations, for local employees who may die while engaged upon the Works.[146]

3.251 Sub-Clause 6.12 entitles the Contractor to bring into the Country foreign personnel necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor is responsible for the personnel's residence visas and work permits, along with their repatriation to the place they were recruited or to their domicile. If requested by the Contractor, the Employer is "to use his best endeavours in a timely and expeditious manner to assist the Contractor" in obtaining government permission for bringing in the Contractor's personnel.

3.252 The MDB expands the labour obligations to prohibit, "in any form", forced or compulsory labour.[147] Sub-Clause 6.21 operates to prohibit the Contractor from employing "any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development". The Sub-Clause does not prohibit child labour *per se*, so long as the employment complies with the Sub-Clause.

142. Sub-Clause 6.13.
143. Sub-Clause 6.14.
144. Sub-Clause 6.15. See paras. 3.272–3.273 below, regarding accommodation.
145. Sub-Clause 6.18.
146. Sub-Clause 6.19.
147. Sub-Clause 6.20.

3.253 Finally, by MDB Sub-Clause 6.22, the Contractor is to keep employment records of his workers, to summarise them monthly and submit them to the Engineer, and to make the records available for inspection by auditors during normal working hours.

Employer's Personnel obligations

3.254 In all Books, the Employer's obligations in respect of health and safety are perfunctory in scope. By Sub-Clause 2.3(a), the Employer is responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site co-operate with the Contractor's efforts under Sub-Clause 4.6 [*Co-operation*]. By Sub-Clause 2.3(b), the Employer must ensure that the Employer's Personnel and Employer's other contractors on the Site take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [*Safety Procedures*] and under Sub-Clause 4.18 [*Protection of the Environment*].

Execution

Co-operation

3.255 The Contractor's and Employer's obligations in relation to co-operation are prescribed in Sub-Clause 4.6 of all the Books. Fundamentally, the Sub-Clause contemplates (in the first sentence) that the extent and details of co-operation are to be specified in the Contract. Likewise, in the Yellow, Silver and Gold Books, the Contractor is to co-ordinate his own activities with those of other contractors to the extent (if any) specified in the Employer's Requirements. The cost of this co-operation is deemed by Sub-Clause 4.11 to be allowed for in the Accepted Contract Amount (Contract Price (S)).

3.256 To the extent specified in the Contract or instructed by the contract administrator, the Contractor must allow "appropriate opportunities for carrying out work" for the Employer's Personnel, other contractors of the Employer, and public authorities' personnel, if they are performing any work not included in the Contract on or near the Site. The Contract does not specify what "appropriate opportunities" will be. The cost of the co-operation is borne by the Employer to the extent the obligation is not already set out in the Contract (and therefore allowed for in the Accepted Contract Amount (Contract Price (S))). In all the FIDIC forms, any co-operation instruction "constitutes a Variation" if and to the extent that it causes the Contractor to incur Unforeseeable Cost.[148] MDB Sub-Clause 4.6 extends the right to a Variation to circumstances where it causes the Contractor "to suffer delays and/or incur Unforeseeable Cost". The second paragraph states that "Services [that may be required from the Contractor or instructed] 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".[149] This drafting entitles the contract administrator to require the Contractor to allow use of the Contractor's Equipment, Temporary Works, or access that the Contractor has provided or procured.

148. The drafting of the Sub-Clause in the Silver Book simply replicates the other Books' definition of Unforeseeable, as "Unforeseeable" is not defined.

149. Sub-Clause 4.6, paragraph 2.

3.257 By the final part of Sub-Clause 4.6 "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 [contract administrator] in the time and manner stated in the [Specification (R/M) Employer's Requirements (Y/S/G)]".

3.258 Under Sub-Clause 2.3(a), there is a related obligation on the Employer to ensure that the Employer's Personnel and the Employer's other contractors on the site co-operate with the Contractor's efforts under Sub-Clause 4.6.

Contractor's superintendence

3.259 By Sub-Clause 6.8 in all the Books, the obligation to superintend the Works rests clearly upon the Contractor. In the Books other than the Gold Book, the Contractor is to "provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work". The obligation duration is "Throughout the [design and (Y, S)] execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations".[150] The Gold Book extends the duration throughout the complete Contract Period, and the scope is recast as "all necessary superintendence to plan, arrange, direct, manage, inspect, test and monitor the design and execution of the Works and the provision of the Operation Service in accordance with his obligations under the Contract".

3.260 The second paragraph of Sub-Clause 6.8 requires the superintendence to be performed by a sufficient number of persons having adequate knowledge of the language for communications[151] and of the operations to be carried out, for the satisfactory and safe execution of the Works. The knowledge of operations expressly includes requirements for the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents.

Rights of way

3.261 In all the Books, the risk and cost of gaining access to the Site is addressed in Sub-Clause 4.13. Under that Sub-Clause, if the Contractor requires any special and/or temporary rights of way, including those for access to the Site, he is to bear all costs and charges for them. The Contractor is also obliged to obtain any additional facilities outside the Site which he may require for the purposes of the Works, at his risk and cost.[152]

Avoidance of interference with public

3.262 Under Sub-Clause 4.14 of all the Books, the Contractor must not interfere unnecessarily or improperly with: (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.[153] The second paragraph of the Sub-Clause requires the Contractor to indemnify the Employer against all damage resulting from any

150. Sub-Clause 6.8.
151. *per* Sub-Clause 1.4.
152. See paras. 3.116–3.119 above, regarding access.
153. Sub-Clause 4.14.

such "unnecessary or improper" interference. There is no provision in the General Conditions stating what will constitute unnecessary or improper interference.

Protection of the environment

3.263 Sub-Clause 4.18 in all the Books states that the Contractor must "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 second paragraph obliges the Contractor to ensure that emissions, surface discharges and effluent from the Contractor's activities do not exceed the values indicated in the Specification (R/M)/Employer's Requirements (Y/S/G), and shall not exceed the values prescribed by applicable Laws. There is no express environmental indemnity in Sub-Clause 4.18. However, environmental damage may nevertheless result in the indemnities in Sub-Clause 17.1 (17.9 (G)) (e.g., damage to third-party property) becoming operative.

3.264 Importantly, there is also a corresponding obligation on the Employer under Sub-Clause 2.3(b) to ensure that the Employer's Personnel and the Employer's other contractors on the Site take actions similar to those that the Contractor is to take under Sub-Clause 4.18.

Contractor's Equipment

3.265 The Contractor is responsible for all Contractor's Equipment, by operation of Sub-Clause 4.17. "Contractor's Equipment"[154] is defined broadly, to mean all apparatus, machinery, vehicles and other things required in executing, completing and rectifying the Works, whether it is owned or merely used by the Contractor, and includes mechanical equipment owned or used by Subcontractors.

3.266 Sub-Clause 4.17 provides that the Contractor's Equipment, when brought on to the Site, is deemed to be exclusively intended for the execution of the Works. The Contractor may not remove from the Site any major items of Contractor's Equipment without the consent of the contract administrator (other than vehicles transporting Goods or Contractor's Personnel off site).[155] It would appear that the obligation not to remove Contractor's Equipment is used, at least in part, to ensure that progress is maintained by requiring all Contractor's Equipment (including that used intermittently) to remain on Site.

3.267 Sub-Clause 14.1(e) of the MDB also makes clear Contractor's Equipment imported by the Contractor for the sole purpose of executing the Contract is to be exempt from the payment of import duties and taxes upon importation.[156]

3.268 Related Sub-Clause 4.23 (discussed in paragraphs 3.125–3.129 above) requires the Contractor to take all necessary precautions to keep Contractor's Equipment within the Site (and any approved additional areas), to keep them off adjacent land, and to store or dispose of any Contractor's Equipment or surplus materials. The Contractor must also clear away and remove the relevant Contractor's Equipment from that part of the Site and Works to

154. Sub-Clause 1.1.5.1 (R/M/Y/S); 1.1.18 (G).

155. Which, by Sub-Clause 1.3, must not be unreasonably withheld or delayed.

156. See Chapter 4, para. 4.285.

which the certificate refers, upon the issue of a Taking-Over Certificate (Commissioning Certificate (G)), except as may be necessary during the Defects Notification Period[157] (and in this respect does not require any consent under Sub-Clause 4.17).

3.269 Under Sub-Clause 11.11, the Contractor is obliged to remove any remaining Contractor's Equipment upon receiving the Performance Certificate. Under the Gold Book (Sub-Clause 4.23), the Contract Completion Certificate shall not be issued until the Contractor has removed any remaining Contractor's Equipment.

3.270 The Employer has various rights, obligations and remedies in relation to the Contractor's Equipment. For example:

- under Sub-Clause 2.2(b)(iii) the Employer is to provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain any permits, licences or approvals for the export of Contractor's Equipment when it is removed from the Site;
- under Sub-Clause 4.6, the Employer (or his contract administrator) may instruct the Contractor to co-operate by providing use of the Contractor's Equipment to other contractors (see paragraphs 3.255–3.258 above);
- under Sub-Clause 15.2, the Employer may notify the Contractor when the Contractor's Equipment may be released to the Contractor, after termination by the Employer (see Chapter 8, paragraphs 8.208–8.217).

3.271 In circumstances where vesting of the Contractor's Equipment is required, the Particular Conditions (except (G)) suggest a Sub-Clause by which any Contractor's Equipment owned (directly or indirectly) by the Contractor is deemed to be the Employer's property upon arrival on the Site, with the property reverting to the Contractor upon the earlier of (i) the Contractor being entitled to remove it from the Site and (ii) the Contractor being entitled to receive the Taking-Over Certificate for the Works.[158]

Facilities for staff and labour

3.272 Under Sub-Clause 6.6, the Contractor is to provide and maintain "all necessary accommodation and welfare facilities" for the Contractor's Personnel, except as otherwise stated in the (Specification (R/M)/Employer's Requirements (Y/S/G)), as well as any facilities for the Employer's Personnel stated in the Specification/Employer's Requirements. The Sub-Clause also prohibits the Contractor from permitting any Contractor's Personnel from maintaining any temporary or permanent living quarters within the structures forming part of the Permanent Works.

3.273 As the *FIDIC Guide* suggests, it would seem that one of the Sub-Clause's purposes is that it "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".[159] The prohibition in relation to the Contractor's Personnel in the Sub-Clause is limited, in all the Books apart from the Gold Book, to being

157. Sub-Clause 4.23.
158. Guidance for the Preparation of Particular Conditions (Red and Yellow Books).
159. *FIDIC Guide*, p. 153.

"within the structures forming part of the Permanent Works" and not the Site. Consequently, there is nothing in the Books preventing the Personnel from maintaining temporary living quarters (i.e., "camping out") on any portion of the Site not given over to structures forming part of the Permanent Works. In the Gold Book, the prohibition extends to "the Site of the Works."

Employer's Equipment and free-issue materials

Employer's Equipment

3.274 Sub-Clause 4.20 contemplates the Employer electing to make specific Employer's Equipment available to the Contractor, for which the Contractor is to pay as agreed or determined under Sub-Clauses 2.5 (20.2 (G)) [*Employer's Claims*] and 3.5 [*Determinations*]. Sub-Clause 4.20 provides:

> "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 [Specifications (R/M)/Employer's Requirements (Y/S/G)]. Unless otherwise stated in the (Specification/ Employer's Requirements):
>
> (a) the Employer shall be responsible for the Employer's Equipment, except that
> (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."

3.275 By the second paragraph of the Sub-Clause, the appropriate quantities and the amounts due (at the contractually stated prices) for the use of Employer's Equipment are to be agreed or determined by the contract administrator by Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*] and 3.5 [*Determinations*], and the Contractor is to pay these amounts to the Employer.

3.276 Where the Parties had agreed that Employer's Equipment would be provided, the Contractor would be entitled to an extension of time and delay costs under Sub-Clause 8.4(e) (9.3(e) (G)) (subject to Sub-Clause 20.1), to the extent of the unavailability (e.g., due to Employer's Equipment supply delay or breakdown). Paragraph (b), while clear, may be harsh for Contractors as he is deemed responsible while his personnel are "operating it, driving it, directing it or in possession or control of it"—including for any breakdown not directly attributable to the Contractor. The Contractor may also be responsible for insuring it, while it is in his possession.

3.277 The Employer's Equipment is excluded from the definition of Plant,[160] and "the Contract requirements in respect of Plant, including fitness for purpose, do not impose obligations in respect of the plant and materials provided by the Employer".[161]

Free-issue materials

3.278 All the Books make express provision at Sub-Clause 4.20 for the Employer to provide free-issue materials and use of the Employer's Equipment as detailed in the Specifications

160. Sub-Clause 1.1.5.5 (R/M/Y/S); 1.162 (G).
161. *FIDIC Guide*, p. 126.

(R/M)/Employer's Requirements (Y/S/G).[162] Details of the "free issue materials" are to be specified in the Specifications (R/M)/Employer's Requirements (Y/S/G). The definitions in Sub-Clause 1.1 make it clear that such free-issue materials are not Goods[163] or Materials.[164] The third paragraph states that the Employer is to provide such materials at the time and place specified in the Contract, at his risk and cost.

3.279 The Contractor is obliged (by the fourth paragraph) only to "visually inspect" the free-issue materials, and promptly notify the contract administrator of any "shortage, defect or default", which the Employer is obliged to "immediately rectify", unless otherwise agreed. The final paragraph of Sub-Clause 4.20 provides that the Employer remains expressly liable for any shortage, defect or default not apparent from a visual inspection. By implication, however, the Contractor is conversely liable for any such shortage, defect or default that it should have caught by visual inspection, had the Contractor carried out its inspection obligations in accordance with the Contract. Finally, the last paragraph also provides that care, custody and control of the free-issue materials passes to the Contractor after the inspection.

Electricity, water, gas and facilities

3.280 As a matter of general principle, unless otherwise stated in the Contract, the Contractor is responsible for "all things necessary for the proper execution and completion of the Works and the remedying of any defects".[165] Further, by Sub-Clause 4.10(e) (not S), to the extent practicable, the Contractor is "deemed to have inspected and examined the Site, its 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) . . . (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services".

Books other than Gold Book

3.281 This is reinforced in Sub-Clause 4.19, by which the Contractor is responsible (subject to limited exceptions discussed below), for the provision of all power, water and other services he may require (for his construction activities and to the extent defined in the Specifications, for the tests (M)).

3.282 The second paragraph of the Sub-Clause provides a link to any supplies of electricity, water, gas and other services available on the Site that the Contractor is entitled to use for the purposes of the Works which are to be detailed and priced in the Specifications (R/M)/Employer's Requirements (Y, S). The Contractor is to provide any apparatus necessary for his use of these services and for measuring the quantities consumed, at his risk and cost. The quantities consumed and the amounts due (at these prices) for such services are to be agreed or determined by the typical mechanism of Sub-Clauses 2.5 [*Employer's Claims*] and 3.5 [*Determinations*].

162. See also, in the Gold Book, Sub-Clause 10.4 [*Delivery of Raw Materials*] at paras. 3.83–3.85 above.
163. Sub-Clause 1.1.5.2 (R/M/Y/S); 1.1.45 (G).
164. Sub-Clause 1.1.5.3 (R/M/Y/S); 1.1.52 (G).
165. Sub-Clause 4.11. The Gold Book adds "and the provision of the Operation Service".

3.283 Although the Sub-Clause provides a link to any services that the Employer may wish to make available, it does not impose any obligation on the Employer to make services available, even if they are present on or adjacent to the Site. If any utilities are to be made available, then it is obvious from the Sub-Clause that details and prices are to be included in the Contract.

Gold Book

3.284 Conceptually, in Sub-Clause 4.19 of the Gold Book, the Contractor is to arrange utilities directly from the providers right from the Commencement Date, with a view to maintaining them through Operation Service. In contemplation of the ongoing Operation Service, the Contractor does not pay the Employer for any such utilities used as in other forms, but is to "take over in his own name and . . . be responsible for payment of the electricity, water, gas and other services to the utility provider". The Contractor is entitled by the Sub-Clause to take over the existing service entry and provision points and is responsible for taking and recording such information as is necessary for the utility providers to charge the Contractor correctly from the Commencement Date.

VARIATIONS

3.285 The right of the employer to vary or change the works after the contract has been entered into is generally considered by many to be an essential element of a construction contract. Without such a right, the contractor would be bound to execute and complete the works as specified in the contract, and no more or no less. However, in reality, decisions as to the detailed specification of the works are often made after the contract has been awarded and the needs of the employer may change. In the absence of a right to vary, the parties would be required to reach an agreement as to any changes of the works and the time and cost consequences. Whilst agreement is always preferable, this is not always achievable. Consequently, it is common for construction and engineering contracts to include an express right of the employer to vary the works by ordering variations, which will often include the power to omit work, and include a procedure and the principles for determining the contractor's entitlement to payment for the additional work and an extension to the time within which he must complete the varied works.

3.286 In the FIDIC forms, Variations are primarily governed by Sub-Clauses 13.1 to 13.3. These Sub-Clauses set out the right to vary, the procedure to be followed and the possibility for the Contractor to submit his own proposals for changes. The core provisions of these Sub-Clauses are common to all the Books. They all expressly provide that a Variation may be initiated on the Employer's side[166] in two ways: either by an instruction or by a request for the Contractor to submit a proposal. The power to instruct a Variation grants the Employer (acting through the contract administrator in all the Books apart from the Silver Book) a unilateral right to instruct a change to the Works (or Employer's Requirements (Y/S/G)), without the agreement of the Contractor. The one exception to this is found in Sub-Clause 13.1 of the Gold Book in relation to Variations instructed

166. As to who may initiate a Variation on the Employer's side, see paras. 3.296–3.298 below.

during the Operation Service, which require the Contractor's prior agreement as to the consequences of the Variation. The right to control the Works is, however, not unlimited, although the powers in Sub-Clause 13.1 are broad. An alternative procedure is also provided for the Contractor to be requested to submit proposals, for approval, as to the consequences of a potential Variation.

3.287 The Contractor is expressly required to execute each Variation unless he considers that he has a valid ground to object. The express grounds for objection vary as between the Books in reflection of the different design responsibilities of the Parties under the various Books.

3.288 Sub-Clause 13.3 then sets out the basis for evaluating the Contractor's entitlement to payment in respect of Variation in the event that the Contractor's proposals have not been approved. In addition, the Contractor may also be entitled to an extension of time under Sub-Clause 8.4(a) (9.3(a) (G)).

3.289 In practice, Variations can have significant time and cost implications to the Contractor and thus disputes relating to Variations frequently arise following instructions. The most common types of disputes involve:

- whether the instruction constitutes a Variation;
- whether the instructed change is within the scope of Variations permitted under the Contract or under the governing law;
- where the Contractor has the responsibility for the design of the Works and/or where the Works are specified in terms of performance requirements, the effect of the Variation on design responsibility and/or the performance guarantees; and
- ultimately, the Contractor's entitlement to time and money.

Definition of Variation

3.290 Variation is a defined term in the FIDIC forms:

- Red Book and MDB: "Variation" means "any change to the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*]".[167]
- Yellow, Silver and Gold Books: "Variation" means "any change to the Employer's Requirements or the Works, which is instructed or approved as a variation[168] under Clause 13 [*Variations and Adjustments*]".[169]

3.291 The inclusion of the reference to the "Employer's Requirements" in the definition of Variation in the Yellow, Silver and Gold Books reflects that the fact that the Contractor is primarily responsible for the design of the Works under these Books. In these Books, the Works may also be relatively briefly specified in the Contract in the Employer's Requirements in terms of performance specifications or outline requirements, with the Contractor given the responsibility for deciding how these requirements are to be realised. For similar reasons, the scope of Variations that may be instructed or approved, as set out in Sub-Clause 13.1, differs as between the Red Book/MDB and the other Books.

167. Sub-Clause 1.1.6.9 (R/M).
168. "Variation" (G).
169. Sub-Clause 1.1.6.9 (Y); Sub-Clause 1.1.6.8 (S); Sub-Clause 1.1.81 (G).

3.292 "Works" are defined[170] as the Temporary Works and the Permanent Works, both of which are tangible physical items. The first part of the definition of Variation, "any change in the Works", therefore suggests that a Variation applies only to the scope of physical Works and not, for example, to an instruction to provide additional reporting under Sub-Clause 4.21.

3.293 The issue as to whether an instruction results in a change to the Works or the Employer's Requirements (Y/S/G) requires an analysis of the documents forming the Contract and consideration of the Contractor's responsibility and obligations for matters relating to the Works under the Contract. In general terms, a useful working test is whether the work required is not expressly or impliedly included in the work for which the Contract Price, at the time of the instruction, is payable.[171]

3.294 In addition to the matters falling within the definition of "Variation" and those expressly set out in Sub-Clause 13.1, various Sub-Clauses in the FIDIC forms specify that certain instructions are to constitute a Variation, or that Clause 13 or Sub-Clause 13.3 is to apply in a particular event or circumstance. These additional matters are set out in Table 3.3. Although many of these matters fall within the definition of Variation, others do not; for example, the cost of co-operating with other contractors or public authorities (Sub-Clause 4.6) and the remedying of defects for which the Contractor is not responsible (Sub-Clause 11.2 (12.2 (G)). The treatment of these matters as if they were, in effect, Variations provides an alternative method for evaluating the Contractor's entitlement to payment that is to be adopted in relation to these matters to the method commonly adopted elsewhere in the Conditions which entitle the Contractor to payment of Cost incurred (with or without a profit element).

3.295 Variations under the FIDIC Contracts are not, as is sometimes the case in American construction contracts, the mechanism by which the *terms* of the Contract are amended by the Parties, but instead address only changes to the work to be carried out. Indeed, in the Red Book, MDB and Yellow Book, where it is the Engineer who instructs Variations, Sub-Clause 3.1 expressly provides that the Engineer has no authority to amend the Contract.[172] Fundamentally, Variations in these Books must be instructed by the Engineer under an express power set out in the Contract.

170. Sub-Clause 1.1.5.8 (R/M/Y/S); 1.1.82 (G).

171. Stephen Furst and Vivian Ramsey (ed.), *Keating on Construction Contracts* (8th Edn, 2006, Sweet & Maxwell) ('*Keating*'), p. 116, para. 4–023.

172. In the Silver Book, the Employer instructs or approves Variations, and, of course, as a Party to the Contract, does have the power to agree amendments to the Contract with the Contractor.

Table 3.3: Matters in the FIDIC forms to which Clause 13 applies

		Sub-Clause				
Matter	**Reference to Variation/Clause 13**	**Red Book**	**MDB**	**Yellow Book**	**Silver Book**	**Gold Book**
Instruction of work in event of emergency necessary to abate or reduce risk affecting safety of life, the Works or adjoining property	Valuation in accordance with Clause 13		3.1			
Instruction to employ a nominated Subcontractor	Instruction under Clause 13	5.1	5.1	4.5	4.5	4.5
Unforeseeable[173] cost of co-operating with Employer's Personnel, other contractors, public authorities, as instructed by contract administrator	Variation	4.6	4.6	4.6	4.6	4.6
Instructions from contract administrator following the Contractor encountering Unforeseeable physical conditions	If instruction constitutes a Variation, Clause 13 applies	4.12	4.12	4.12		4.12
Correcting defects found in the Employer's Requirements notified within period stated in Appendix to Tender/ Contract Data	Clause 13 may apply			5.1		5.1
Arising from a change in applicable standards in force in the Country after the Base Date.	Variation in accordance with Clause 13			5.4	5.4	5.4
Instruction to submit additional samples.	Instructed as a variation	7.2	7.2	7.2		7.2
Instruction for additional or amended tests (where results show no default) or delayed tests.	Instruction under Clause 13	7.4	7.4	7.4	7.4	7.4

173. Note that "unforeseeable" is not a defined term in the Silver Book, although the definition of "Unforeseeable" is instead set out in the relevant Sub-Clause of the Silver Book.

		Sub-Clause				
Matter	**Reference to Variation/Clause 13**	**Red Book**	**MDB**	**Yellow Book**	**Silver Book**	**Gold Book**
Contractor may be required to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal.	Proposal under Sub-Clause 13.3	8.3	8.3	8.3		8.4
Prolonged suspension affecting part of the Works.	Omission under Clause 13	8.11	8.11	8.11	8.11	9.10
Engineer's instruction to make good any deterioration or defect in or loss of the Works, Plant or Materials, which occurred during suspension.	Instruction under Clause 13		8.12			
Remedying defects for which Contractor is not responsible.	Sub-Clause 13.3 applies (R/M/Y/S)/ Variation under Clause 13 (G)	11.2	11.2	11.2	11.2	12.2
Provisional Sums.	Valued under Sub-Clause 13.3	13.5	13.5	13.5	13.5	13.5
Adjustments to the execution of the Works or provision of the Operation Service necessitated by a change in the Laws.	Dealt with as a Variation					13.6
Adjustments for changes in technology.	Variation if appropriate					13.7
Replacement of assets not identified in the Asset Replacement Schedule.	Instructed as a Variation under Clause 13					14.5

		Sub-Clause				
Matter	**Reference to Variation/Clause 13**	**Red Book**	**MDB**	**Yellow Book**	**Silver Book**	**Gold Book**
Rectification of damage to the Works, other property, Goods or Contractor's Documents due to risk allocated to Employer, as instructed by Employer's Representative.	Deemed Variation					17.6

Who can order Variations?

3.296 In the Red, MDB, Yellow and Gold Books, the power to initiate Variations is reserved to the contract administrator. Consequently, the Employer has no power to instruct Variations directly, but instead must direct such instructions through the contract administrator. A direct instruction from the Employer will be invalid under the Contract and thus the Contractor is under no obligation to comply with it. When exercising the power to initiate Variations, the contract administrator is acting as the direct agent of the Employer and not in his more general contract administration role.

3.297 The extent to which the contract administrator may instruct or approve a Variation will depend on his authority under the Contract as set out in Sub-Clause 3.1.[174] In light of the direct-agency role of the contract administrator when initiating Variations, the Employer may wish to place constraints on the contract administrator's authority by requiring the Employer's prior approval before the instruction of certain types of Variation. These constraints should be specified in the Particular Conditions. In addition, the MDB expressly requires the Employer's prior approval before the Engineer may instruct a Variation, except in an emergency situation or if the Variation would increase the Accepted Contract Amount by less than a percentage specified in the Contract Data, and before the Engineer may approve a proposal submitted by the Contractor under either Sub-Clause 13.2 or 13.3.[175] To provide some protection to the Contractor where the contract administrator instructs a Variation, with which the Contractor is expressly required to comply under Sub-Clause 3.3 and 13.1,[176] but for which instruction the Employer's approval is required, the fourth paragraph of Sub-Clause 3.1 in the Red, MDB, Yellow and Gold Books provides that, in such a situation, the Employer is deemed to have given approval.

3.298 In the Silver Book, the power to initiate Variations is granted to the Employer. Nevertheless, for the purpose of this section (in common with the terminology used in this book) for convenience to the reader, the references to the contract administrator below should be read so as to include the Employer in the Silver Book.

174. See Chapter 6, paras. 6.33 *et seq.* further in relation to the contract administrator's authority.
175. Sub-Clause 3.1 (M).
176. And in relation to other instructions which may invoke the Variations provisions, as set out in Table 3.3 above.

Right to vary in the Red Book and MDB

3.299 Sub-Clause 13.1 of the Red Book and MDB provides:

"Each Variation may include:

(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,
(d) the 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."

3.300 In very broad terms, these matters represent changes to the work to be carried out by the Contractor from that which was specified in the Contract. It is also clear from the opening words "each Variation *may* include" (emphasis added) that this list should be considered to be non-exhaustive. Moreover, it also includes the power to change the sequence or timing of the Contractor's execution of the Works, which the Contractor would generally have the freedom to decide, and does not strictly fall within the definition of a Variation.

3.301 The Contractor is also expressly prohibited (by the final paragraph of Sub-Clause 13.1) from making any alteration and/or modification of the Permanent Works without a Variation.

3.302 Changes in quantities of any item of work included in the Contract. The wording of sub-paragraph (a) in Sub-Clause 13.1 of the Red Book and MDB frequently gives rise to perhaps understandable confusion because, on the one hand, it states that a Variation may include "a change in the quantities of any item of work included in the Contract", but then qualifies this by stating that this may not necessarily constitute a Variation.

3.303 In the authors' view, the intention behind the qualification is to confirm the underlying principle in these Books that the Contractor is required to carry out all work that is included in the Contract and is to be paid on a measurement basis for this work, by applying the rates and prices in the Bill of Quantities (or other schedule) to the measured quantities of work actually carried out (and not on the basis of any quantities set out in the Bill of Quantities (or other schedule).[177] Where the quantities of work exceed the quantities in the Bill of Quantities, such a change does not automatically amount to a Variation. Indeed, it is suggested that any quantities set out in the Bill of Quantities (or other schedule) are not intended to be the reference point for determining whether there has been a change in quantity.[178] Instead, the reference point should be the quantity of any item of work that the Contractor was required to carry out in order to execute and complete the Works as specified in the Contract at the time that it was awarded; or, in other words, the issue revolves around whether the Contractor was required to carry out this work in any event or whether it represents extra work not included in the scope of the Works as specified in the Contract.

177. Under Sub-Clause 14.1(c), any such quantities are only estimates. See [Price—Red Book evaluation].
178. See n. 177 above.

3.304 Omission of work. Sub-Clause 13.1 of the Red Book and MDB grants the Engineer an express power to omit any work but subject to one important qualification, namely "unless it is to be carried out by others". Although it could perhaps have been worded more clearly,[179] it is suggested that this qualification is intended expressly to prohibit the omission of any work in order to give it to another contractor to duplicate the clear prohibition of omission of work for these purposes found in Sub-Clause 13.1 of the Yellow, Silver and Gold Books.[180]

3.305 This prohibition reflects the position at law, for example, in common law jurisdictions, regarding one of the limits on the contract administrator's power to instruct variations, as implied by the courts. In *Commissioner for Main Roads* v. *Reed & Stuart Pty Ltd*, the High Court of Australia held that, in the absence of express terms, once the contract has been concluded, an employer could not omit works and give them to another party to obtain a cheaper price. The court held that (in the absence of an express provision) such a direction is "counter to a concept basic to the contract, namely that the contractor, as successful tenderer, should have the opportunity of performing the whole of the contract work".[181]

3.306 Changes to sequence and timing of the execution of the Works. Sub-Clause 13.1(f) grants the Engineer the express right to change the "sequence or timing of the execution of the Works". Whilst it is arguable that such a change does not properly fall within the definition of a Variation in these Books, this power is entirely understandable from a practical perspective, as an Employer may have good reason for amending the sequencing of the Works, at the cost of a Variation, especially where, as in the Red Book and MDB, the design is prepared by or on behalf of the Employer. In the authors' view, however, this does not empower the Engineer to instruct the Contractor, as a Variation, to accelerate so as to require him to complete the Works (or a Section) prior to the Time for Completion. See Chapter 5, paragraph 5.189.

3.307 Methods of construction. Notably, changes to the Contractor's methods for the execution of the Works are not included in the list in Sub-Clause 13.1. By Sub-Clause 4.1, the Contractor is responsible for the adequacy, stability and safety of all methods of construction. Consequently, the Engineer has no general power to interfere with the Contractor's methods of working, since these are matters for the Contractor alone to decide, except possibly to the extent that an instruction relates to a change, not in the method of working, but in the Temporary Works. This is because a change to the Temporary Works is caught by the definition of a Variation.

Grounds for objection

3.308 The Contractor is required to execute and is bound by each Variation, except where he has given prompt notice to the Engineer of a valid ground for objection (with supporting

179. Whilst it might be argued that the use of the permissive "may" in the expression "each Variation *may* include" (emphasis added) does not make the prohibition of general application, it is suggested that it is unlikely that this would be accepted by an arbitral tribunal as the proper interpretation of this provision.

180. See para. 3.310 below.

181. [1974] 131 CLR 378 at [9] *per* Stephen J. See also for example (England) *Amec Building Ltd* v. *Cadmus Investment Company* (1996) 51 Con LR 105, (1996) 13 Const. L.J. 54; (Australia) *Carr* v. *J.A. Berriman* (1953) 27 ALJR 273; (USA) *Gallagher* v. *Hirsch* (1899) NY 45 App Div 467; (Canada) *Simplex Floor Finishing* v. *Duranceau* [1941] DLR 260 (Supreme Court).

particulars). The grounds for objection are set out in Sub-Clause 13.1 and, in the Red Book and MDB, are limited. Under both the Red Book and the MDB (and indeed all the Books), the Contractor may object if he cannot readily obtain the goods required for the Variation. The MDB provides an additional ground for objection, namely that "such Variation triggers a substantial change in the sequence or progress of the Works". Further, although the risk of the product being fit for purpose is borne by the Employer in the Red Book and MDB, the Contractor, by Sub-Clause 4.1, will remain responsible for the safety (if not the suitability) of the Site operations and methods of construction.

3.309 If the Contractor gives notice of an objection to the Engineer, the Engineer is required to cancel, confirm or vary the instruction. The consequences of confirming the instruction are considered in paragraph 3.316 below in relation to the Yellow, Silver and Gold Books.

Right to vary in the Yellow, Silver and Gold Books

3.310 The Yellow, Silver and Gold Books adopt a less prescriptive approach than the Red Book and MDB: the illustrative list of possible Variations has been replaced by a prohibition that a "Variation shall not comprise the omission of any work which is to be carried out by others".[182] It is implicit from this prohibition that the contract administrator may nevertheless instruct an omission of any work so long as it is not to be carried out by others.

3.311 In view of the greater responsibility of the Contractor in the Yellow, Silver and Gold Books, when compared to the Red Book and MDB, in relation to the design of the Works and also the way in which the Works are to be carried out, there is generally less need for the contract administrator to give instructions to the Contractor in relation to the Works. Under these Books, the scope of the Works is often primarily specified in outline only in the Employer's Requirements, with the Contractor being responsible for the implementation of the Employer's Requirements (also in accordance with any Contractor's Proposal that may also have been included in the Contract).

3.312 Whilst they are certainly not prohibited, care should be exercised when instructing Variations under the Yellow, Silver and Gold Books, because they may affect or prejudice the Employer's entitlement to insist on achievement of the performance guarantees provided by the Contractor or the passing of the relevant tests specified in the Contract. For this reason, the *FIDIC Guide* sensibly suggests[183] that "It is advisable to seek prior agreement of the consequences of each Variation, especially if it affects the scope or purpose of the Works". Moreover, Variations in these types of contract more usually relate, for example, to the purchase of additional Plant, rather than changes which could affect the performance guarantees.

3.313 There is no similar prohibition in the Yellow, Silver and Gold Books to the effect that the Contractor has no right to make any alternation or modification of the Permanent Works without a Variation, again in recognition of the fact that the Contractor retains greater responsibility for the design and has a fitness for purpose obligation in respect of the Works.[184]

182. See also para. 3.305 above, in relation to the impact of law on such a right to omit work.
183. *FIDIC Guide*, p. 57.
184. See also *FIDIC Guide*, p. 219.

Grounds for objection

3.314 As with the Red Book and MDB, in the Yellow, Silver and Gold Books, the Contractor is required to execute and is bound by the Variation unless he promptly gives notice[185] (with supporting particulars) to the contract administrator. The express grounds on which the Contractor may object to a Variation in the Yellow, Silver and Gold Books, as set out in Sub-Clause 13.1, are:

- "the Contractor cannot readily obtain the Goods required for the Variation";
- the Variation "will reduce the safety or suitability of the Works";
- the Variation "will have an adverse impact on the achievement of the [Schedule of Guarantees (Y) / Performance Guarantees (S) / Schedule of guarantees (G)]";
- Gold Book only: the Variation "will have an adverse effect on the provision of the Operation Service under the Contract".

3.315 The first of these grounds is common to all the Books. The other grounds acknowledge the Contractor's greater responsibility in the Yellow, Silver and Gold Books for the design of the Works, that the Contractor's fulfilment of his obligations at completion may be measured against performance criteria for the Works for which the Contractor is required to provide a guarantee, and that in the Gold Book, the Contractor's responsibility extends to the provision of the Operation Service.

3.316 There is, however, an uncertainty in the FIDIC forms, generally, as to the consequences which are intended to follow the Contractor giving notice[186] of one of the grounds for objection. If the Contractor gives notice of an objection, the contract administrator may cancel, vary or confirm the instruction. No difficulty arises if the instruction is cancelled. Equally, if the contract administrator varies the instruction, it is suggested that the Contractor can submit a further notice of objection if the new instruction is different from the one previously objected to. A difficulty arises, however, if the contract administrator confirms the instruction or varies it in a way that does not address the Contractor's objection. The practical solution in such a case would be for a referral to be made to the DAB under Sub-Clause 20.4 (20.6 or 20.10 (G)), for a decision on the existence of the ground of objection and thus the validity of the instruction. In any event, the Parties may wish to clarify the intent of this provision in the Contract.

Limits to the scope of Variations

3.317 The governing law may also impose limits on the contract administrator's right to instruct Variations. In common law jurisdictions, for example, where work exceeds the limits of the Contract, the contractor is entitled to refuse to carry out such additional work, or may be entitled to be paid on a restitutionary basis (i.e., *quantum meruit*). Common law legal consideration of the limits of such powers was given in the English case of *Thorn* v. *London Corporation*,[187] where the Lord Chancellor said:

185. "Notice" (G).
186. "Notice" (G).
187. (1876) 1 App Cas 120 at 127. See also *Blue Circle Industries Plc* v. *Holland Dredging Company (UK) Ltd* (1987) 37 BLR 40 (CA), which considered the variation provisions in Clause 51 of the ICE 5th Edition.

"Either the additional and varied work which was thus occasioned is the kind of additional and varied work contemplated by the contract or it is not. If it is the kind of additional and varied work contemplated by the contract, he must be paid for it, and will be paid for it, according to the prices regulated by the contract. If, on the other hand, it was additional and varied work, so peculiar, so unexpected, and so different from what any person reckoned or calculated upon, that it is not in the contract at all; then, it appears to me, one of two courses might have been open to him; he might have said: I entirely refuse to go on with the contract—*Non haec in foedera veni:* I never intended to construct this work upon this new and unexpected footing. Or he might have said, I will go on with this, but this is not the kind of extra work contemplated by the contract, and if I do it, I must be paid a *quantum meruit* for it."

Limits to the time for instructing Variations

3.318 All the Books place limits as to when a Variation may be initiated. In the Red, MDB, Yellow and Silver Books, a Variation may be initiated by the contract administrator "at any time prior to issuing a Taking-Over Certificate", which reflects the practicality that, after the Taking-Over Certificate is issued, the Contractor will have largely demobilised and should not be obliged to undertake additional work.

3.319 In the Gold Book, the period for initiating a Variation by way of instruction ends with the issue of the Commissioning Certificate. The Employer's Representative may, however, request the Contractor to submit a proposal in relation to a potential Variation during the Operation Service—but the Contractor is only obliged to proceed with such a Variation if the consequences have been agreed between the Employer and the Contractor.

Variation procedure

3.320 As stated above, the Variation provisions in Sub-Clauses 13.1 and 13.3 envisage that a Variation may be initiated either by a request to the Contractor to submit a proposal or by an instruction. Sub-Clause 13.3, in particular, sets out the procedure and related requirements that are to apply to Variations. The first two paragraphs of this Sub-Clause relate only to proposals submitted in response to a request, the third paragraph relates to instructions, and then the final paragraph sets out the basis for valuing the Variation.

Request for a proposal

3.321 As in most forms of construction contracts, Sub-Clause 13.1 in the FIDIC forms includes the power for the contract administrator to explore the feasibility of a Variation before being bound by it, by requesting the Contractor to submit a proposal. By incorporating a procedure to request proposals, this in effect also gives the contract administrator a formal mechanism to assess the potential for dispute of any intended instruction. However, the contract administrator is under no duty to request a proposal from the Contractor whenever a Variation is contemplated, except in the Gold Book in relation to Variations during the Operation Service Period.

3.322 The contract administrator's request must be in writing.[188] The *FIDIC Guide* also usefully suggests[189] that it should use the word "request" to avoid the risk "that a request may appear to be an instruction, and thus as a (sic) Variation".

188. See Chaper 6, paras. 6.154–6.157.
189. *FIDIC Guide*, p. 222.

3.323 The requirements relating to the Contractor's proposal are set out in the first paragraph of Sub-Clause 13.3. Following a request for a proposal, prior to instructing a Variation, the Contractor is obliged to respond in writing as soon as practicable, although no express time limit is stated. The Contractor has the option of either "giving reasons why he cannot comply" or submitting a proposal which is to include:

(i) "a description of the proposed [design and/or (Y/S/G)] work to be performed";
(ii) a programme for the execution of the design/work;
(iii) a proposal in respect of necessary modifications to the overall programme and to the Time for Completion; and
(iv) a proposal for the evaluation of the Variation (R/M) or adjustments in the Contract Price (Y/S/G).

3.324 The Contractor's proposals in relation to these matters will be based upon the contract administrator's outline proposal request. Although it is not stated expressly, the authors suggest that the reasons that the Contractor may give for not submitting a proposal are the same as those for which it can give notice of an objection to a Variation under Sub-Clause 13.1,[190] or if the Contractor does not consider that what is proposed falls within the scope of a Variation.

3.325 Cost of preparing proposal. The FIDIC forms are silent as to whether the Contractor is entitled to recover the cost of preparing the proposal (unlike under Sub-Clause 13.2, where the proposal is expressly stated to be prepared at the Contractor's cost). The *FIDIC Guide*'s explanation for this is that:[191]

"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".

3.326 Response. After receiving a response from the Contractor which includes the items listed in sub-paragraphs (a) to (c), the contract administrator is required to respond "as soon as practicable" with approval, disapproval or comments.

3.327 Notwithstanding the contract administrator's duty to respond to any proposal "as soon as practicable", as a matter of precaution, the Contractor may also wish to place a time limit on the proposals (or ensure that prices in any subcontractor/supplier basis for the proposal are sufficiently fixed) so as to minimise the risk that the contract administrator may issue a Variation based on a long out-of-date proposal.

3.328 The Contractor is expressly prohibited from delaying work while a proposal is being considered. This, however, could have implications for the progress of the Works and the Contractor's entitlement to payment. The contract administrator should be careful to take adequate interim provisions to minimise unnecessary work, if an area of the Works may be subject to a pending Variation or, similarly, any abortive design work. This may have cost and time implications for the Employer, in that the Contractor is likely to be entitled to payment for the work done on a part of the Works affected by the subsequent Variation, even if the original work has to be demolished or reworked as a result of the Variation. The

190. See above.
191. *FIDIC Guide*, p. 222.

overall progress of the Works may also be delayed if the Contractor is required, for example, to demolish and clear previous work before he can start to execute the Variation. Consequently, it may be appropriate for the contract administrator, for example, to instruct suspension of progress under Sub-Clause 8.8 (9.7 (G)) in relation to the relevant area of work to minimise any need to undo or rework any previous work in the execution of the Variation.

Instruction

3.329 Sub-Clause 13.3 provides little guidance as to procedure for instructing a Variation. The third paragraph of this Sub-Clause simply states "Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the [contract administrator] to the Contractor, who shall acknowledge receipt". As stated above, it is also important to recognise that the right to instruct a Variation is reserved to the contract administrator (the Employer in the Silver Book).

3.330 The formalities for giving an instruction under the Contract must also nevertheless be complied with.[192] In the Yellow, Silver and Gold Books, the instruction must be in writing and comply with the formalities for instructions in the relevant Sub-Clause.[193] Under Sub-Clause 3.3 of the Red Book and the MDB, an instruction is required to be given in writing "whenever practicable". Nevertheless, if an instruction is given orally, a procedure is set out in that Sub-Clause to be followed by the Contractor to 'convert' the oral instruction into a written instruction (unless it is withdrawn). It is suggested that, if the Contractor has any doubt as to the nature of a possible instruction, it would be prudent to invoke this procedure in order to provide contemporaneous records and a 'paper trail', which will be essential evidence in any dispute that may subsequently arise in relation to that Variation.

3.331 As a matter of good practice and to provide certainty as to the nature of the instruction, it is suggested that the instruction should state that it is given under Sub-Clause 13.1. This is a requirement in the Gold Book.[194] In any event, even if the instruction is stated to have been given under Sub-Clause 3.3 (3.4 (S)) and not Sub-Clause 13.1, this will constitute a Variation: Sub-Clause 3.3 (3.4 (S)) expressly provides that "If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply".

3.332 Nevertheless, disputes are common as to whether an instruction given under Sub-Clause 3.3 (3.4 (S)) properly constitutes a Variation. It is perhaps with this in mind that the third paragraph of Sub-Clause 13.3 requires the Contractor to acknowledge receipt of the instruction to execute a Variation. If there is any dispute as to whether an instruction constitutes a Variation, it is suggested that this should be referred to the DAB under Sub-Clause 20.4 (20.6 or 20.10 (G)) as soon as possible for a decision.

Valuation of Variations and the Contractor's entitlement to an extension of time

3.333 Unless a proposal by the Contractor has been approved by the contract administrator under Sub-Clause 13.3, the Variation is to be valued in accordance with the final paragraph

192. See Chapter 6, paras. 6.117–6.118.

193. Sub-Clause 3.3 (Y); Sub-Clause 3.4 (S); Sub-Clauses 1.3 and 3.3 (G).

194. Sub-Clause 1.3(b). Under this Sub-Clause in the Gold Book, the instruction must also state that it is an instruction.

of Sub-Clause 13.3. Under the Red Book and MDB, evaluation of a Variation is to be made by the Engineer in accordance with Clause 12, "unless the Engineer instructs or approves otherwise in accordance with [Clause 13]". In the Yellow, Silver and Gold Books, the contract administrator is required to proceed in accordance with Sub-Clause 3.5 to agree or determine adjustments to the Contract Price and the Schedule of Payments, which adjustments are to include reasonable profit and take into account any proposals submitted by the Contractor under the value engineering provision, Sub-Clause 13.2. Since the evaluation procedure under Clause 12 of the Red Book and MDB also requires the Engineer to proceed in accordance with Sub-Clause 3.5, the application of the requirements of that Sub-Clause to the evaluation of a Variation in all the Books provides the Parties with a useful opportunity to seek to agree the Contractor's entitlement to payment for the Variation. The valuation of Variations is considered further in Chapter 4, paragraphs 4.73 *et seq*.

3.334 Under Sub-Clause 8.4(a) (9.3(a) (G)), the Contractor is entitled to an extension of time, subject to Sub-Clause 20.1, if and to the extent that completion for the purposes of Sub-Clause 10.1 (11.5 (G)) is or will be delayed by a Variation. Extension of time, generally, is considered further in Chapter 8, paragraphs 8.236 *et seq*.

Value engineering

3.335 Sub-Clause 13.2 is headed "Value Engineering" and makes provision for the Contractor to submit proposals on his own initiative which, in his opinion, would: (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. Under the Gold Book, there is a fifth category: improve the efficiency of the Operation Service being provided.

3.336 The substantive terms of Sub-Clause 13.2 are identical in all the Books, although the Red Book and MDB go further than the other Books by actually stipulating a profit-sharing mechanism for design proposals that affect the Permanent Works and are approved by the Engineer. Indeed, generally, the approach to value engineering in Sub-Clause 13.2 is limited. Apart from in the Red Book and MDB, where there is this profit-sharing mechanism, there is arguably little incentive for the Contractor to come up with suitable proposals, and no actual obligation on the Contractor to put forward such a proposal. Firstly, all such proposals are to be prepared at the Contractor's cost. Secondly, the value engineering provisions are predicated on benefit to the Employer and the Contractor is given no corresponding entitlement to put forward proposals which would merely be beneficial to himself. Therefore, the Contractor has little incentive to make a proposal that has no tangible benefit to the Employer even if it is cost or time neutral and would benefit the Contractor.

3.337 As mentioned above, the Red Book and MDB actually provide (as well as stipulating that any accepted design proposal will be designed by the Contractor), in Sub-Clause 13.2, for a default mechanism for the valuation of an accepted design proposal if the contract value is reduced. The default fee is 50% of the difference in the reduction in value (excluding applicable adjustments) and the reduction (if any) in the value of the varied works. The Yellow, Silver and Gold Books do not set out any fee structure for value engineering and this is left to determination under Sub-Clause 3.5. As mentioned in

paragraph 3.333 above, the contract administrator is bound to take into account the Contractor's proposal when making a determination for a Variation connected with a value engineering proposal. Certainly, it makes sense for the Red Book and MDB to propose a fee structure, as otherwise the Contractor would not be incentivised to make design proposals if he has little or no design work under the Contract. Nevertheless, a pricing mechanism giving some certainty of expected return might also encourage value engineering proposals under the Yellow, Silver and Gold Books.

SUB-CONTRACTING

Subcontractors

Generally

3.338 The definition of Subcontractor in the FIDIC forms is identical across all the Books, and is broadly written. Subcontractor means "any person appointed as a subcontractor, for a part of the Works"[195] and includes sub-contractors named in the Contract and those that are not, as well their successors in title. Accordingly, Subcontractors also include suppliers of Materials and Plant. Clearly, the definition is to cover all such suppliers, irrespective of whether the supplier has been appointed expressly in connection with the Works, or their supply is under an ongoing supply contract with the Contractor.

3.339 The FIDIC forms stipulate in Sub-Clause 4.4 that the Contractor shall not sub-contract the whole of the Works—the corollary of which is that the Contractor is entitled to sub-contract parts of the Works. The Gold Book augments this provision with a requirement that the Contractor shall not sub-contract the provision of the Operation Service, unless otherwise agreed. In practice, however, many DBO Contracts will be comprised of a consortium (incorporated or not) of design-builder and an operator, with the consequence that during the Operation Service the design-builders are only involved by the continuance of their legal liability as Contractor, rather than any ongoing physical presence.

3.340 Sub-Clause 4.4 provides that the Contractor shall be responsible for the acts or defaults of any Subcontractor as if they were the acts or defaults of the Contractor. This gives rise to two issues of note. First, by the Sub-Clause, the Contractor assumes strict liability under the Contract for all of its Subcontractors, including any nominated Subcontractors selected by or on behalf of the Employer (discussed at paragraphs 3.350 *et seq.* below). Second, the assumption of liability prevents the Contractor from making any claim (for example, for an extension of time or as a *force majeure*) arising out of an act or omission of any of its Subcontractors.

Generally: Books other than Silver

3.341 In all the Books except the Silver Book,[196] unless otherwise stated in the Particular Conditions, under Sub-Clause 4.4(a), the Contractor is not required to obtain consent "to suppliers (solely (M)) of Materials, or to a subcontract for which the Subcontractor is named in the Contract". Accordingly, the Parties can avoid the administrative burden of

195. Sub-Clause 1.1.2.8 (R/M/Y/S); 1.1.74 (G).
196. Discussed at para. 3.348 below.

obtaining Subcontractor approval by setting out a list of pre-approved, actual or potential, Subcontractors in the Contract. Where Subcontractors have been named in the Contract, the contract administrator will have no subsequent right to object to the appointment of such Subcontractor.

3.342 In all the Books, FIDIC has taken the approach that the contract administrator's consent is not required for suppliers of Materials, although consent is required for the suppliers of Plant. In the MDB version, the drafting in Sub-Clause 4.4(a) has been clarified to state expressly that consent is not required where the Subcontractors *solely* supply Materials, and that, accordingly, approval is needed for those Subcontractors supplying work and Materials.

3.343 Unless otherwise stated in the Particular Conditions, under Sub-Clause 4.4(b) the Contractor is to obtain the contract administrator's prior consent to other proposed Subcontractors; which consent by Sub-Clause 1.3 must not be unreasonably withheld or delayed.

3.344 Unless otherwise stated in the Particular Conditions, under Sub-Clause 4.4(c) the Contractor is also to give the contract administrator not less than 28 days' notice of the intended date of commencement of the Subcontractor's work both on and off the Site, for both Subcontractors that have been pre-approved and those that have not.

3.345 The MDB adds further provisions not found in other General Conditions. Under the MDB form, the Contractor is obliged to ensure that the confidentiality requirements imposed on the Contractor by Sub-Clause 1.12 apply equally to each Subcontractor and, where practicable, is to "give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors".[197]

Red and MDB Books: assignment of sub-contract/assignment of benefit

3.346 Sub-Clause 4.4(d) of the Red and MDB Books (but not Y, S or G), requires the Contractor, unless otherwise stated in the Particular Conditions, to ensure that each sub-contract includes "provisions which would entitle the Employer to require the subcontract to be assigned to him under Sub-Clause 4.5 [*Assignment of Benefit of Subcontract*] (if or when applicable) or in the event of termination by the Employer under Sub-Clause 15.2."

3.347 Sub-Clause 4.5 of the Red and MDB Books entitles the Engineer to instruct the Contractor to assign the benefit of any Subcontractor's obligations, if they extend beyond the expiry date of the relevant Defects Notification Period. As the *FIDIC Guide* observes, such assignment may deprive the Contractor of his right to seek redress from the Subcontractor for latent defects discovered subsequently.[198] Accordingly, the default provisions of Sub-Clause 4.5 provide that, after assignment, the Contractor is relieved from further liability in relation to such Subcontractor's work.

Silver Book

3.348 In keeping with FIDIC's view that the Contractor should have increased autonomy and reduced restrictions on the way it carries out the Works under the Silver Book, there

197. These provisions are also suggested in the Guidance for the Preparation of Particular Conditions to the Red Book, p. 7.

198. *FIDIC Guide*, p. 106.

is no provision for any Employer's approval of Subcontractors, and only notification is given. Sub-Clause 4.4 provides that where specified by the Particular Conditions, the Contractor is to give the Employer not less than 28 days' notice of the intended appointment of the Subcontractor, with detailed particulars, and the intended commencement of the Subcontractor's work, both on and off the Site.

Gold Book

3.349 Sub-Clause 4.4 in the Gold Book closely mirrors the Yellow Book, discussed above, but adds a final paragraph clarifying the Contractor's strict liability to the Employer for his Subcontractors, in terms that if any Subcontractor is entitled to relief from any risk on terms additional to or broader than those specified in the Contract, such relief does not excuse the Contractor's non-performance or entitle him to relief under the Contract.

Nominated Subcontractors

Generally

3.350 Nominated Subcontractors are used most usually where the Employer is responsible for the design. Accordingly, provisions in relation to nominated Subcontractors are more detailed in the Red and MDB Books than the other Books. Where an Employer wishes to have a part of the Works carried out by a specialist company rather than the Contractor, he may seek to do so by use of a nominated Subcontractor. The Employer may do so for a number of practical reasons, including that he can choose the Subcontractor he wishes to use. He may also have had early involvement in appointment of the Subcontractor, and based part of the design on that sub-contract supply.

3.351 In the English case *North West Metropolitan Regional Hospital Board* v. *T A Bickerton & Son Ltd*,[199] Lord Reid described the purpose of nominated sub-contractors thus: "The scheme for nominated sub-contractors is an ingenious method of achieving two objects which at first sight might seem incompatible. The employers want to choose who is to do the prime cost work and to settle the terms on which it is to be done, and at the same time to avoid the hazards and difficulties which might arise if they entered into a contract with the person they have chosen to do the work".

3.352 Broadly speaking, the FIDIC forms define "nominated Subcontractor"[200] as a Subcontractor who is either a nominated Subcontractor by Variation under Clause 13 or, in the Red, MDB and Gold Books, is stated in the Contract (Employer's Requirements (G)) as being a nominated Subcontractor.

3.353 Commonly, in nominated sub-contracts, the scope of work, terms and sub-contract price are pre-negotiated by the Employer. Because of this, and because Sub-Clause 4.4 provides for the Contractor to be strictly liable for its Subcontractors, Contractors will need to be well aware of the liabilities they may be taking on.

3.354 All the Books state that the Contractor is not under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice as soon as practicable, with supporting particulars.[201]

199. [1970] 1 WLR 607 at 611.
200. See Sub-Clause 5.1 (R/M), 4.5 (Y/S/G).
201. Sub-Clause 5.2 (R/M), 4.5 (Y/S/G).

3.355 The Red Book and MDB (only) go further, deeming under Sub-Clause 5.2 that an objection shall be reasonable for a variety of stated grounds (without limiting the reasons for the Contractor's objections). The grounds are (broadly speaking):[202]

- that the Subcontractor does not have sufficient competence, resources or financial strength;
- the nominated Subcontractor will not indemnify the Contractor against the nominated Subcontractor's negligence or misuse of goods; or
- the nominated Subcontractor will not agree a sub-contract specifying that, for the sub-contracted work (including design, if any), he shall:
  - (i) undertake such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract; and
  - (ii) indemnify the Contractor against the consequences of his default; and
  - (iii) accept a "pay when paid" obligation from the Contractor ((M) only).

3.356 It is relevant that the objection need only be a reasonable one, particularly as paragraph (a) requires only that "*there are reasons to believe* that the Subcontractor does not have sufficient competence, resources or financial strength"—not that it *is* actually incompetent, incapable or insolvent (emphasis added).

3.357 Under the second paragraph of the Sub-Clause, the Contractor loses his right to the objections under paragraphs (a) to (c) if the Employer agrees to indemnify the Contractor. It is less clear, however, whether an Employer can override the Contractor's objection on grounds other than those that are "deemed reasonable" under Sub-Clause 5.2 by indemnifying the Contractor as contemplated in the Sub-Clause. The view proposed in the *FIDIC Guide* suggests that FIDIC thinks so, stating that "The Sub-Clause provides the Employer with a possible resolution of the objection, namely indemnification".[203]

3.358 On the drafting, it is not apparent, and even ambiguous, whether a reasonable objection "as soon as practicable" must be made before the nominated Subcontractor is engaged.

3.359 The MDB adds a noteworthy additional paragraph to the list of deemed reasonable objections, namely where the nominated Subcontractor refuses to enter into a Subcontract under which it will "be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract . . . ". That is, it is deemed reasonable for the Contractor to object to a nominated Subcontractor if the nominated Subcontractor refuses to accept a "pay when paid" Clause. While the Clause undoubtedly is of benefit to the Contractor, it may also be contrary to legislation, such as Section 113 of the UK *Housing Grants Construction and Regeneration Act* 1996, and Section 13 of the *Building and Construction Industry Security of Payment Act* of New South Wales.[204]

TESTING

3.360 The FIDIC forms all contemplate testing both during the construction process and as part of the completion/post completion regime.

202. See Sub-Clause 5.2 (R/M).
203. *FIDIC Guide*, p. 134.
204. Similar legislation exists in other Australian States (Queensland, Victoria), in New Zealand (*Construction Contracts Act* 2002) and in Singapore.

3.361 The FIDIC testing and inspection regime can be broken down into three primary elements, namely:

- tests during the carrying out of the Works;
- Tests on Completion;
- Tests after Completion (not Gold).

3.362 As testing is almost invariably a fundamental element of a successful construction contract, any review of the FIDIC forms must consider the testing regimes in context. Importantly, the FIDIC forms seek to set out only the main elements of an appropriate testing regime. By their very nature as standard forms, the FIDIC forms cannot begin to prescribe adequately, and do not seek to prescribe, tests for contracts that vary, for example, by the very nature of the Works, industry, location, scale, jurisdiction, commercial context and bargaining powers of the parties. By their nature, the FIDIC form testing regimes are generic, and must be particularised in considerable detail to be made appropriate for the individual project.

3.363 Conceptually, however, the testing regime can clearly seek to establish whether the Employer has been able to obtain the full benefit of his bargain, and can establish objectively whether the Contractor has satisfied the requirements specified in the Contract.

3.364 In outline, the testing provisions in the FIDIC forms (other than the Gold Book) can be summarised as follows:

Clause/Sub-Clause	**Testing Provision**
Sub-Clause 7.3 [*Inspection*]:	Contemplates testing by the Employer's Personnel during the execution of the work, and grants access to the Site, and places where natural Materials are being obtained, and manufacturer's premises; Obliges the Contractor to give notice before work is covered up, put out of sight, or packaged for storage or transport.
Sub-Clause 7.4 [*Testing*]:	Contemplates the testing by the Contractor as specified in the Contract, both during the execution of the work and Tests on Completion
Sub-Clause 9.1 [Contractor's Obligations]:	Contemplates Tests on Completion by the Contractor as specified in the Contract
Clause 12 (Y/S) [Tests after Completion]:	Contemplates Tests after Completion

Sampling

3.365 Sampling and testing are dealt with generally in Clause 7 and Clauses 11 and 12 (Yellow and Silver Books).[205] Sub-Clause 7.2 [*Samples*] of the Red, MDB, Yellow and Gold

205. Sub-Clause 11.6, relating to further testing during the Defects Notification Period, is dealt with at paragraphs 3.479–3.480 below.

Books obliges the Contractor to submit specified samples of Materials, and relevant information to the contract administrator, while the Silver Book refers simply to samples as specified in the Contract. In all Books except the Silver Book, "Manufacturer's standard samples" of Materials and those samples specified in the Contract are to be submitted at the Contractor's cost. Additional samples instructed by the contract administrator are expressly a Variation.

3.366 Under the Red and MDB Books, consent is required, although the Yellow and Gold Books entitle the contract administrator only to review the samples. By Sub-Clause 1.3, consent must be given in writing, and not unreasonably withheld or delayed.

3.367 See also the review procedure and sampling discussions in Sub-Clause 5.2 of the Yellow, Silver and Gold Books, see paragraphs 3.33–3.44, 3.51 and 3.213–3.216 above.

Testing during the course of the Works

Inspection

3.368 The first part of Sub-Clause 7.3 contains an entitlement for the Employer's Personnel[206] to, at all reasonable times:

(a) have full access to all parts of the Site and to all places from which natural Materials are being obtained; and
(b) during production, manufacture and construction (at the Site and elsewhere), (operation and maintenance (G)) be entitled to examine, inspect, measure and test the materials (Materials (G)) and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials;
(c) (G only) carry out other authorised duties and inspections.

3.369 It is clear from the drafting that the entitlement to "inspect" under Sub-Clause 7.3(a) is not restricted to tests specified in the Contract, although it does include those tests. In the event, the examination, inspections and tests will be carried out at the discretion of Employer's Personnel, although there is no obligation on the Employer's Personnel to do so. The Sub-Clause expressly denies that any such inspection or testing activity will relieve the Contractor from any obligation or responsibility.

3.370 The second part of the Sub-Clause obliges the Contractor to give full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment, and to give notice to the contract administrator whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. If the Contractor fails to give notice, he is obliged at his cost to uncover the work and thereafter reinstate and make good, if and when required by the contract administrator.

3.371 The obligation under the Sub-Clause extends beyond the Site to, for example, factories and anywhere else where production, manufacture and construction is being carried out—but on the other hand is limited, in that the entitlement is only to examine, inspect, measure and test materials and workmanship and to check progress on the manufacture/production of Plant and Materials. In the Silver Book, appropriate to FIDIC's view that the Contractor should have increased autonomy and reduced restrictions on

206. The Gold Book extends this to "other persons authorised by the Employer" throughout the Sub-Clause.

the way it carries out the Works, the right extends to off Site locations only to the extent specified in the Contract. In all the Books, the Sub-Clause also contains a positive obligation on the Contractor to provide not only access, but also facilities, permissions and safety equipment.

3.372 Sub-Clause 7.4 will not apply in relation to these tests, because these tests are not specified in the Contract. In this regard, the *FIDIC Guide* states that:

> "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. . . . this Sub-Clause assumes that no significant Unforeseeable Cost will be incurred".[207]

3.373 The *Guide* further suggests that if the Contractor is required to provide additional facilities or other things at significant Cost, they may be instructed under Clause 13 as a Variation.

3.374 By Sub-Clause 7.4, which also applies to Tests on Completion, testing is carried out by the Contractor at his cost, and he is also responsible for all "apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials and suitably qualified and experienced staff . . . ".

3.375 Testing times and places are to be agreed by the Parties.

3.376 The contract administrator is entitled to vary the location or details of specified tests under Clause 13, and has the express right to instruct the Contractor to carry out additional tests not specified in the Contract. The Contractor is deemed responsible for the cost of carrying out the Variation if, notwithstanding any other provisions of the Contract, the varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract.

3.377 The contract administrator is entitled, but not obliged, to attend tests referred in Sub-Clause 7.4, and is to give the Contractor not less than 24 hours' notice of his intention to attend the tests. If the contract administrator does not attend at the time and place agreed, the Contractor may proceed with the tests, unless the contract administrator instructs otherwise—which proviso appears to address the practicalities of unforeseen interruptions on Site. Where tests are performed in the absence of the contract administrator due to his failure to notify or attend, test results are deemed binding.

3.378 If the Contractor suffers delay and/or incurs Cost from complying with the contract administrator's instructions or as a result of a delay for which the Employer is responsible, he is entitled, subject to Sub-Clause 20.1, to time and money (including profit) as contemplated elsewhere in the General Conditions.

Rejection

3.379 Sub-Clause 7.5 [*Rejection*] contains a typical rejection provision for Works found to be defective after any examination, inspection, measurement or test. The provision entitles the contract administrator to reject defective work at any time during the carrying out of the Works, upon giving notice to the Contractor with reasons. The Contractor, after receiving the notice, is required "promptly" to make good the defect, and if the contract administrator requires, to repeat the tests. It is not specified what level of detail is required

207. *FIDIC Guide*, p. 161.

where the contract administrator is to give reasons—although fundamentally, the sole basis for objection must ultimately be that the work does not comply with the Contract. In this respect, it is submitted that the contract administrator must give the Contractor sufficient detail to be able to know what defect is to be rectified (but need not identify why the defect has occurred, or how it is to be rectified).

3.380 If the Contractor fails to comply with his obligation, the Employer has remedies as discussed in Chapter 8, paras. 8.79–8.83.

Remedial work

3.381 Sub-Clause 7.6 [*Remedial Work*] gives the contract administrator an ongoing right to instruct the Contractor to: (a) remove from the Site and replace any Plant or Materials, or (b) remove and re-execute any other work which (in either case) is not in accordance with the Contract, and (c) execute any work which is urgently required for the safety of the Works. This right subsists "notwithstanding any previous test or certification".

3.382 By the second paragraph of Sub-Clause 7.6 in all the Books except the Silver Book, the Contractor is to comply with the instruction within a reasonable time, being the time (if any) specified in the instruction; or immediately if urgency is specified under sub-paragraph (c). The *FIDIC Guide* asserts that, because of the express reference to Sub-Clause 3.4 [*Instructions*] in the last paragraph of Sub-Clause 7.6 ((S) only), the second paragraph has been omitted from the Silver Book.[208] However, as Sub-Clause 3.4 of the Silver Book does not impose a default time obligation on the Contractor, a reasonable time must be expressly specified in any instruction given under Sub-Clause 7.6.[209]

3.383 The Gold Book (only) extends the period for remedial work throughout the Contract Period, including Operation Service. It also adds a new, third paragraph to Sub-Clause 7.6: "Except to the extent that the Contractor may be entitled to payment for the work required under sub-paragraph (c), the Contractor shall bear the cost of such remedial work".

3.384 In all the Books, the last paragraph of Sub-Clause 7.6 provides that, if the Contractor fails to comply with the remedial work instruction, the Employer may at the Contractor's cost[210] employ and pay other persons to carry out the work arising from the Contractor's failure, except to the extent that the Contractor would have been entitled to payment for the work. See further discussion on the Employer's remedies in Chapter 8, paras. 8.79–8.83.

Tests on Completion

Performance testing regimes generally

3.385 Performance testing is at the very core of a purpose-drafted plant/design-build or EPC turnkey contract, and the performance tests are the most important tests carried out under those forms.

208. *FIDIC Guide*, p. 165.

209. Sub-Clause 3.4 (S) does require that instructions must be given in writing and must state the obligations to which it relates, and the Sub-Clause or other Contract term in which the obligations are specified.

210. While the remedial work may be carried out at the Contractor's cost, it is not at the Contractor's risk under Sub-Clause 7.6, as is the case, for example, in Sub-Clauses 8.6 [*Rate of Progress*] and 9.2 [*Delayed Tests*].

3.386 In a purpose-drafted plant/design-build or EPC testing regime, the contractor is typically not prepared to give continuing performance warranties at the level of the performance guarantees, but instead warrants only that the performance guarantees will be achieved at the time the performance tests are carried out. As a consequence, it is typical that the performance tests are carried out as tests on completion before the employer takes over the facility. This is done for good reason, including that:

- the employer will not want to take over a facility unless it has been comprehensively tested;
- the employer wants the remedy of delay damages if the performance guarantees are not met and taking over is not achieved. Until the performance tests are passed and the facility is taken over, the contractor will (subject to liability caps) remain liable for delay liquidated damages; and
- the contractor will prefer to carry out performance tests under his control, typically under the supervision of experienced staff.

3.387 Typically, in the authors' experience, performance tests carried out as tests on completion are not only absolute tests that must be passed. Some must be achieved as a strict obligation, while on others the contractor can compensate the employer (and be relieved from the obligation) by paying non-performance damages. On a process plant or power-generation plant, for example, there will be two categories of performance guarantees. There are:

- 'absolute guarantees' that must be met—such as in respect of emissions (waste, noise), compliance with law, but also in respect of certain minimum performance guarantees (output, efficiency, and possibly reliability or availability);[211]
- 'non-absolute guarantees' with 'performance guarantees' for production output, efficiency, (and possibly reliability or availability), and in respect of which the Contractor can under-perform, within a predetermined range of acceptability.[212]

3.388 When determining the non-absolute performance guarantees, the employer will define not only the performance guarantees, but also the range of acceptable under-performance, down to the absolute guarantees, often called the 'minimum performance guarantees'.

3.389 Where the non-absolute guarantees are not met, purpose-drafted contracts typically allow the contractor to pay non-performance damages, down to the level of the minimum performance guarantees. Consequently, if such liquidated damages are paid, the need for a reduction in Contract Price as contemplated in Sub-Clause 9.4(c) of the Yellow and Silver Books does not arise. Where the Contractor fails to achieve the minimum performance guarantees, he is under a strict obligation to remedy the failure before the plant is taken over.

211. These will, of course, differ from industry to industry.

212. In a power-generation plant, for example, the target performance may be 100% of the specified output and heat rate, with the range of acceptable non-performance down to 95% target output, and 105% of the target heat rate—which 95/105 limits are the strict minimum performance criteria.

FIDIC Tests on Completion generally

3.390 The FIDIC plant/design-build and EPC forms depart from the typical purpose-drafted scheme by not including non-performance damages in the Tests on Completion, although they are usual in almost all plant/design-build or EPC contracts.

3.391 The most remarkable common feature between the Yellow and Silver Book Tests on Completion regimes is FIDIC's implication that non-performance liquidated damages do not apply to the Tests on Completion, but are applied instead only to the Tests after Completion. This approach, it is suggested, is unusual. As drafted, all guarantees contemplated in the Tests on Completion regime are contemplated 'absolute guarantees'.

3.392 The Employer will almost always want the Plant to have been properly tested prior to this hand-over. The Tests on Completion are used by the Employer to determine when and whether the Works, or any applicable Section of the Works, are ready for taking-over, as contemplated above for the 'typical' plant/design-build or EPC case. This is particularly so for the 'plant/design-build forms' (i.e., Y, S, G), by comparison to the 'construction forms' (R, M).

3.393 The carrying-out and passing of the Tests on Completion are (with some limited exceptions) preconditions to the issue of the Taking-Over Certificate and the handing-over of the Works to the Employer,[213] although they are only part of the list of items to be satisfied before taking-over.[214]

3.394 The detail of the Tests on Completion will typically be fully elaborated in the Contract, or be required to be developed and approved by the Contract processes, if the Contract contains only outline tests and Performance Guarantees (on which more below). In this regard, the FIDIC forms seek to set out only the contractual mechanisms for realising the Tests on Completion and addressing the consequences arising from their having been carried out.

3.395 The nature and extent of the Tests on Completion will no doubt differ between the 'construction forms' and the 'plant/design-build forms'. The ''construction forms', typically used for building or engineering works designed by the Employer, will most commonly have limited and discrete Tests on Completion, e.g., in buildings, of the systems (typically electrical and mechanical).[215] By contrast, where 'plant/design-build forms' are used in connection with, for example, process or power-generation plants, Tests on Completion will perform a much more central role in determining whether the Works are complete.

Red and MDB Books

3.396 By definition in Sub-Clause 1.1.3.4, Tests on Completion are the tests either (i) specified in the Contract, (ii) agreed by both Parties or (iii) instructed as a Variation, and which are carried out before the Works or a Section are taken over by the Employer.

213. Except in circumstances contemplated in Sub-Clause 9.4 [Not (G)], where the Employer requests the issue of a Taking-Over Certificate.

214. See Sub-Clauses 8.2 and 10.1 (Gold Book 9.2 and 11.1).

215. This will be similar under the 'plant/design-build forms' if they are for civil or building design-build projects.

3.397 The requirements for the Tests on Completion are drafted generically, and under the Red and MDB Books such Tests on Completion will no doubt be set out in substantial detail in the Contract documents—most likely the Specification.

3.398 Sub-Clause 9.1 requires the Contractor to carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [*Testing*], after providing the 'as-built' documents and operation and maintenance manuals in accordance Sub-Clause 4.1(d).[216] By the second paragraph, Tests on Completion are to be carried out by the Contractor after 21 days' notice to the Engineer, which tests are to be carried out within a further 14 days (unless otherwise agreed), on the day or days instructed by the Engineer.

3.399 The final paragraph of Sub-Clause 9.1 requires the Engineer to "make allowances" for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works, and requires the Contractor to submit a certified report of the results of these Tests to the Engineer as soon as the Works, or a Section, have passed any Tests on Completion.

3.400 Sub-Clause 7.4 [*Testing*][217] is also applicable to Tests on Completion, and among other things, states that the Contractor is to "provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials and suitably qualified and experienced staff" for the tests.

3.401 By Sub-Clause 7.4, the Engineer is to endorse the Contractor's test certificate, or issue a certificate to him, to that effect, when the specified tests have been passed. If the Engineer has not attended the tests, he is deemed by Sub-Clause 7.4 to have accepted the readings as accurate.

Yellow, Silver and Gold Books

3.402 As with the Red and MDB Books, Sub-Clause 9.1 of the Yellow Book and Silver Book requires the Contractor to carry out the Tests on Completion after providing the required as-built documents[218] and "provisional operation and maintenance manuals".[219] A like regime is contained in Gold Book Sub-Clause 11.1 [*Testing of the Works*] which deals with "Tests on Completion of Design Build".[220] In the Gold Book, "Tests on Completion of Design Build" is defined the same as Tests on Completion in the Yellow and Silver Books, except that the concluding expression "before the Works or a Section (as the case may be) *are taken over by the Employer*" is replaced by "before the Works or a Section (as the case may be) *are deemed to be fit for purpose as defined in the Employer's Requirements.*" (Sub-Clause 1.1.76 (emphasis added))

3.403 The Tests on Completion are almost invariably specified in substantial detail in the Contract documents, whether in the Employer's Requirements, the Contractor's Proposals (Tender (S)) or another schedule annexed to the Contract. In certain industries, it is also not uncommon for the Contract to set out only outline Tests on Completion, for the

216. These are to be in accordance with the Specification, and provided as applicable.
217. See generally paras. 3.365–3.384 above.
218. Under Sub-Clause 5.6.
219. Under Sub-Clause 5.7.
220. For ease of reference, unless stated otherwise, the Gold Book Tests on Completion of Design Build are referred to as Tests on Completion. In respect of Tests Prior to Contract Completion, see paras. 3.439 *et seq.* below.

development of final, detailed Tests on Completion once designs have been finalised. The Tests on Completion in the Yellow, Silver and Gold Books will almost always include performance tests in some form.

3.404 Tests on Completion are to be carried out by the Contractor after 21 days' notice to the contract administrator, which tests are to be carried out within a further 14 days (unless otherwise agreed), on the day or days instructed by the contract administrator.

3.405 FIDIC has contemplated that, where Tests on Completion are to include performance tests, capacity tests, reliability tests or the like that relate to assessment of the Works against any guarantees, such guarantees are to be set out in a Schedule of Guarantees (Y/G) or a Performance Guarantees schedule (S).[221]

3.406 For obvious reasons, the Books do not provide detail on the proposed contents. Nonetheless, in the authors' experience, the basic structure of the guarantees is often conceptually similar, and broadly speaking, depending on the nature of the Works, in a plant one might expect to see some or all of:

- the capacity values to be achieved in the guarantee, with detail including the product output quality/specifications, and descriptions of guarantees required for the whole of the plant and individual components;
- any relevant parameters for which the guarantees may be adjusted (e.g., ambient conditions);
- any relevant parameters within which the guarantees will comply (e.g., maximum fuel consumption, noise or pollution emission, or other by-product limits);
- specification of means by which the guarantee will be measured (measurement point, measurement standards, etc.);
- any assumptions on which the guarantees will be based (e.g., feedstock or fuel specifications);
- any express limitations or exclusions from the guarantees.

3.407 Under the Yellow and Silver Books, the Tests on Completion regime contemplates (unless otherwise stated in the Particular Conditions), the Tests comprising (in this sequence, per sub-paragraphs 9.1(a), (b) and (c)) (11.1(a), (b) and (c) (G)): (i) pre-commissioning tests; (ii) commissioning tests; (iii) trial operation, which FIDIC contemplates[222] are to include reliability tests for the Works or relevant Section; and (iv) any other Tests on Completion, including performance tests to demonstrate whether the Works conform with the Employer's Requirements and/or the Schedule of Guarantees (Y/G) or Performance Guarantees (S).

3.408 While this procedure and sequence is typical and reasonable, the express reference to the Particular Conditions acknowledges that the Parties will want to specify the details of the Tests on Completion to a considerable extent of detail. Sub-paragraphs 9.1(a) through (c) (11.1 (G)) do identify an outline Tests on Completion regime, with (a) pre-commissioning tests including the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of plant can safely undertake the next stage; (b) commissioning tests including specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and

221. See Chapter 2, Table 2.1.
222. *FIDIC Guide*, pp. 184–185.

(c) trial operation, to demonstrate that the Works or Section perform reliably and in accordance with the Contract.

3.409 As a practical matter, one would also expect Tests on Completion to be carefully considered commercially and technically. In this respect, any Tests on Completion must be adequate to determine whether the requirements set out in the guarantees have been met. The *FIDIC Guide* aptly observes that inadequate specification of the details for Tests on Completion can give rise to disputes as to whether completion of the Works has been achieved.[223] In performance test schedules or Employer's Requirements, one would expect to see the Tests on Completion set out generally in significant detail. As for guarantees, the Books do not provide detail on the proposed contents of performance or capacity tests. Nonetheless, the authors' experience is that the basic structure of the performance testing regimes is often conceptually similar, and might, for example, include details of:

- the number and duration of the tests to be carried out;
- the testing regime, including any resources and personnel to be provided by the contractor and/or the employer, any restrictions on the contractor's ability to carry out tests at its discretion, and responsibility for control of the portion of the works during the tests, and pre-agreed mechanisms for making adjustments to performance guarantees for anticipated events (e.g., adjustments for actual ambient conditions during testing, degradation of power turbines);
- processes for dealing with interruptions and delays in commencement (whether caused by one of the parties or third parties);
- allocation of responsibility for provision of input consumables (e.g., fuel/feedstock), other consumables (e.g., cleaning agents, catalysts, lubricants), temporary measurement devices, and the like;
- methods of calculating non-performance damages, particularly where the calculation may be complex; and
- ownership rights and responsibility for the output product, including the parties' entitlement to revenues (or the benefits/payments/damages adjustments arising from other party's entitlement to revenues).

3.410 In respect of ownership rights and responsibilities, the fifth paragraph of Sub-Clause 9.1 (Y/S) provides that, unless otherwise stated in the Particular Conditions, any product produced by the Works during trial operation shall be the property of the Employer. The Gold Book changes the provision conceptually in Sub-Clause 11.1, stating in the fourth paragraph that "The Employer shall be the sole beneficiary of any revenue or benefit resulting from the Tests on Completion of Design Build". By comparison, Gold Book Sub-Clause 10.9 (relating to Operation Service) more closely mirrors the Yellow and Silver Books, stating "During the Operation Service, any production output and revenue shall be the exclusive property of the Employer". Two issues arise in relation to this.

3.411 First, because the output is the property of the Employer (Y/S) or the Employer is to be the sole beneficiary of the revenue, the Employer will need (or may wish, in the Gold Book) to have made prior arrangements for the sale, storage or disposal of any output. In large international projects, arrangements for the products of testing can require significant forethought, particularly where forward sales agreements, distribution system

223. *Ibid.*

interconnections or offtake arrangements do not become fully effective until after taking-over has been achieved.

3.412 Secondly, in the Gold Book, notwithstanding that revenue or benefit resulting from the Tests on Completion of Design-Build flows to the Employer, the provision is silent as to who actually owns and bears responsibility for any output. While this may not be an issue on, say, a motorway, it can be an issue on plants where a physical product or electricity is being produced and needs to be either stored or disposed of. In such case, there is an issue, as it is unclear whether this responsibility remains with the Contractor. Parties will want to make arrangements accordingly.

3.413 The final paragraph of Sub-Clause 9.1 (Y/S) (11.1 (G)) requires appropriate allowance to be made for the effect of use of the Works by the Employer on the performance or other characteristics of the Works. A failure to include such provision could leave the Employer without an adequate remedy should the Contractor be able to demonstrate that any improper use or operation by the Employer or the Employer's Personnel (during training for example) did something that negatively affected the ability of the Works to achieve the specified performance level.[224]

3.414 Finally, as noted above, only delay damages are applied to these Tests on Completion—any non-performance damages payable by the Contractor are determined during the Tests after Completion under Sub-Clause 12.4, discussed below.

Delayed Tests on Completion

3.415 Sub-Clause 9.2 (11.2 (G)) makes provision for Tests on Completion that are "unduly" delayed by the Employer. Initially, the Contractor is entitled to time and money in relation to the delay, under the fifth paragraph of Sub-Clause 7.4. If the Employer-caused delay prevents the Contractor from carrying out the Tests on Completion for more than 14 days, then under Sub-Clause 10.3 in the Red, MDB and Yellow Books only, the Employer is 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.

3.416 By comparison, under the Silver Book, if Tests on Completion are "unduly" delayed by the Employer as contemplated in Sub-Clause 9.2, Sub-Clause 10.3 of the Silver Book merely provides that the Contractor must carry out the Tests on Completion as soon as practicable.

3.417 As is typical in most construction contracts, where the Tests on Completion are "unduly" delayed by the Contractor, the contract administrator may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice, and the Employer's Personnel may thereafter carry out the Tests at the Contractor's risk and cost.

Retesting Tests on Completion

3.418 Sub-Clause 9.3 (11.3 (G)) specifies that if the Works (or a Section) fail to pass the Tests on Completion, the contract administrator or the Contractor may require the failed

224. See also Chapter 5, paras. 5.160 *et seq.* in relation to taking over parts of the Works.

tests (and Tests on Completion on any related work), to be repeated. If a retest is failed Sub-Clause 9.4 [*Failure to pass Tests on Completion*] will apply.

3.419 See Chapter 8, paras. 8.84–8.95 in respect of Sub-Clause 9.4 (11.4 (G)) and failure to pass Tests on Completion or Tests on Completion of Design-Build.

Tests after Completion

Generally

3.420 Many of the comments regarding Tests on Completion deal with issues that also arise in relation to Tests after Completion, and will apply equally here.

3.421 While the majority of projects will rely fundamentally upon tests on completion, it is not unusual in certain industries to add a requirement for tests after completion. For example, tests after completion are not uncommon in certain process and power contracts. The FIDIC forms contemplate non-performance damages being payable in relation to the Tests after Completion, as might typically be the case for 'availability' or 'reliability' damages, which tests are usually determined over an extended period of time.[225]

3.422 By way of one example only, certain process plant contracts may have a post-completion 'reliability test' regime, carried out over the initial period of commercial operation. Alternatively, some contracts may simply require tests after completion to be carried out during a certain time of the year.[226]

3.423 In all cases, the nature and purpose of tests after completion is that the project will have been taken over and will be able to commence revenue generation, while the tests will provide a further assessment as to whether it is functioning in accordance with the employer's requirements (wherever stated). The employer will nevertheless want to ensure that tests on completion and tests after completion are both properly taken into account, as, broadly speaking, the plant/works is in the custody of the contractor during tests on completion, but has been taken over by the owner during the tests after completion, irrespective of the outcome of the tests.

3.424 In the Red Book, Tests after Completion refer only to tests (if any) specified in the Contract and which are carried out in accordance with the provisions of the Particular Conditions. Absent any Particular Conditions, the significant references to Tests after Completion are provided for in the Yellow Book and Silver Book only.

3.425 The Silver and Yellow Books provide for differing regimes for the Tests after Completion, although in each Book the relevant Clauses are expressed to apply only if Tests after Completion are specified in the Contract. In the Yellow Book, the Tests after Completion are carried out by the Employer (Sub-Clause 12.1(b) (Y)), while in the Silver Book, the Tests after Completion are carried out by the Contractor (Sub-Clause 12.1(c) (S)). Notwithstanding the two differing regimes, FIDIC itself suggests that the two 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

225. Typically, the test is measured on output over time, with guarantees lower than for performance tests.
226. e.g., during a "peak" demand period, or during a rainy, or summer or winter season.

contract".[227] As such, it is clear that FIDIC's intent (and inevitably, the correct approach) is that the regime is to be customised.

Tests after Completion: Gold Book

3.426 The Gold Book does not contemplate any Tests after Completion, other than the Tests Prior to Contract Completion, which is contemplated as being carried out not immediately after Taking Over, but some years later at the end of Operation Service. In respect of the Tests Prior to Contract Completion, see paras. 3.439 *et seq*. below.

Tests after Completion: Yellow and Silver Books

3.427 Yellow Book. Under the Yellow Book Sub-Clause 12.1, any Tests after Completion specified in the Contract are carried out by the Employer in accordance with the Contractor-supplied operating and maintenance manuals. For this reason, it is appropriate, indeed critical, that full operating and maintenance manuals are relevant as a pre-requisite to Taking-Over. By Sub-Clause 12.1, the Employer provides all items (including electricity, equipment, fuel, instruments, materials, and suitably qualified and experienced staff) necessary to carry out the Tests after Completion efficiently—which is logical if the plant is in commercial operation at that stage.

3.428 The Contractor is obliged to provide "such guidance as the Contractor may be required to give" during the tests. The requirement for such guidance would be that expected of a contractor complying with the Contract, and accordingly, the Contractor's guidance must be given to the standard of professionals who comply with the criteria (if any) stated in the Employer's Requirements.[228] Although performance of the Tests after Completion is required to be in accordance with the manuals, no general standard of competence is applied to the Employer's Personnel, some of whom may, in practice, still be undertaking the training contemplated in Sub-Clause 5.5.

3.429 Silver Book. Under Sub-Clause 12.1(a) in the Silver Book, the Employer's obligation is to provide electricity, fuel and materials, and to make the Employer's Personnel and Plant available. The Contractor provides all other plant, equipment and staff to carry out the Tests after Completion, notwithstanding that the Works (or Section) has been taken over by the Employer.

3.430 Yellow and Silver Books. The second paragraph of Sub-Clause 12.1 of both the Yellow and Silver Books (which works in conjunction with the final sentence of the Sub-Clause) specifies that the Tests after Completion shall be carried out as soon as is reasonably practicable after taking over. The obvious reason for this is, in the light of the Employer's operation of the Plant, to minimise the risk of a dispute arising from claimed or actual improper operation. Early performance of Tests after Completion may also, for example, be particularly desirable on projects such as power plants, where there is degradation of initial plant performance over time. For these reasons, the final sentence of the Sub-Clause requires "appropriate account" to be taken of the effect of the Employer's prior use of the

227. *FIDIC Guide*, p. 211.
228. Sub-Clause 5.1.

Works. Precisely what will constitute "appropriate account" will be a matter for determination in the circumstances. However, prudent Parties would be well advised to pre-agree the mechanism.

3.431 Sub-Clause 12.1 makes clear that the Employer decides the date/dates on which Tests after Completion are carried out. The second paragraph also obliges the Employer to give the Contractor 21 days' notice of the date after which the Tests after Completion will be carried out. Unless otherwise agreed, the tests shall be carried out within 14 days after this date, on the day or days determined by the Employer.

Delays to Tests after Completion

3.432 Sub-Clause 12.2 of the Yellow Book (which is in essentially the same terms as the Silver Book) entitles the Contractor (subject to Sub-Clause 20.1) to "Cost plus reasonable profit" if the Contractor incurs Cost as a result of any *unreasonable* delay by the Employer to the Tests after Completion.[229]

Retesting

3.433 If the Works (or a Section) fail to pass the Tests after Completion, Sub-Clause 12.3 applies. By that Sub-Clause the Contractor is to rectify the works as if under sub-paragraph (b) of Sub-Clause 11.1. The second paragraph entitles either Party to require any failed Tests after Completion to be repeated. From an Employer's (and lender's) perspective, this is potentially a highly problematic Clause, as the Contractor is entitled to unlimited repetitions of the Tests after Completion. In a commercial, revenue-earning situation, the Employer may wish to limit the Contractor's entitlement to demand re-testing after taking over has occurred. As drafted, however, there are access restrictions imposed in Sub-Clause 12.4,[230] and the last paragraph of Sub-Clause 12.3 entitles the Employer, subject to Sub-Clause 2.5, to any additional costs it incurs if the cause of the failure is attributable to the Contractor.[231]

Failure to pass Tests after Completion and non-performance damages

3.434 In the Yellow and Silver Books, the consequences following a failure to pass the Tests after Completion are set out in Sub-Clauses 12.3 (discussed at para. 3.433 above) and 12.4.

3.435 Sub-Clause 12.4 specifies that where (i) the Works or a Section fail to pass any or all of the Tests after Completion and (ii) the Contractor pays the relevant non-performance damages stated (or calculated by the specified method) in the Contract for this failure during the Defects Notification Period, then the Works or Section will be deemed to have passed these Tests after Completion. If the damages were not stated, nor the method of

229. A similar approach is applied in Sub-Clause 12.4, where the Contractor is entitled to Costs plus profit as a result of any unreasonable delay by the Employer in permitting access to investigate a failure to pass a Test after Completion or carry out adjustments or modifications.

230. See Chapter 8, paras. 8.113–8.117.

231. Specifically, to any of the matters listed in sub-paragraphs (a) to (d) of Sub-Clause 11.2 [*Cost of Remedying Defects*].

their calculation defined, in the Contract, then the part of Sub-Clause 12.4 regarding non-performance damages will be inapplicable. The Contract does not specify the consequences if non-performance damages are paid after the Defects Notification Period.

3.436 The second part of Sub-Clause 12.4 deals with practical concerns regarding the Contractor's access to the Works (or Section) to make adjustments or modifications to the Works or a Section after they have been taken over where the Works (or Section) have failed to pass a Test after Completion. In this event, the Employer may by instruction refuse the Contractor access to the Works or Section until "a time that is convenient to the Employer". The Contractor remains liable for remedying the default and satisfying the Tests within a reasonable period of receiving notice from the Employer of the convenient time. The Employer must, however, ensure the Contractor receives notice of this convenient time during the relevant Defects Notification Period or the Works or Section will be deemed to have passed the relevant Test after Completion at the expiry of the period.[232]

3.437 Finally, by the third paragraph, the Contractor is entitled to Costs plus profit for any "unreasonable delay" in giving access to investigate the failure to pass a Test after Completion or carry out adjustments or modifications.

3.438 See further discussion in relation to the Employer's remedies in relation to Tests after Completion in Chapter 8, paras. 8.113–8.117.

Tests Prior to Contract Completion: Gold Book

3.439 This section applies only to the Gold Book.

Procedure for Tests Prior to Contract Completion

3.440 Sub-Clause 11.8 states that, upon satisfactory completion of the remedial work identified in the joint inspection and carried out under that Sub-Clause, the Employer shall instruct the Contractor to commence the Tests Prior to Contract Completion ("Tests") in Sub-Clause 11.9. One assumes that the need for an instruction to commence the Tests is to enable the Employer to time the tests optimally (see below), particularly if the maintenance arising in the Contractor's report under Sub-Clause 11.8 is completed close to two years prior to the end of Operation Service. Crucially, the Gold Book itself sets out no detail as to the nature of the Tests contemplated, the details of the Tests, or the remedies the Employer is to have if the Tests are failed. The Tests are to be carried out in accordance with the Employer's Requirements, which by definition were initially included in the Contract, which is nominally some 20 years earlier.

3.441 The Contractor is to carry out the Tests and any remedial work required, and is to provide all necessary labour, materials, electricity, fuel and water, except those Employer items identified under Sub-Clause 10.4 [*Delivery of Raw Materials*]. The Tests are to be carried out in accordance with the Employer's Requirements, which by definition were initially included in the Contract.

3.442 The Tests are to be carried out "towards the end" of the Operation Service Period, upon not less than 21 days' prior Notice from the Employer of the date for the

232. The Sub-Clause does not, however, require the "convenient time" for retesting to be within the Defects Notification Period.

Tests, and are to be commenced within 14 days after this date, on the day or days determined by the Employer's Representative. Test results are compiled and evaluated by the Employer's Representative and the Contractor together.

3.443 Sub-Clause 11.9 specifies that "Any effect on the results of the Tests which can reasonably be shown to be due to prior use of the Works by the Contractor during the Operation Service Period shall be taken into account in assessing such results". It is unclear precisely how this is to be applied, given that the Contractor may have been using the Works for nearly 20 years. It may be that the FIDIC drafters contemplated that, in essence, the Tests are simply a rerun of the Tests on Completion and/or Tests after Completion. Alternatively, it may be that this is also to account for any time delay between completing the remedial items listed in the joint inspection and the commencement of the Tests, but this is unclear.

3.444 Once the Contractor has completed the Tests, the Contractor is to notify the Employer's Representative that the Works are complete and ready for final inspection. The final sentence of Sub-Clause 11.9 provides that "Upon the Employer's Representative being satisfied that the Contractor has satisfied the requirements of the Tests regarding such final inspection, the Employer's Representative shall notify the Employer and the Contractor prior to the issue of the Contract Completion Certificate". Because of the requirements that this Sub-Clause contemplates, Parties will be well advised to clarify what will have "satisfied the requirements of the Tests regarding such final inspection".

Delayed Tests Prior to Contract Completion

3.445 Sub-Clause 11.10 sets out a regime dealing with delay in carrying out the Tests Prior to Contract Completion. The provision is similar in concept to similar FIDIC delayed test Clauses. If the Employer incurs cost as a result of any unreasonable delay by the Contractor in carrying out the Tests, any such costs are recoverable from the Contractor as a debt due. Where the Contractor fails to commence Tests on the days determined under Sub-Clause 11.9, the Employer's Representative may notify the Contractor requiring him to commence the Tests within 14 days, after which the Employer's Representative may have the Tests undertaken by others. The results of any such Tests bind the Contractor as being accurate and the Employer may deduct the costs associated with so undertaking the Tests as a debt due from the Contractor.

3.446 If, for reasons not attributable to the Contractor, any Tests Prior to Contract Completion of the Works, or any Section, cannot be completed during the Contract Period, or any other period agreed upon by the Parties, then the Works or Section are deemed to have "passed" the Tests. Under common law, the reference to "any other period agreed upon" does not oblige a Party to agree. As the Contractor would be within his rights to refuse an extended period, the Employer would be prudent to ensure that the Tests are completed during the Contract Period. It is also somewhat unclear what "cannot be completed" means. On the drafting, the obligation would imply only that the Test had been fully carried out, irrespective of the outcome of the Test. Where a Test is failed, Sub-Clauses 11.11 and 11.12 apply.

3.447 From a certainty and drafting standpoint, this approach is understandable in concept, notwithstanding that the consequences for the Employer may be severe. It does provide a clear resolution at 'Contract Completion' where the Employer fails to have the Tests carried out.

Failure to pass Tests Prior to Contract Completion

3.448 Sub-Clause 11.11 deals with circumstances where the Works or a Section fail to pass the Tests Prior to Contract Completion under Sub-Clause 11.9. Upon failure, the Employer's Representative may: (a) order further repetition of Tests under Sub-Clause 11.12; (b) reject the Works or a Section thereof (as the case may be), in which event the Employer has the remedies for termination for Contractor default under Clause 15; or (c) issue a Contract Completion Certificate, if the Employer so requires, wherein the Contract Price is to be reduced by agreement between the Parties (See Chapter 8, paras. 8.121–8.125). The Contractor also remains obliged to proceed in accordance with his other obligations under the Contract.

3.449 For (c) above, if the Employer proposes to issue a Contract Completion Certificate, if the Works, or a Section, fail to pass any of the Tests and the Contractor proposes to make adjustments or modifications to the Works or such Section, the Contractor's access to the Works or Section may be restricted until a time that is convenient to the Employer. The Contractor remains liable to carry out the adjustments or modifications and to satisfy this Test within a reasonable period of receiving Notice of the convenient time. If the Contractor does not receive the Notice during the relevant Contract Period (i.e., for the relevant Section), the Contractor is relieved of this obligation and the Works or Section (as the case may be) shall be deemed to have passed the Tests. The Employer should also be aware that by Sub-Clause 4.2, any Performance Security is to be returned to the Contractor within 21 days after receiving a copy of the Contract Completion Certificate—which may be before the Contractor has completed its obligations. This drafting does not expressly contemplate the preconditions to issuing a Contract Completion Certificate set out in Sub-Clause 4.23 (see para. 3.135 above), which say that the Contract Completion Certificate is not to be issued until the Contractor has removed any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site which are not required.

3.450 Additionally, Sub-Clause 8.6 provides that the Contract Completion Certificate is deemed to constitute the Employer's acceptance of the Contractor's completion of his obligations under the Contract, which does not take into account (c) above, where the Contractor is to carry out the adjustments or modifications and to satisfy Tests after issuance of the Contract Completion Certificate.

3.451 The final paragraph of Sub-Clause 11.11 entitles the Contractor to be paid additional Cost Plus Profit (determined or agreed under Sub-Clause 3.5) if he incurs any unreasonable delay by the Employer in permitting access after issue of the Contract Completion Certificate, either to investigate the causes of a failure to pass any of the Tests or to carry out any adjustments or modifications. The Employer may consider this provision somewhat odd, considering that the need for any such access would only arise because the Contractor failed to pass the Tests in the first instance.

Retesting Prior to Contract Completion

3.452 Sub-Clause 11.12 applies if the Works, or a Section, fail to pass the Tests Prior to Contract Completion, and the Employer elects to proceed under Sub-Clause 11.11(a) by ordering further repetitions of the Tests, or Sub-Clause 11.11(c) by issuing a Contract Completion Certificate. In this case, (a) the Contractor is to make good any damage or

defect under Sub-Clause 12.1(b), and (b) the Employer *may* require the failed Tests and the Tests Prior to Contract Completion on any related work to be repeated.

3.453 Where the failure and retesting results from a default of the Contractor and causes the Employer to incur additional costs, such costs are recoverable from the Contractor as a debt due. The last paragraph provides that the Employer's Representative may carry out such additional tests, inspections and monitoring as he deems necessary. The costs of such tests are to be borne by the Employer, except where such tests are carried out for the purpose of remedying any damage, defect or failure to meet standards that are the responsibility of the Contractor under the Contract.

DEFECTS

Generally

3.454 None of the FIDIC forms defines "defect", which term is used in its natural meaning throughout all of the Books. In its natural meaning in several common law jurisdictions, many sources define defect by reference to conformity with the relevant contract. *Halsbury's Laws of England* comments that "A defect commonly means that some of the work or materials do not conform with the requirements of the contract".[233] The (non-legal) American *Dictionary of Architecture and Construction* similarly defines "defective work" as "work not complying with the contract requirements".[234]

3.455 The Contractor's general obligations in Sub-Clause 4.1 of the FIDIC forms include the requirement to "remedy any defects in the Works". Importantly, this obligation exists not only during the Defects Notification Period (not Gold Book) (on which more below), but in the FIDIC forms exists throughout the carrying-out of the Works. In this respect, by way of illustration, Sub-Clause 7.5 [*Rejection*] stipulates "If, as a result of an examination, inspection, measurement or testing, any Plant, Materials[, design (Y, S)] or workmanship is found to be defective . . . The Contractor shall then promptly make good the defect [at the Contractor's cost (G)] and ensure that the rejected item complies with the Contract".[235] This obligation can arise at any time during the carrying-out of the Works. As a further example, where the Works are resumed after a suspension under Sub-Clause 8.8 (9.7 (G)), the resumption of Work Clause[236] requires the Contractor to make good any defect in the Works or Plant or Materials that has occurred during a suspension. Prior to taking over, difficult questions may arise as to a distinction between work which is incomplete, as opposed to defective, and the extent to which the Contractor is entitled to permit work to be defective on a temporary basis.[237]

233. *Halsbury's Laws of England*, Volume 4(3) Section 95: Defects. A similar approach is also used, for example, in the Australian Standard forms of contract—Clause 29.3 of the design and construct form AS-4902 contemplates "work done . . . by the Contractor which does not comply with the Contract".

234. *Dictionary of Architecture and Construction* (3rd Edn), Cyril M. Harris, McGraw-Hill Inc, New York, 2000.

235. Sub-Clause 7.5.

236. Sub-Clause 8.12 (Red/MDB, Yellow, Silver), Sub-Clause 9.11 (Gold Book).

237. See also "Temporary Disconformity", a paper by Ellis Baker and Anthony Lavers and talk given to the Society for Construction Law in April 2005 and October 2006: www.scl.org.uk (paper 139).

3.456 One of the Contractor's core obligations, nevertheless, is to rectify defects and damage during the Defects Notification Period; or during the full Operation Service Period, in the Gold Book, discussed below.

3.457 In the Red, MDB, Yellow and Silver Books, the Defects Notification Period[238] is defined as the period for notifying defects in the Works or a Section under Sub-Clause 11.1, commencing from the date the Works or Section is completed (as certified under Sub-Clause 10.1). The period is to be stated in the Appendix to Tender (R/Y), Contract Data (M) or Particular Conditions (S), and includes any extension to the period under Sub-Clause 11.3.[239] While the period in the relevant contract document is to be agreed by the Parties, the sample form of Appendix to Tender (R/Y) provides for this period to be 365 days.

Completion of outstanding work and remedying of defects

Red, MDB, Yellow and Silver Books

3.458 The Contractor is obliged under Sub-Clause 11.1 not only to remedy any defects and damage, but also to complete any outstanding work, as Sub-Clause 10.1 entitles the Contractor to a Taking-Over Certificate even if some work remains incomplete.[240] Under Sub-Clause 11.1, the default period for completing this obligation is "by the expiry of the relevant Defects Notification Period or as soon as practicable thereafter"[241] in order that "the Works and the Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted)".

3.459 The wording of the Contractor's obligations to remedy defects and complete outstanding work is essentially the same in all FIDIC forms (including the Gold Book during the Design-Build Period). Under Sub-Clause 11.1(a), any outstanding work identified in the Taking-Over Certificate must be completed by the Contractor within "such reasonable time as is instructed" by the contract administrator. What will be a "reasonable time" is imprecise, albeit an objective measure. As a matter of practice, one would expect the Contractor and contract administrator to have previously discussed, if not agreed, the list before Taking Over,[242] although the Contractor's obligation is not limited to the items in the list.

3.460 In Sub-Clause 11.1(b), the Contractor is obliged to execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer to the Contractor during the Defects Notification Period. There is no express time obligation imposed on the Contractor in respect of remedying defects in Sub-Clause 11.1 as there is for outstanding work, although the Employer has rights under Sub-Clause 11.4 arising upon the Contractor's failure to remedy within a reasonable time.[243]

238. Sub-Clause 1.1.3.7 (R/M/Y/S only).

239. See Chapter 8, paras. 8.96–8.102 regarding extensions to the Defects Notification Period.

240. See also Chapter 5, paras. 5.145–5.159.

241. This is subject to other express obligations imposed under paragraphs (a) and (b), including that work outstanding on the date stated in a Taking-Over Certificate must be complete within such reasonable time as instructed by the contract administrator.

242. See Chapter 5, paras. 5.145–5.159.

243. See Chapter 8, paras. 8.103–8.112, regarding Sub-Clause 11.4.

3.461 The Employer is to give notice (whether himself or by the contract administrator) of all defects on or before the expiry date of the relevant Defects Notification Period. Additionally, the Employer is subject to a positive obligation to notify the Contractor if any defect appears or damage occurs.

3.462 Importantly, the Contractor has a right to access the Work as provided under Sub-Clause 11.7. Under the Red and MDB Books, this right is "as is reasonably required in order to comply with the Clause". The Yellow and Silver Books omit the limitation of "reasonably required", and grant the Contractor right of access to "all parts of the Works and to records of operation and performance of the Works". Understandably, the rights in the Yellow and Silver Books extend access to records, which may be necessary for the Contractor to determine the symptoms and diagnose the cause of certain defects.

3.463 All of these Books provide that right of access is "except as may be inconsistent with the Employer's reasonable security restrictions", but only the Red and MDB Books limit the access to that which is "reasonably required". Under the Yellow and Silver Books, the Employer may refuse access under Sub-Clause 11.7 only if such access is inconsistent with the Employer's reasonable security restrictions—but not, it seems clear, for merely commercial reasons. Accordingly, given the corresponding financial consequences for an Employer in shutting down an operating facility, the Employer may wish to include a Particular Condition that the Contractor's rights are subject to the Employer's (reasonable) operating requirements, or alternatively, reinstate the Red Book drafting that access must be as "reasonably required" in order to comply with his obligations under Clause 11.

Gold Book: Design-Build Period

3.464 The defects provisions in Clause 12 of the Gold Book are strongly based on the Yellow Book provisions, although the Gold Book differs fundamentally in concept, in that the Contractor is engaged not only to design and build the Works, but also to operate them for the duration of the Operation Service Period.

3.465 Sub-Clause 12.1 sets out the Contractor's obligations to complete outstanding work and remedy defects. While sub-paragraph 12.1(a) expressly refers to the "Design-Build Period",[244] the time period contemplated in sub-paragraph (a)(i) (i.e., the "Retention Period"[245]) is in fact within the Operation Service Period.[246] Accordingly, the reference to Design-Build Period must presumably be taken to mean works *carried out* during the Design-Build Period.

3.466 The date for completion of outstanding work in the Gold Book is not to be specified in the Commissioning Certificate, but is to be done as soon as practicable, and within one year.[247]

3.467 In Sub-Clause 12.1(a)(ii), the Contractor is obliged to execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer. No start

244. Sub-Clause 1.1.30.
245. Sub-Clause 1.1.66.
246. Sub-Clause 1.1.58.
247. The drafting is ambiguous, but it is submitted that in the phrase "complete any work which is outstanding on the date stated in the Commissioning Certificate as soon as practicable after *such date* . . . ", the phrase "on the date stated in the Commissioning Certificate" refers to the date marking the end of the Design-Build Period, and not a date by which rectification is to be complete (emphasis added).

date is specified in the sub-paragraph, and accordingly it can be interpreted as applying to all defective or damaged works from the commencement of the Design-Build Period. In this respect, as for Sub-Clause 11.1(b) in the other Books, there is an element of redundancy between paragraph (ii) and Sub-Clause 7.6 [*Remedial Work*].

3.468 Achieving completion (in the opinion of the Employer's Representative) of all outstanding work and remediation of the defects and damage under Sub-Clause 12.1 is a precondition to the final payment for the Design-Build Period, and by Sub-Clause 14.10 to a claim for release of the second half of the Retention Money.

3.469 As for the other FIDIC forms, the Employer has a positive obligation (in the last sentence of Sub-Clause 12.1) to notify the Contractor if a defect appears or damage occurs.

Gold Book: Operation Service Period

3.470 During the Operation Service Period, the Contractor is responsible for repairing and making good any damage or defect occurring, whether notified by the Employer or his Representative or observed by the Contractor. As such, in many fundamental ways, the Contractor has *de facto* responsibility for rectifying defects throughout the entirety of the Operation Service Period, subject to wear and tear.[248]

3.471 The issuance of the Contract Completion Certificate at the end of the Operation Service Period is conditional upon all defects and damage and all outstanding work (including items identified in the joint inspection under Sub-Clause 11.8 [*Joint Inspection Prior to Contract Completion*]) being completed.

3.472 By Sub-Clause 11.8, the Employer's Representative and the Contractor are to carry out a joint inspection of the Works not less than two years prior to the expiry date of the Operation Service Period. Within 28 days of completion of the inspection, the Contractor is to submit a report on the condition of the Works, identifying maintenance works (excluding routine maintenance works and the correction of defects), replacements and other works required to be carried out to satisfy the requirements of the Operation and Maintenance Plan after the Contract Completion Date, along with a programme for carrying out such works over the remainder of the Operation Service Period.

3.473 The Employer's Representative may subsequently, throughout the remainder of the Operation Service Period, instruct the Contractor to carry out all or part of the works identified in the Contractor's report. Any quoted sums from the Asset Replacement Fund are to be added to the Contractor's monthly payments upon replacement of items of Plant in accordance with the Schedule of replacement prepared at Tender stage and the provisions of Sub-Clause 14.18 [*Asset Replacement Fund*]. Other works shall be carried out at the Contractor's cost. Notably, should the Contractor fail to remedy any items listed in the report, by Sub-Clause 14.19 the Employer may, after giving due Notice to the Contractor, carry out such maintenance himself and apply any amounts standing to the credit of the Maintenance Retention Fund.

248. This is, to some extent, one benefit and attraction for employers to enter into design-build, operate (DBO) and design-build, operate and maintain (DBOM) contracts. In this Sub-Clause, the only distinction between the obligation as written and a *de facto* responsibility for defects throughout the Operation Service Period is the fact that the Contractor's payment will include a cost element for doing this.

Cost of remedying defects, removal of defective work

3.474 All the Books require the Contractor to rectify all defects notified under Sub-Clause 11.1(b) (12.1(a)(ii) (G)) at his risk and cost, if and to the extent that the work is attributable to the Contractor.[249] If, however, any defect or damage is attributable to another cause, Sub-Clause 13.3 (Clause 13 (G)) will apply. The FIDIC forms adopt a "full maintenance warranty" during the Defects Notification Period, with the Contractor being obliged to rectify all defects or damage notified by the Employer, but being entitled to payment where he is not responsible.

3.475 In the Gold Book, the drafting has been changed so that rectification of defects or damage is at the risk and cost of the Contractor, *except* where: (i) attributable to an act by the Employer, the Employer's Personnel or agents; or (ii) it is as a result of an event covered under Clause 18 [*Exceptional Risks*].

3.476 Where a defect cannot be remedied expeditiously on Site, the Contractor may under Sub-Clause 11.5 (12.5 (G)), subject to the Employer's consent[250] have the remedial work carried out off Site. If consent is sought, the Employer is entitled to impose reasonable conditions. Sub-Clause 11.5 (12.5 (G)) itself obliges the Contractor to comply with one of two options if the Employer so requires, which are either to increase the Performance Security by the full replacement costs of the item being removed, or to provide other appropriate security. The *FIDIC Guide* suggests that this election is at the Contractor's option,[251] although with respect it is submitted that this may not be the case. What is acceptable as "appropriate security" may be uncertain, although it is conceded that cash in hand, for example, would be difficult for an Employer to reject, as would be security in the form previously approved by the Employer.

Extension of Defects Notification Period

Books other than Gold Book

3.477 Sub-Clause 11.3 of the Red, MDB, Yellow and Silver Books entitles the Employer to an extension of the Defects Notification Period if the Works or a Section "if and to the extent that the Works, Section or a major item of Plant . . . cannot be used for the purposes for which they are intended by reason of a defect or damage". The extension of the Defects Notification Period is considered in Chapter 8, paras. 8.96–8.102.

Gold Book

3.478 The Gold Book does not provide for any separate period for notification of defects; indeed, by Sub-Clause 12.1 defects can be notified throughout the entire Operation Service Period.

Further tests

3.479 Sub-Clause 11.6 (12.4 (G)) gives the Employer an entitlement to require further tests:

249. The express provisions are set out in Sub-Clause 11.2 (R/M/Y/S), 12.2 (G).
250. Which must be not unreasonably withheld or delayed, *per* Sub-Clause 1.3.
251. *FIDIC Guide*, p. 200.

"If the work of remedying of any defect or damage may affect the performance of the Works, the [contract administrator] may require the repetition of any of the tests described in the Contract, [including Tests on Completion and/or Tests after Completion (Y/S)]. The requirement shall be made by notice within 28 days after the defect or damage is remedied".

3.480 These further tests are to 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 for the cost of the remedial work under Sub-Clause 11.2 (12.2 (G)).

Contractor to search

3.481 Sub-Clause 11.8 (12.6 (G)) obliges the Contractor, if so required by the contract administrator, to search under his direction for the cause of any defect. The provision is a common and useful diagnostic remedy where the cause of the defect is (of course) unknown. While all the Books contain the Sub-Clause, it would seem particularly useful with process plants and the like, for several reasons. First, the Contractor is the Party with the requisite knowledge of its installed equipment, and is best placed to diagnose the issue. Second, the Employer may prejudice his position, if he begins to dismantle the plant, or otherwise operate it for the (primary) purpose of diagnosing a defect, and in the stated approach liability will remain with the Contractor. Additionally, in circumstances where the existence of a defect is disputed or uncertain, the Sub-Clause provides a default way forward, while deferring the question as to whether a defect properly exists.

3.482 The Contractor is to be paid Cost plus profit except where the defect is required to be remedied at the Contractor's cost, *per* Sub-Clause 11.2 (12.2 (G)).

Defects Notification Period and cessation of liability

3.483 Under the FIDIC forms (except the Gold Book), the Contractor's obligation under the Contract to rectify defects attributable to the Contractor expires with the issue of the Performance Certificate, following the end of the Defect Notification Period as extended under Sub-Clause 11.3, and after the Contractor has supplied all Contractor's Documents, and completed and tested all the Works including remedying any defects.[252] (In the Gold Book, a parallel concept is embodied in the Contract Completion Certificate under Sub-Clause 8.6). Sub-Clause 11.9 states that "Performance of the Contractor's obligations shall not be considered to have been completed until the [contract administrator] has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract"—which says, in obverse, 'Performance of the Contractor's obligations *shall* be considered completed *when* the contract administrator has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract'. (In the Gold Book, a like provision is found in Sub-Clause 8.6). Additionally, the last sentence of Sub-Clause 11.9 says "Only the Performance Certificate shall be deemed to constitute acceptance of the Works". The final paragraph of Sub-Clause 8.6 in the Gold Book adds: "Following the issue of the Contract Completion Certificate the Employer shall be fully responsible for the care, safety, operation, servicing and maintenance of the Works".

252. Sub-Clause 11.9 (R/M/Y/S).

3.484 However, Sub-Clause 11.10 (8.8 (G)) provides that "After the Performance Certificate [Contract Completion Certificate (G)] 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".

3.485 The *FIDIC Guide* itself recognises the ambiguity, saying (regarding Sub-Clause 11.9) "No certificate issued under the Contract constitutes absolutely conclusive evidence of the facts certified", and (regarding Sub-Clause 11.10) " . . . 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 . . . No limitation on the duration of liability is contained in the General Conditions, but such a limitation may be prescribed by applicable Laws".[253]

3.486 The final extinguishment of the Parties' liability is a matter to be determined in the context of the applicable Law and the jurisdiction where the Works have been carried out. Further, many jurisdictions contemplate, whether by legislation or case law, the concept of latent defects and the related arising in respect of them, and many civil law jurisdictions (including, non-exhaustively, France, Belgium, Egypt, Lebanon, Syria, Kuwait, the United Arab Emirates, Qatar, Angola, Bolivia (3 years), Brazil, Chile (5 years), Indonesia, Philippines (15 years), Louisiana (USA), Romania, Sweden)[254] incorporate concepts of a generally decennial/10-year liability.

Failure to remedy

3.487 Under Sub-Clause 11.4 (not G), if the Contractor fails to remedy any defect or damage within a reasonable time, the Employer can initially require the Contractor, by notice, to remedy the defect or damage by a further fixed but reasonable date. The Employer has a variety of remedies that are triggered if the Contractor then fails to remedy the defect or damage by this notified date.

3.488 The Gold Book also contains provisions in Sub-Clause 12.3 which are drafted in broadly similar terms to Sub-Clause 11.4 of the Yellow and Silver Books, although they extend the Employer's remedies in relation to the Contractor's failure to rectify defects throughout the Operation Service Period. These remedies are discussed in detail in Chapter 8, paras. 8.103–8.112.

253. *FIDIC Guide*, p. 203.

254. This list is derived in part from the authors' experience, and augmented from a list in *The Civil Law decennial (decennal) liability under FIDIC Contracts*, by Rechtsanwalt Dr Götz-Sebastian Hök, from *www.dr-hoek.de*.

CHAPTER FOUR

PRICE

INTRODUCTION

4.1 Price is a core element of a construction contract, not only in respect of payment of the Contract Price, but also in respect of how it is to be determined, the manner in which the Contract Price is paid to the Contractor, the reasons for which the price is adjusted, and the elements of risk that have been incorporated into the Contract Price.

4.2 A fair, affordable and immutable Contract Price is the holy grail of a construction contract. The employer would no doubt seek to maximise the quality and scope of the work, whilst seeking the greatest certainty as to price that is available in the circumstances; the contractor would seek to maximise profit for the efforts of his labours with proportionate risk. If a project is project-financed, lenders too will seek a high degree of price and outcome certainty.

4.3 The FIDIC forms each generally apply one of two broad methods of pricing the Works, namely the measurement method applied in the 'remeasurement forms' (Red and MDB Books) and the fixed lump sum price approach in the 'lump sum forms' (Yellow, Silver and Gold Books). That said, the remeasurement forms expressly provide an option for converting the contract to lump sum,[1] while the lump sum forms all include 'cost plus' aspects in the variation Clause. All the Books contemplate circumstances where the Contract Price can be adjusted both upwards and downwards.

4.4 This chapter considers 'Price' under the three broad concepts of determination of the price, payment of the price and adjustments to the price. The issues considered under determination of the price include remeasurement and lump-sum pricing. Payment of the price considers certification of payment, payment of advance, interim and final payments, delayed payments and payment during the Gold Book Operation Service Period. Adjustments to price considers the right to adjustments of the price for Unforeseeable physical conditions and unforeseeable difficulties and adjustments of the price for Variations, changes in the law of the Country, in cost and in currency rates. Adjustment incentives for value engineering and in connection with the asset replacement fund are also considered, as is retention, and the Gold Book provisions for the Asset Replacement Fund and Maintenance Retention Fund.

4.5 This chapter does not address amounts awarded in dispute resolution, which is addressed in Chapter 9, and provisions relating to security for performance, addressed in Chapter 7.

Payment—a fundamental Employer's obligation

Payment obligations primarily related to payment of Contract Price

4.6 The Employer's obligation to pay the Contractor is a core component of each of the FIDIC forms. The fundamental plank of this payment obligation is the Employer's

1. See, for example, Red Book, Guidance for the Preparation of Particular Conditions, p. 12.

obligation to pay the Contract Price to the Contractor under the payment regime specified in the Contract.

4.7 Clause 14 of each of the Books sets out the regime by which the Employer is to pay the Contract Price and other related payments.

4.8 Aside from Operational Period payments in the Gold Book,[2] the FIDIC Book regimes for payment of the Contract Price make provision for the same components of payment, namely:

- stipulation of the Contract Price (Sub-Clause 14.1 all Books);
- advance payment of a portion of the Contract Price (Sub-Clause 14.2 all Books);
- processing and determination of interim payments on account of the Contract Price (Sub-Clauses 14.3 to 14.6 (14.7 (G)));[3]
- payment (Sub-Clause 14.7 (14.8 (G)));
- a remedy for delayed payment (Sub-Clause 14.8 (14.9 (G)));
- a process for payment of Retention Money (Sub-Clause 14.9 (14.10 (G)));
- processes for payment at completion, final payment and a cut-off of Employer's liability (Sub-Clause 14.10 to 14.14 (14.15 (G)));
- provisions contemplating currencies of payment (Sub-Clause 14.15 (14.16 (G))).

Other payment provisions

4.9 Each of the Books also contains various obligations for one Party to pay the other amounts not arising from the Contract Price. These include:

Sub-Clause[4]	**Payment obligation**
1.13 (R/M/Y/S); 1.14 (G)	Contractor to make payments which are required for compliance with applicable Laws.
4.16	Contractor is responsible for paying all claims arising from the transport of Goods.
4.19	Contractor to make payment to Employer for electricity, water and gas.
4.20	Contractor to make payment for use of Employer's Equipment.
5.3 (R/M)	Contractor to repay amount paid by Employer directly to nominated Subcontractor.
7.5	Contractor to make payment to Employer for any additional costs incurred as a result of rejection and retesting of any Plant, Materials, design (Y/S) or workmanship.

2. See paras 4.177 *et seq.*, paras. 4.203 *et seq.* and paras. 4.213 *et seq.*, below.
3. Excluding Sub-Clause 14.5 of the Gold Book, which contains an Asset Replacement Schedule unique to the DBOM concept.
4. Sub-Clause in all Books, except where noted.

Sub-Clause	Payment obligation
7.6	Employer is entitled to make a remedial work payment to others if Contractor fails to comply with contract administrator's instructions.
7.8	Contractor to make payment of royalties, rents and other payments for natural Materials obtained from outside the Site, and the disposal of material from demolitions and excavations and of other surplus material.
8.6 (R/M/Y/S); 9.5 (G)	Contractor to make payment to Employer for additional costs incurred as result of revised methods to expedite progress
8.10 (R/M/Y/S); 9.9 (G)	Contractor is entitled to payment for Plant and Materials in event of suspension of work.
10.6 (G)	Employer to pay compensation to Contractor for any delays and interruptions during the Operation Service caused by the Employer.
11.4 (R/M/Y/S); 12.3 (G)	Contractor is liable to Employer for his costs reasonably incurred (not G) in remedying defects which the Contractor fails to remedy within a reasonable time.
11.6 (R/M/Y/S); 12.4 (G)	Party responsible for costs of remedying defects is also responsible for costs of further tests.
11.11 (R/M/Y/S)	Employer is entitled to his costs incurred in clearance of the Site where Contractor fails to do so.
15.4	After termination by Employer for cause, Contractor is liable to Employer for any losses, damages and extra costs of completing the Works. Thereafter, Employer pays balance due to Contractor.
15.5 (R/M/Y/S); 15.7 (G)	Contractor is entitled to payment after termination for Employer's convenience.
16.4	Employer makes payment to Contractor, including loss of profit or other loss, upon termination by Contractor for cause.
18.1 (R/M/Y/S); 19.1 (G)	If one Party fails to maintain insurances, counterparty is entitled to take out insurance cover and recover the premiums.
19.6 (R/M/Y/S): 18.5 (G)	Payment to Contractor in the event of optional termination.
20.2 (R/M/Y/S); 20.3 and 20.8 (G)	Each Party is responsible for paying one half of the remuneration of the Dispute Adjudication Board.

Sub-Clause	Payment obligation
Appendix	Each Party has payment obligations to the DAB under the General Conditions of the Dispute Adjudication Agreement.

Accepted Contract Amount

4.10 The "Accepted Contract Amount"—which term is used in all the Books but the Silver Book—is a fixed, predetermined amount stated in the Letter of Acceptance for carrying out the relevant work.[5] The Accepted Contract Amount is, in practice, no more than an initial amount agreed for what later becomes the Contract Price. Unlike the Accepted Contract Amount, the Contract Price may subsequently change by normal operation of the Contract.

4.11 The Accepted Contract Amount is expressed to include all Provisional Sums (Sub-Clause 4.11). In the Yellow Book, the lump sum Accepted Contract Amount is deemed by Sub-Clause 14.1 to be the Contract Price unless otherwise stated in the Particular Conditions. In the Gold Book, the Accepted Contract Amount incorporates three amounts, namely the amounts submitted by the Contractor and due to be paid to him for: (i) the Design-Build of the Works; (ii) the provision of the Operation Service; and (iii) the Asset Replacement Fund.

Relevance of Accepted Contract Amount

4.12 The Accepted Contract Amount performs several functions akin to that of the Contract Price, primarily where the Contract Price is not known at the time of entering into the Contract. Unlike the Contract Price, which may change throughout the carrying out of the Works, the Accepted Contract Amount is fixed and not subject to adjustment.

4.13 Fundamentally, the Accepted Contract Amount is the sum of money for which the Contractor has satisfied himself that the Works can be properly executed and completed, based on the data, information and the like as contemplated in Sub-Clause 4.10 [*Site Data*].[6] In the Red and MDB Books, where there is a Bill of Quantities, the Accepted Contract Amount is almost certain to be the amount calculated by reference to the Bill of Quantities, with rates multiplied by quantities to reach the total Accepted Contract Amount.

4.14 The Accepted Contract Amount is also used, in the example form of Appendix to Tender (R/Y) or Contract Data (M/G), for the purpose of calculating various contract amounts and dates, including:

- the amount of Performance Security (Sub-Clause 4.2);
- the amount of the advance payment (Sub-Clause 14.2);
- the limit on Retention Money (Sub-Clause 14.3 (not G)); and
- the minimum amount of Interim Payment Certificates (Sub-Clause 14.6 (not G)),

5. In the Red, MDB and Yellow Books, the work is the execution and completion of the Works and the remedying of any defects. In the Gold Book, this is the Design-Build of the Works and the provision of the Operation Service, including the amount of the Asset Replacement Fund.

6. Sub-Clause 4.11.

each of which amounts is a nominated percentage of the Accepted Contract Amount; as well as:

- the time at which repayment of the advance payment starts, being when payments reach a nominated percentage of the Accepted Contract Amount (Sub-Clause 14.2(a));
- the default limit on the total liability of the Contractor to the Employer (being 100% of the Accepted Contract Amount) where no amount is stated in the Particular Conditions (Sub-Clause 17.6 (17.8 (G))).

4.15 The Accepted Contract Amount acts as the reference point threshold for a variety of Clauses, including determining whether a new rate or price is appropriate in the Red Book and MDB (Sub-Clause 12.3(a)(ii)).

THE NATURE OF THE FIDIC FORMS

4.16 The nature of the Contract Price and payment of it under the five FIDIC Books—Red, MDB, Yellow, Silver and Gold—differ amongst the five. The Red and MDB Books forms are, fundamentally, remeasurement contracts under which the Contractor is ultimately paid for the actual quantity of work executed.[7] The Yellow, Silver and Gold Books, by contrast, are lump sum contracts under which the Contractor is paid a lump sum price for the predetermined scope of work.

The remeasurement contracts: Red and MDB Books

4.17 The Red and MDB Books are based on the concept of remeasurement of the completed Works. As the term implies, under this form the Contractor is paid a price (the Contract Price) based on each element of work actually constructed or performed. The price for each element is fixed within set limits, the extent of which varies between the Red Book and the MDB. The Works are valued by measuring the quantity of each work item and multiplying it by the appropriate rate or price for the item, which the Books contemplate as being in the Bill of Quantities or other schedules. The Contractor is typically paid a portion of the Contract Price on a monthly basis, based on a monthly measurement and valuation of the Works.

4.18 Use of such remeasurement (or 'measured') contracts has been described as a "peculiarly United Kingdom-style practice",[8] although remeasurement contracts are used globally. The remeasurement approach originated in nineteenth-century civil engineering contracts, in which many quantities were incapable of accurate advance calculation. Increased sophistication in contractual mechanisms for pricing remeasurement contracts in the first half of the twentieth century resulted in the modern practice of providing bills of quantities with rates to reach a total contract sum (akin to the Accepted Contract Amount),

7. Although the Guidance for Preparation of Particular Conditions refers at Clause 14 to the possibility of replacing Clause 12 with Particular Conditions for either a lump sum or a cost plus contract.

8. Ian Duncan Wallace, "Contract Policy for Money", pp. 202–238 at p. 208 in John Uff and Phillip Capper (ed.), *Construction Contract-Policy Improved Procedures and Practices* (1989, Centre for Construction Law and Management, King's College London).

but with the anticipation of measuring quantities at the end of the project and adjusting the price on the basis of a contractually incorporated method of measurement and schedule of rates.[9] Other current standard form remeasurement contracts used in the UK include the Joint Contracts Tribunal (JCT) Standard Building Contract With Approximate Quantities (2005 Edition), and the (UK) ICE Conditions of Contract (Seventh Edition).

4.19 Under the Red and MDB Books remeasurement approach, the Contract Price can both increase and decrease based on adjustments to quantities and, in certain circumstances, the rates. An increase in either the quantities (which in certain circumstances also gives rise to a right to a change in rates) will result in the Contract Price changing, without the need for the Contractor to submit a separate claim, and without the Employer instructing a Variation changing the contracted scope of work. Ultimately, with the remeasurement approach, the Employer pays only for the work actually performed. In giving the Contractor relief from underestimating quantities on a fixed item of Work, the remeasurement concept shifts this risk from the Contractor to the Employer; the Employer becomes ultimately responsible for estimating the extent of the Works correctly at the time of tender. It is also traditionally considered that in so doing, and by not requiring a Contractor to make provision for inaccuracies in the tendered quantities provided by the Employer, the approach will result in more accurate unit rates, incorporating less 'risk cost'.

4.20 Among the stated benefits of remeasurement contracts are, principally, that they reduce the cost of tendering, they remove the premium that tenderers must place on their tender price to deal with quantity increases, and they provide an ultimately more transparent, fairer and more precise pricing mechanism. Further, the remeasurement approach correlates to:

> "FIDIC's traditional balanced risk sharing . . . [where] the Contractor has taken the construction and other risks which he can reasonably estimate, while the Employer has taken the risks of the unforeseen and other circumstances which cannot reasonably be reckoned in advance. In this way, an employer pays extra *only* when such circumstance arises, and does not pay a premium estimated by the contractor to cover the risk of such circumstances. This leads to a lower contract price (i.e. without the premium) in the majority of cases, a higher price being paid only in those cases when unforeseen circumstances actually occur."[10] (emphasis in original)

4.21 From some employers' perspectives, however, it is sometimes contended that there is a risk (which risk which has been recognised judicially in Australia)[11] that a contractor can manipulate the rates in the bill of quantities to identify those quantities that are likely to increase, and then submit a schedule of rates so as to ultimately skew the remeasured price in its favour.

4.22 In one consultant review of contracting strategy, the Hong Kong Government was advised to move away from the remeasurement delivery system in favour of fixed-price contracts with schedules of rates for variation valuation only. The reviewer observed that remeasurement detracts from the employer's ability "to predict the outturn construction cost of a project" and contended:

9. See I.N. Duncan Wallace (ed.), *Hudson's Building and Engineering Contracts* (11th Edn, 1994, Sweet & Maxwell), at paras. 8.006–8.007.

10. Christopher Wade, "The Silver Book: the Reality" [2001] 18(3) ICLR 497 at 500.

11. *Sist Constructions* v. *State Electricity Commission of Victoria* [1982] VR 597 at 606.

"contractors will be prepared to accept this risk because "quantities are normally well within their ability to estimate with reasonable certainty. Indeed, it is rare that a contractor will suffer a cost overrun through misapprehension of quantities. Labour cost (i.e., productivity) is far more difficult to estimate and far more frequently the cause of financial disappointment . . . Absent the ground condition consideration, fixed price contracting serves Government's legitimate need for accountability and prudent fiscal management through increased certainty of projected construction cost, and does no disservice to contractors".[12]

4.23 Similarly, in both the United Kingdom and Ireland, the risk for an employer involved in using remeasurement contracts is strikingly illustrated in recent reports on experiences with road construction, where the uplift included in the final outturn on the conventional remeasurement contracts between 1999 and mid-2003 represented approximately 40% of the agreed tender price.[13]

4.24 However, it is clearly not appropriate to use lump-sum prices in all circumstances, and the remeasurement form will have clear advantages in certain situations. For example, where an employer has not finalised the design of the works when a contract is entered into, a remeasurement approach can enable a contractor to minimise its risk of underestimating quantities, providing the employer with competitive tenders for rates, transparency as to how the contract price will ultimately be achieved, and avoid the inclusion of contractor-contingencies for errors in calculating quantities. In addition, the World Bank and various development banks have long used the Red Book form for their projects, and have chosen to adapt the Red Book for the MDB Harmonised form of contract. It is obvious that, in so doing, the Multilateral Development Banks consider the remeasurement form of contract to contain an allocation of risk sufficiently appropriate to be financeable for their development projects.

Lump sum contracts: Yellow, Silver and Gold Books

4.25 By contrast to the FIDIC remeasurement approach in the Red and MDB Books, the Yellow, Silver and Gold Books employ a lump-sum approach to the Contract Price. Notwithstanding that there remain some differences in the detail of how the Contract Price is approached in these Books, in respect of the lump-sum price approach these contracts are analogous.

4.26 In lump-sum price contracts, the Contractor is paid a fixed, predetermined sum for completing the fixed scope of work contained in the contract documents, which sum is paid irrespective of the ultimate cost to the Contractor of performing such work. The Contract Price is not adjusted for mere changes in the quantities of materials, goods or labour required. In the FIDIC lump sum forms, the Contractor is paid a portion of the Contract Price on a monthly (unless otherwise agreed) basis based on the contract administrator's determination of the proportion of total Works to be completed.

12. J.B. Grove III, *Consultant's Report on Review of General Conditions of Contract for Construction Works for the Government of Hong Kong Special Administrative Region*, 6 November 2000: (http://www.constructionweblinks-.com/Resources/Industry_Reports_Newsletters/Nov_6_2000/grove_report.htm) paragraph 11.2. Grove emphasises that "The exception to this generality is, of course, where unforeseen adverse ground conditions are encountered". Grove also recommended the retention of schedules of rates for variation valuation, as they greatly simplified that process and reduced the possibility of disputation.

13. "Modernising Construction". Report by the Comptroller and Auditor General (UK), January 2001 from www.nao.org.uk and Special "Report of the Comptroller and Auditor General, National Roads Authority —Primary Routes Improvement Programme", 6 April 2004, from http://audgen.gov.ie.

4.27 The risk allocation, advantages and disadvantages of the fixed lump-sum contract are, in respect of quantities, the converse of the remeasurement forms. Fixed lump-sum contracts are often considered appropriate where the design for the Works has been developed to a stage sufficient to enable a lump-sum price to be calculated, and where employers or lenders are willing to pay a premium to achieve greater certainty of the final Contract Price.

4.28 The Yellow, Silver and Gold Books,[14] being the FIDIC design-build forms, are all contemplated as being lump-sum price contracts in their General Conditions. The Yellow and Gold Books are intended to allocate the risks between the Parties on a fair and equitable basis, taking a 'traditional FIDIC' balance approach to risk. The Silver Book was developed for projects where a higher degree of certainty of final price and time was required and the Contractor was to take an increased responsibility for the design and execution of the project. In the Silver Book, FIDIC saw the need to develop a form of contract for project financing, especially where the completion risk is to be taken by the Contractor. Such private project financing requires a project to be independent finally viable, and to provide, so far as possible, an assured return on the investment. In such circumstances, it is more acceptable to pay a premium on a project to secure certainty as to price than to discover later on that the project is no longer viable because the cost has increased significantly beyond that completed at the outset.[15]

4.29 However, the mere use of a fixed lump-sum price approach in lieu of a remeasurement approach does not prevent the Contract Price from being changed for the various events listed in the Contract. Additionally, under some civil codes, the Contract Price may be changed under applicable law where circumstances dictate that it is fair to do so.[16] See also Tables 8.1 and 8.4 in Chapter 8 which set out the Employer's and the Contractor's entitlements, respectively, to payment in each of the Books.

The Contract Price in the FIDIC forms

Red and MDB Books

4.30 In the Red and MDB Books, the Contract Price is that amount agreed or determined under Sub-Clause 12.3 [*Evaluation*], which by the definition in Sub-Clause 1.1.4.2 "includes adjustments in accordance with the Contract". In the context of remeasurement, the Contract Price represents an amount of money that will be determined only when the Works have been completed.

4.31 Under the Red and MDB Books, the things accounted for in the Contract Price, whether by way of deemed inclusion or adjustment, includes not only the amount agreed under Sub-Clause 12.3, but also taxes, duties and fees required to be paid by the contractor

14. In this respect, the authors are referring to the design-build phase of the Gold Book, which is closely based on the Yellow Book.

15. Wade, *op. cit.*, n. 10.

16. For example Art. 249 of the UAE Civil Code can provide for a contractor to claim for relief (including additional money) in exceptional and unforeseeable circumstances of a public nature as a result of which performance of a contractual obligation, even if not impossible, becomes oppressive for the obligor as to threaten him with grave loss. Similarly, see Art. 47/2 of the Egyptian Civil Code, and Art. 66 of Dubai Law No 6 of 1997, which are also based on the civil law concept of *imprévision*.

under the Contract.[17] See also Tables 8.1 and 8.4 in Chapter 8 which set out the Employer's and the Contractor's entitlements, respectively, to payment in each of the FIDIC Books.

4.32 Clause 12 of Red and MDB Books leaves the detailed method of measurement and rates to be inserted by the Parties as schedules, and provides that "the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules".[18] Under the Red and MDB Books approach, quantities of work are initially estimated by the Employer, typically in the Bill of Quantities[19] that is prepared for contractors to tender, and which, when completed, is attached as a Contract document at the time of execution. The Contractor's tendered price, calculated on the basis of such quantities and the tendered rates for that amount of work, is the "Accepted Contract Amount". Sub-Clause 1.1.4.1 defines the Accepted Contract Amount as "the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects".

4.33 Sub-Clause 14.1(c) stipulates that quantities in the Bill of Quantities or other Schedule are estimated quantities and not to be taken as actual and correct, either of the Works the Contractor is to execute, or for the purposes of measurement and evaluation. Sub-Clause 14.1(c) establishes the Red and MDB Books as remeasured contacts.[20]

4.34 In the Red and MDB Books, the Contractor is by Sub-Clause 14.1(d) further to submit a proposed breakdown of each lump sum price in the Schedules to the Engineer within 28 days after the Commencement Date. The Engineer is expressly not bound by the breakdown, but "may take account of the breakdown when preparing Payment Certificates".

4.35 Sub-Clause 12.3(a) also specifies limits of accuracy to which the specified rates are to apply. By this Sub-Clause, the same rate does not continue to apply, irrespective of the change in quantity, but is applicable only within the quantity range contemplated by the Parties.[21] However, the Red and MDB Books make provisions under Sub-Clause 12.3(a)(iv) for "fixed rate items", in respect of which there is to be no change in the rate if quantities change, and where the rate is to remain fixed irrespective of actual quantities.[22]

4.36 See also paragraph 4.285 in relation to MDB Sub-Clause 14.1(e), which exempts Contractor's Equipment, imported for the sole purpose of executing the Contract, from import duties and taxes upon importation.

4.37 The Parties may also agree to reduce some Contract Price uncertainty (provided the quantities are reasonably ascertainable in advance) by amending the Red and MDB Books into a lump-sum contract. FIDIC propose that this can be achieved by removing Clause 12 (the measurement provisions) altogether and substituting the last sentence of Sub-Clause 13.3 to spell out the re-evaluation procedure for Variations, as FIDIC has

17. Sub-Clause 14.1(b).
18. Sub-Clause 12.2(b).
19. See Sub-Clause 14.1(c). Under the Red Book and MDB, the quantities are contemplated as being set out in a Schedule to the Contract. The Bill of Quantities, if used, forms part of the Schedules (see Clause 12).
20. By way of comparison, the UK JCT Standard Building Contract with Quantities (2005 Edn.) contemplates adjustment for differing final quantities under Clause 5.9.4 only where "Approximate Quantities" are included in the Contract Price.
21. See paras. 4.55 *et seq.* below.
22. See para. 4.68 below.

described in pages 12 and 13 of the Guidance for the Preparation of Particular Conditions in the Red Book.

Yellow and Silver Books

4.38 In the Yellow Book, the Contract Price is (by Sub-Clause 14.1(a)) "the lump sum Accepted Contract Amount . . . subject to adjustments in accordance with the Contract. Sub-Clause 14.1(b) clarifies that the Contract Price includes all taxes, duties and fees required to be paid by the Contractor under the Contract. Sub-Clauses 14.1(c) and (d) provide that any scheduled quantities (e.g., in a Bill of Quantities) are estimated quantities only, and that any quantities or price data in a Schedule shall be used for the purposes stated in the Schedule and may be inapplicable for other purposes.

4.39 The last paragraph of Sub-Clause 14.1 provides that if any part of the Works is to be paid according to quantity supplied or work done, provisions for measurement and evaluation are to be set out in the Particular Conditions, and the Contract Price shall be determined accordingly. This is because the Yellow Book contains no equivalent mechanism to Clause 12 of the Red and MDB Books, which contains the regime for measurement and evaluation in those forms.

4.40 In the Silver Book, the Contract Price is "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".[23] In this respect, as for the Yellow Book, the Silver Book mechanism for determining the Contract Price is straightforward by comparison with the remeasurement forms, the Red and MDB Books.

Gold Book

4.41 In the Gold Book, the Contract Price is defined without reference to the Accepted Contract Amount. The Contract Price is "the amount or amounts submitted by the Contractor for the Design-Build and the Operation Service including the Asset Replacement Fund, priced at the Base Date, and due to be paid to the Contractor in accordance with the Contract together with any adjustments as provided for under Clause 13 [*Variations and Adjustments*] or arising as a result of claims under Clause 20 [*Claims, Disputes and Arbitration*]".

4.42 This final reference to amounts payable under the claims and dispute resolution provisions in the Contract Price is new to the Gold Book and not found in the other Books.

FACTORS AFFECTING THE CONTRACT PRICE

Contractual entitlements to Contract Price adjustments

4.43 In construction contracts, the Contract Price is typically subject to a variety of adjustments under the Contract, even where the Contract Price is expressed as a lump sum.

23. Sub-Clause 1.1.4.1.

4.44 In all Books, the "Contract Price", by definition,[24] "includes adjustments in accordance with the Contract". This approach is repeated expressly in Sub-Clause 14.1(a) of all the Books. There are numerous provisions that set out the many adjustments to the Contract Price in all the FIDIC Books. Tables 8.1 and 8.4 in Chapter 8 set out the Employer's and the Contractor's entitlements (respectively) to payment and adjustments in each of the Books. What those adjustments are differs among the Books, as discussed below.

4.45 However, not all Clauses that purport to affect the Contract Price are expressly stated as doing so. Although in light of the "Contract Price" definition (see above), this disparity may be just a drafting oversight, a more consistent approach throughout the Books might have been preferable, for reasons discussed in the paragraph below. Similarly, in both the Red Book and the MDB, Variations are not expressly stated to adjust the Contract Price, although Variations expressly do so in the Yellow, Silver and Gold Books.[25] It is, nevertheless, implicit that Variations are included in the Contract Price in the Red Book and MDB due to the application of Sub-Clause 12.3 and the remeasurement method for their evaluation.

4.46 As Eggleston has observed in respect of a similar issue with the ICE forms of contract, "there is an interesting question as to whether damages arising from claims for breach of contract should properly be included in the Contract Price".[26] The inclusion or exclusion has implications for both security and tax payable on the Contract Price,[27] as is in some legal jurisdictions tax is not payable on awards for damages or settlement of proceedings commenced.

Measurement: Red and MDB Books

Works and method of measurement

4.47 In the Red and MDB Books, which have been variously described as 'remeasurement' or 'unit price' contracts, the Contract Price is agreed or determined by reference to the process in Sub-Clause 12.3 [*Evaluation*]. Under this regime, the Works are to be measured and valued for payment, and the Contract Price determined accordingly. Quantities in the Bill of Quantities are expressly deemed estimated quantities in Sub-Clause 14.1(c).

4.48 The Red and MDB Books expressly apply the measurements agreed or determined under Sub-Clauses 12.1 and 12.2, and "the appropriate rate or price" for each item. Sub-Clause 12.1 sets out the fundamental process by which the Works are measured and valued for payment, which is intended to be a joint process, although controlled by the Engineer. Whenever the Engineer requires any part of the Works to be measured, the Engineer is to give reasonable notice to the Contractor's Representative. The Contractor's Representative is then obliged to attend or send a qualified representative to assist the Engineer in making the relevant measurement, and to supply particulars the Engineer requests. If the Contractor does not attend, then, by the third paragraph, the measurement is deemed to be accurate.

24. Sub-Clause 1.1.4.2 (R/M/Y); 1.1.4.1 (S); 1.1.16 (G).
25. Sub-Clause 13.3(c).
26. Brian Eggleston, *The ICE Conditions of Contract; Seventh Edition*, (2nd Edn, 2001, Blackwell Science Ltd).
27. Particularly value-added or similar taxes payable on the Contract Price.

4.49 The Engineer is charged (unless stated otherwise in the Contract) with preparing any measurements of the Permanent Works to be made from records. The Contractor is obliged to attend and agree the records with the Engineer, and sign the records when agreed. As for physical measurement, record-based measurements made by or on behalf of the Engineer are deemed accurate if the Contractor does not attend.

4.50 The final paragraph of Sub-Clause 12.1 contains a preliminary review process for disputed records-based measurement. If the Contractor fails to sign the records as being agreed, he must within 14 days of being requested to examine the records give the notice to the Engineer, identifying where he considers the records inaccurate. The Engineer is obliged to review the records upon the Contractor's notice and confirm or vary them. If the Contractor still does not accept the Engineer's decision, the matter may be referred for dispute resolution under Sub-Clause 20.4.

4.51 The MDB Sub-Clause 12.1 contains an additional provision not found in the Red Book. The first paragraph in the MDB further specifies the contents of payment applications, requiring the Contractor to show in each application for an Interim or Final Payment Certificate and his Statement at completion[28] the "quantities and other particulars detailing the amounts which he considers to be entitled under the Contract". In this respect, the MDB imposes an additional and significant obligation on the Contractor to identify, in the applications for Interim and Final Payment Certificates and the Statement at completion, the quantities applied for on his applications. Additionally, a clarification has been added in the last paragraph of MDB Sub-Clause 12.1, which says (amendment in italics) "After receiving this notice, the Engineer shall review the records and either confirm or vary them *and certify the payment of the undisputed part*". While this is a useful amendment, it is one of form rather than substance, and does not in the authors' view add anything to the obligation already specified in Sub-Clause 14.3(a).

4.52 Sub-Clause 12.2 stipulates the method of measurement, and applies "Except as otherwise stated in the Contract". The method is also expressly stated to be "notwithstanding local practice", which approach reflects the international contracting approach taken by the FIDIC forms—as the *FIDIC Guide* states—"It may be unfair to assume that an international contractor is familiar with all aspects of local practice on these matters".[29]

4.53 By Sub-Clause 12.2(a), measurement is to be made of the net actual quantity of each item "of the Permanent Works". In this respect, any measurement errors in pricing the Bill of Quantities are effectively 'corrected' by the Engineer's remeasurement of the actual Permanent Works. Here, the default position is that Temporary Works are clearly not to be measured or paid for separately. Sub-Clause 12.2(b) does not specify a method of measurement, but provides that the method is to be "in accordance with the Bill of Quantities or other applicable Schedules". This assumes that the Bill of Quantities will itself prescribe (by reference or directly) the method of measurement. The method of measurement specified in the Bill of Quantities or other applicable Schedules takes priority over the general principle set out in Sub-Clause 12.2(a), since that sub-paragraph applies "except as otherwise stated . . . ". This is an important statement of precedence as Bills of Quantities often provide for the value of Temporary Works and preliminaries such as

28. Under Sub-Clauses 14.3, 14.11 and 14.10, respectively.

29. FIDIC, *The FIDIC Contracts Guide* (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils) ("*FIDIC Guide*"), p. 207.

performance bonds, site establishment and the like, whereas paragraph (a) restricts assessment to the Permanent Works only.

4.54 The Red and MDB Books do not deal expressly with the question as to the approach where an item of work is not listed separately, although by implication there is no separate measurement: by Sub-Clause 4.11 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 . . . ".

Evaluation

4.55 Sub-Clause 12.3 states that, except as otherwise stated in the Contract, the Engineer is to agree or determine (per Sub-Clause 3.5) the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item. The second paragraph stipulates that "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."

4.56 What would constitute "similar work" will inevitably be a matter of fact and context, and a potential area of dispute if the Parties' views on the appropriate value for an item to be measured diverge. The *FIDIC Guide* proposes that guidance on what is similar work can be gained from sub-paragraph (b)(iii), which refers to "similarity in terms of work being of similar character and executed under similar conditions".[30]

4.57 Sub-Clause 12.3 must be read in conjunction with the applicable principle for the method of measurement under Sub-Clause 12.2 where the item is not referred to expressly. The method of measurement in accordance with the Bill of Quantities or other applicable Schedules will almost invariably provide that if an item is not referenced in the Bill (or other applicable Schedules), that item is deemed incorporated into other rates and is not paid for separately (see also Sub-Clause 4.11). For this reason, if an item of work is required in the ordinary course of the Works, and not as a result of a Variation, but is not included as a separate item in the Bill of Quantities (or other applicable Schedules), it is the authors' view that the item would not be measured separately and that the reference to "similar work" is intended only to relate to the evaluation of Variations under Clause 13.

4.58 It is also, however, not uncommon for the Bill of Quantities to contain errors in the final completed Bill. Under the Red and MDB Books, there is no provision for the correction of errors in the rates or prices.[31] Under English law, the parties are bound by the breakdown of rates in the Bill of Quantities, whether they are correct or not:

"It is in any event a basic principle of the law of contract that a party cannot avoid the effect of a unilateral mistake made prior to the making of the contract . . . A mistake in a rate of price or in its application binds both parties . . . [A] party to a construction contract is therefore stuck with a rate or price whether the contract price is expressed as a lump sum or subject to recalculation by

30. *FIDIC Guide*, p. 209.

31. This is to be distinguished from the circumstances where items are omitted by the Employer from the Bill, discussed above.

adjustment or after re-measurement using the contract rates and prices which are constituent elements of the contract price of tender sum . . . ".[32]

LLoyd J. goes on to state:

"The fact that the rate or price otherwise applicable may appear to be 'too high' or 'too low' is immaterial: the parties have agreed that such a rate or price is to be used to value variations or, if clause 55 is applicable, the correction of an error or omission."

4.59 Accordingly, under English law, the parties are bound by the Bill of Quantities and the unit rates contained in it, and neither party can at a later point in time substitute any other unit rates to calculate the value of the works performed. This may mean, in the extreme, that a Variation can be valued 'wrongly', by correct application of the Bill of Quantities.

4.60 The third paragraph of Sub-Clause 12.3 of the MDB, however, adds a new statement that:

"Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately."

4.61 By this paragraph, where any item is identified in the Bill of Quantities but is left unpriced, the price for that item is deemed incorporated in other rates. As such, Contractors will wish to ensure that they do not inadvertently leave any item unpriced, or risks being denied payment for that item.

4.62 The remaining portion of Sub-Clause 12.3 in the Red and MDB Books sets out two situations where a new rate or price is deemed to be appropriate for an item of work. Sub-Clause 12.3(a) applies to all work, whereas Sub-Clause 12.3(b) applies only in relation to work instructed under Clause 13 [*Variations and Adjustments*]. Sub-Clause 12.3(a) sets out a cumulative, four-part test for the use of a new rate. A new rate or price is to be used for an item of work under Sub-Clause 12.3(a) when all four circumstances are satisfied. They are:

4.63 Change in quantity exceeds quantum limits: First, if "the measured quantity of the item is changed by more than 10% (25% (M)) from the quantity of this item in the Bill of Quantities or other Schedule". The limit applies both to increased or decreased quantities, and sets a 10%/25% lower and upper limit on quantity variation from the Bill of Quantities (i.e. 90% and 110% of the estimated quantity in the Red Book, 75% and 125% in the MDB). This also reflects the concept in Sub-Clause 14.1(c) that quantities in the Bill are estimated only.

4.64 This provision allowing for a change in rates for a significant change in quantities has been present in the (UK) ICE forms for many years.

4.65 Change in quantity exceeds cost limit: Secondly, if a change in quantity, when "multiplied by such specified rate for this item exceeds [0.01% (R) / 0.25% (M)] of the Accepted Contract Amount". FIDIC state that this is intended to "avoid adjusting a rate if the adjustment will have little effect on the final Contract Price".[33] Parties using the Red Book, particularly, may consider the one hundredth of a percent limit too low—it equates, for example, to 5,000 on an Accepted Contract Amount of 50 million. The

32. LLoyd J, *Henry Boot Constructions v. Alston Combined Cycles* [1999] QB (TCC).
33. *FIDIC Guide,* p. 209.

subsequently released MDB form has expanded this range to 25 times the Red Book limits.

4.66 Quantity change affects Cost: Thirdly, if the "change in quantity directly changes the Cost per unit quantity of this item by more than 1%". This third test relates to a change in the unit cost—that is, where the cost proposed for an item changes merely because of the amount being used. The 1% again sets a threshold below which no change is to be made for the item price or rate. The rationale behind this test appears to be the possibility that there may be, for example, either a reduction in price for a larger purchase order, or that there may be an increase in price for an increased quantity—for example if a sole supplier's capacity was exceeded, and the Contractor had to negotiate an additional supply source from a second supplier on less favourable terms.

4.67 The test is also predicated on "Cost", which is defined as the "expenditure reasonably incurred by the Contractor, whether on or off the Site, including overhead and similar charges" (Sub-Clause 1.1.4.3). Such a provision will be unremarkable in the normal course of events, but may become more significant if the rates or prices in the Bill of Quantities are actually higher (or lower) than the Cost to the Contractor.

4.68 Item is not a "fixed rate item": Fourth, if the item is not specified in the Contract as a "fixed rate item". The Contract does not clarify what constitutes a "fixed rate item", although FIDIC suggest that this means "The Contract must not have used [*sic: the*] phrase 'fixed rate item' in relation to this item in the Bill" and that this criterion is used to allow for some Bill items having very provisional quantities, or for Bill items that have no quantities, and set out rates only.[34] The Parties may, however, fix the rate absolutely for any item they chose to specify as a "fixed rate item" in the relevant Schedule.[35]

4.69 Sub-Clause 12.3(b) establishes criteria for new rates or prices arising from work instructed under Clause 13—in particular Variations. By these criteria, a new rate or price is appropriate if: (i) no rate or price is specified in the Contract for this item, and (ii) 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." The additional test does not pre-empt the further general evaluation test in Sub-Clause 12.3(a), which will apply to Variations in the same manner it applies to any other evaluation falling under Sub-Clause 12.3.

4.70 The final paragraphs of Sub-Clause 12.3 set out the mechanism for determining the new rates or prices. The initial alternative is for rates or prices to be "derived from any relevant rates or prices in the Contract" with reasonable adjustments to account for the relevant matters in Sub-Clause 12.3(a) and/or (b).

4.71 Where a rate or price cannot be derived from the Contract, it is then to be derived from the "reasonable Cost of executing the work, together with [reasonable (R)][36] profit, taking account of any other relevant matters." The expression "reasonable Cost" (which is redundant, considering Cost is defined as "expenditure reasonably incurred") means the Cost to the Contractor including "overhead and similar charges".

34. *Ibid.*
35. See Sub-Clause 12.3(a)(iv).
36. The MDB used "profit" instead of "reasonable profit" because profit in the MDB is prescribed by Sub-Clause 1.2, which sets it at 5% of Cost, or the amount indicated in the Contract Data.

4.72 The final paragraph of Sub-Clause 12.3 requires the Engineer to determine a provisional rate or price for the purposes of Interim Payment Certificates until an appropriate rate or price is agreed or determined. The MDB adds a further useful clarification that the determination of the provisional rate or price is made "as soon as the concerned Works commences."

Contract Price adjustment: Variations

4.73 The mechanism for valuing Variations[37] is set out in Sub-Clause 13.3 of all the Books.

Red and MDB Books

4.74 Conceptually, in the remeasurement forms, the Contractor is paid for any Variations directed in the same manner as he is paid for the initial work for which he contracted.

4.75 In the Red and MDB Books, the primary relevant provision,[38] the final paragraph of Sub-Clause 13.3, states:

> "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."

4.76 Under Sub-Clause 13.3(c), the Contractor may be required to submit his proposal "for evaluation of the Variation" if requested by the Engineer. Nothing in this drafting would prevent the Contractor from submitting a lump-sum price, or any other alternative means of pricing the Variation, where the Engineer requests such a proposal as contemplated in the first sentence of Sub-Clause 13.3. The final paragraph of Sub-Clause 13.3 (set out above) contemplates such an option, as does the second paragraph of that Sub-Clause, which entitles the Engineer to respond with approval, disapproval or comments to any such proposal. In such case, for the purposes of last paragraph of Sub-Clause 13.3, the evaluation under Clause 12 would be simplified to a single line item, being the agreed adjustment. However, it is clear that disapproval of any "proposal for evaluation of the Variation" would be referred not to dispute resolution under Clause 20, but for measurement and evaluation under Clause 12.

Valuation of Variations: Red and MDB Books

4.77 While Variations in the Red and MDB Books proceed on fundamentally the same basis as the other Books, by the last paragraph of Sub-Clause 13.3 in the Red and MDB Books, "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."

4.78 Explicitly, measurement under Clause 12 is the default provision. Paragraphs 4.47 to 4.72 above deal with measurement and evaluation as contemplated in Clause 12.

4.79 As discussed in paragraphs 4.55 to 4.72 above, under Sub-Clause 12.3, each item of work is to be evaluated by applying the measurement agreed or determined in accordance

37. See Chapter 3, paras. 3.285 *et seq.* in relation to Variation powers and scope.
38. See also sections on Provisional Sums and Daywork, each of which can arise from direction of a Variation at paras. 4.116 *et seq.* and 4.125 *et seq.* below.

with 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 is the "rate or price specified for such item in the Contract or, if there is no such item, specified for similar work". Under Sub-Clause 12.3(b), if there is no rate or price specified in the Contract for the item and no specified rate or price is appropriate because the item is not of similar character, or is not executed under similar conditions,[39] as any item in the Contract, then a new rate or price is appropriate. The new rate or price is to be determined in accordance with the penultimate paragraph of Sub-Clause 12.3. See paragraphs 4.69 to 4.70 above.

4.80 The words "unless the Engineer instructs or approves otherwise in accordance with this Clause" in the final paragraph of Sub-Clause 13.3 might, however, suggest that the Engineer may instruct that a Variation be evaluated on the basis other than measurement. This is because the drafting, on its face, appears to grant the Engineer some discretion for avoiding the stipulated process by instructing that some other procedure be applied, which might, for example, circumvent the measurement process. However, in the authors' view, it is unlikely that this provision would be construed by an arbitral tribunal as permitting the Engineer to not apply the contractual rates just because they have, for example, subsequently become uncompetitive. Instead, it is likely that the words "instructs or approves otherwise in accordance with Clause" are intended to relate to the approval of a proposal by the Contractor under Sub-Clause 13.3 for an alternative basis of evaluation (e.g., Cost plus profit) or instructions under Sub-Clauses 13.5 [*Provisional Sums*] or 13.6 [*Daywork*].

4.81 If the Contractor's value engineering proposal submitted under Sub-Clause 13.2 is approved by the Engineer, Sub-Clause 13.2(c) describes how any savings are to be shared where the proposal includes a change in the design of part of the Permanent Works. Where the change results in a reduction in the contract value, the Engineer agrees or determines (under Sub-Clause 3.5) a 'fee', payable to the Contractor and included in the Contract Price. This fee is, in essence, a share of savings of 50% of the difference between (i) the relevant reduction in contract value (excluding adjustments under Sub-Clauses 13.7 for changes in legislation and 13.8 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. Where the amount in (i) is less than the amount in (ii), no fee is payable.

4.82 The third paragraph of Sub-Clause 13.3 entitles the Engineer to issue instructions to execute a Variation "with any requirements for the recording of Costs". The Books do not specify what requirements may be instructed, although this will be necessary where a record of Costs are needed to determine a new rate under Sub-Clause 12.3(b).

4.83 Chapter 3, paragraphs 3.285 *et seq.* discusses non-Price aspects of Variations.

Omissions in the Red and MDB Books

4.84 Sub-Clause 12.4 of the Red and MDB Books sets out an entitlement and regime for addressing the cost implications of omission of any work forming part (or all) of a Variation where the value of the omission has not been agreed.[40] The applicability of this Sub-Clause

39. Sub-Clause 12.3(b)(ii) and (iii).

40. Omissions are not addressed in the Yellow, Silver or Gold Books by an express Clause, as for the Red Book and MDB.

is subject to a further three part test: First, whether "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" (sub-para. (a)).

4.85 Second, that the omitted work will result (or has resulted) in this sum not forming part of the Contract Price (sub-para. (b)), and third, that the cost must not be deemed to be included in the evaluation of any substituted work (sub-para. (c)). If the tests have been met, the omissions Clause requires the Contractor to notify the Engineer accordingly, and give supporting particulars, upon which the Engineer proceeds with a determination under Sub-Clause 3.5 to determine the cost related to the omission, which is to be added to the Contract Price.

4.86 Sub-Clause 12.4 uses the word "cost" in its natural form, rather than the defined term "Cost". Where work is omitted in circumstances where cost is incurred which would otherwise have been covered by a sum forming part of the Accepted Contract Amount, it is submitted that Sub-Clause 12.4 provides for determination and payment of cost, but not profit.

Yellow, Silver and Gold Books

4.87 The first three paragraphs of Sub-Clause 13.3 in the Yellow, Silver and Gold Books are essentially identical to the Red and MDB Books.[41] As with the Red and MDB Books, the contract administrator may request a proposal under the first paragraph of Sub-Clause 13.3, and have the Contractor submit a proposal for adjustment of the Contract Price.

4.88 The last paragraph of Sub-Clause 13.3 of the Yellow and Silver Books provides that:

> "Upon instructing or approving a Variation, the Engineer[42] 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".

4.89 Any agreed price submitted by the Contractor under Sub-Clause 13.3 is reflected in the determination. Any Variation to be otherwise determined by the Contractor requires further dealing by the contract administrator under Sub-Clause 3.5 (discussed below).

4.90 In valuing the Variation under the Yellow Book, the contract administrator may be obliged to apply price data set out in a Schedule, if the Schedule is stated to be used for this purpose (per Sub-Clause 14.1(d)). There is no equivalent provision in the Silver Book and Gold Book, but the Guidance for the Preparation of Particular Conditions does contemplate the use of price breakdowns.

4.91 Sub-Clause 13.3 stipulates that " . . . adjustments shall include reasonable profit". While profit is expressly required to be included in the adjustment, an ambiguity still remains in respect of omitted work. The Variation provisions in the Yellow, Silver and Gold Books do not expressly distinguish profit on additional work from profit on omissions. That is, must a downward Contract Price adjustment under Sub-Clause 3.5 "include reasonable profit"? These Books would appear to provide that, in any reduction in the Contract Price

41. Setting aside the contract administrator change from Engineer to Employer in the Silver Book and Employer's Representative in the Gold Book.

42. Employer (S).

arising from an omission, an amount would be removed from the Contract Price for the Contractor's profit on that Work. Note, however, that all the FIDIC forms provide that a Variation shall not comprise the omission of work which is to be carried out by others (Sub-Clause 13.1).[43]

4.92 The Gold Book amends the last sentence to be: "These adjustments, except adjustments made under Sub-Clause 13.6 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.7 [*Adjustments for Changes in Technology*], shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [*Value Engineering*] if applicable".

Payment in applicable currencies

4.93 Sub-Clause 13.4 provides a skeleton framework for dealing with payment for Variations where the Contract provides for payment of the Contract Price in more than one currency. Fundamentally, "whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified", and the contract administrator must specify the currency of the Variation.

4.94 In making the determination, the Sub-Clause provides that reference is to 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". There is little guidance as to precisely how reference should be made to both: (i) the currency proportions of Cost of the varied work and (ii) the currencies specified for payment of the Contract Price. In a multi-currency contract, one would expect that if the Cost of a Variation was incurred in one or more of those currencies, the valuation would simply be made in those currencies. But even here, the *FIDIC Guide* says that "Even if such contract currency proportions are inappropriate, they are nevertheless as relevant as the currency proportions in which the Contractor incurs the Cost, and so both such proportions must be taken into account", although it does not explain why.[44]

Changes in legislation

Red, MDB, Yellow and Silver Books

4.95 Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] of the Red, MDB, Yellow and Silver Books provides for adjustments to Contract Price for changes in the Laws of the Country made (i) after the Base Date and (ii) which affect the Contractor in the performance of his obligations. Importantly, the Sub-Clause does not apply to a change in the governing law of the Contract. The governing law is established by Sub-Clause 1.4, and is the law of the "country" (not capitalised) or other jurisdiction stated in the relevant contract document.[45] This is to be distinguished from the Laws of the Country, where the defined term "Country" means "the country in which the Site (or most of it) is located, where the Permanent Works are to be executed".[46] No relief is given for changes in laws outside the Country.

43. See also Chapter 3, paras. 3.285 *et seq.*
44. See *FIDIC Guide*, p. 224.
45. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).
46. Sub-Clause 1.1.6.2.

4.96 "Changes" covers not only the introduction of new Laws and modifications to existing laws, but also changes in the "judicial or official governmental interpretation of such Laws". This latter part is open to considerable interpretation by both the Employer and Contractor since, in its widest sense, it could be construed to include even *ad hoc* policy interpretation of an existing piece of legislation statute—so long as it satisfied the "official governmental interpretation" test.

4.97 By the first paragraph, the Contract Price is adjusted to account for any such change in the Laws of the Country, made after the Base Date. Under the second paragraph, if the Contractor has or will suffer delay or incur additional Cost, he is required to notify the contract administrator in accordance with Sub-Clause 20.1. The Contractor is entitled to an extension of time (under Sub-Clause 8.4) or to payment of such "Cost", which is to be included in the Contract Price. By the defined term Cost, profit is excluded.[47] By Sub-Clause 20.1, notice is to 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.

4.98 Sub-Clause 13.7 in the MDB contains an extra final paragraph which states that the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time, nor to additional Cost if the same has already been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [*Adjustments for Changes in Cost*].

4.99 In the Red and MDB Books Sub-Clause 13.7 is intended to give the Contractor relief where the change in law does not affect the Works themselves. If there is a change in law that affects the Works, under the Red and MDB Books, the Engineer would have to instruct a Variation to require the Contractor to change the Works. Under the Yellow and Silver Books, Sub-Clause 13.7 would apply to changes in the Laws of the Country which affect the Contractor's performance of his obligations under Sub-Clauses 5.3 and 5.4. In addition, under the Yellow and Silver Books, if changed or new applicable standards come into force in the Country after the Base Date, then by Sub-Clause 5.4 [*Technical Standards and Regulations*] the Contractor is to give notice to the contract administrator and (if appropriate) submit proposals for compliance. If the contract administrator determines that compliance is required, and the proposals for compliance constitute a Variation, then the contract administrator is to initiate a Variation.

Gold Book

4.100 In the Gold Book, Sub-Clause 13.6 covers adjustments for changes in legislation, and is drafted in different terms to the other Books. The first paragraph prescribes expressly that adjustments to the execution of the Works or provision of the Operation Service necessitated by a change in Law are to be dealt with by way of Variation under Clause 13.

4.101 The paragraph also adds a new substantive obligation, requiring that "Either Party may, by written Notice to the other, require that adjustments shall be made to the provision of the Contract as are necessary to enable the Contractor to comply with changes in Law". It is unclear what is meant by "provision of the Contract" and whether this is to

47. Sub-Clause 1.1.4.3.

mean an amendment of the Contract or the way in which the 'Contract' is to be provided.

4.102 The second paragraph clarifies that adjustment is to be made to the Contract Price "and programme for design, execution and operation of the Works", and that the adjustment may also result from "changes to technical standards and regulations in accordance with Sub-Clause 5.4 [*Technical Standards and Regulations*]".

4.103 The third paragraph of the Sub-Clause in the Gold Book requires further detail in the Notice, adding that the Contractor must provide "evidence supporting any adjustment, an indication of the nature of change in cost and how the Contractor proposes to implement the necessary change". It would appear, in light of the new provision discussed in paragraph 4.100 above, that this provision is intended that the third paragraph of this Sub-Clause is intended to apply where the Contractor incurs cost but where there is no varied work.

Adjustment for changes in Cost

Red, MDB and Yellow Books

4.104 Sub-Clause 13.8 in the Red Book, MDB and Yellow Book provides a mechanism for the Parties to opt to either include or exclude adjustments under the Contract for rise and fall in cost. The Sub-Clause is optional, and expressly states that, where there is no table of adjustment data in the relevant contract document,[48] the Sub-Clause does not apply. Thus, where no adjustments are to be made for changes in costs, it is only necessary for there to be no completed table in the relevant contract document.[49] Similarly, the Sub-Clause clarifies that no adjustment is to be applied for work valued on the basis of Cost or current prices. This approach is self-evidently correct, as there will be no need to adjust current Costs or prices.

4.105 These provisions for adjustments will be used primarily where it would be unreasonable for the Contractor to bear the risk of escalating costs due to inflation. The adjustment, which includes both rise and fall and the corresponding additions and deductions, covers "cost of labour, Goods and other inputs to the Works" all determined by the formula in Sub-Clause 13.8. Each application of the formula proposes that data is specified in a separate table of adjustment data in the relevant contract document,[50] one for each of the currencies of payment.[51]

4.106 The table is an exhaustive statement of the adjustments made to any such labour, Goods or inputs (possibly such as fuel). The second paragraph of Sub-Clause 13.8 concludes that "To the extent that full compensation for any rise and 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".

48. Appendix to Tender (R/Y); Schedules (M).
49. Appendix to Tender (R/Y); Schedules (M).
50. Appendix to Tender (R/Y); Schedules (M).
51. The MDB specifies in the first sentence that the "'table of adjustment data' means the completed table of adjustment data *for local and foreign currencies*" (emphasis added), which wording is additional to the Red and Yellow Books, although the addition appears to be merely for clarity, as the same scope would, the authors submit, be applicable in the Red and Yellow Books.

4.107 The table of adjustment data form proposed by FIDIC, in the example form of Appendix to Tender in the Red and Yellow Books, sets out five columns of data to be considered. They are:

Coefficient; scope of index	Country of origin; currency of index	Source of index; Title/definition	Value on stated date(s)	
			Value	Date
a = 0.10 Fixed				
b = Labour				

4.108 FIDIC contemplate the table in the Appendix to Tender to be an example only,[52] and Parties are accordingly free to amend the table to suit their particular circumstances. In practice, it would be unsurprising to find that most parties agreeing to adjustments for changes in cost develop their own form of table during tender and negotiation. For example, the Yellow Book Guidance for the Preparation of Particular Conditions suggests that in a plant contract it may be preferable to adopt formulae which are more directly related to the timing of the costs incurred by the manufacturers.

4.109 The table of adjustment data, in the example form, is to define the coefficients (that is, the proportions) applied to each item, as well as the reference price, the source of the index and the values on the stated dates. FIDIC contemplates that, typically, the Employer will have defined the fixed, non-adjustable coefficient ("a" above) before the tender documents are issued to tenderers.[53] It also contemplates that the Employer may opt to have each tenderer define the other coefficients and cost sources. The sum of all coefficients, including the fixed coefficient "a", is not to exceed 1.

4.110 Sub-Clause 13.8 stipulates that the cost indices or reference prices stated in the table of adjustment data must be used. The Engineer is to determine their source if it is in doubt, based on reference to the values of the indices at stated dates (columns 4 and 5 above).

4.111 The final paragraphs of Sub-Clause 13.8 provide certain default provisions. Where the "currency of index" stated in the table (e.g., a specified price index from country "X", or perhaps a commodity price per unit quantity, such as the price of steel in US$/ton) is not the relevant currency of payment (e.g., currency "Y", e.g., euro) each index is to be converted into the relevant currency of payment at the selling rate of this relevant currency, established by the central bank of the Country (as defined, and which may in fact be neither X nor Y), on the specified date for which the index is to apply.

4.112 The Engineer is also to determine provisional indices for issuing Interim Payment Certificates until each current cost index is available, at which point the adjustment is to be recalculated accordingly. This approach would seem necessary to account for any inevitable delay between the end to an applicable index period and the time the relevant index was actually published or released.

4.113 The second-last paragraph seeks to protect the Employer in circumstances where a Contractor fails to complete within the Time for Completion, by allocating any further

52. *FIDIC Guide*, p. 231.
53. *Ibid.*

price rise risk to the Contractor when he is in delay, and the benefit of any falling prices to the Employer. Adjustments during such period are to be made using either (i) the index or price applicable from 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. Option (i) in effect freezes any prices during the period the Contractor is in delay, while (ii) allows the Employer to retain the benefit of falling indices or prices for subsequent claims.

Silver and Gold Books

4.114 By contrast, the Silver Book provides only that if the Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, the adjustments are to be calculated in accordance with the Particular Conditions. The Silver Book's Guidance for the Preparation of Particular Conditions proposes that the wording for provisions based on cost indices in the Yellow Book may be considered appropriate.

4.115 The Gold Book provides that the Contract Price and the Rates and Prices are to be adjusted in accordance with the Schedules of cost indexation as contained in the Schedule of Payments. Where there are no such Schedules of cost indexation in the Contract, the Sub-Clause is not to apply. No additional guidance is given in the Gold Book about the contents of such schedules, although it would seem that the Yellow Book wording might again be considered appropriate.

Provisional Sums

4.116 In the FIDIC Books, "Provisional Sum" means a sum (if any) specified in the Contract as an amount for the execution of any part of the Works or for the supply of Plant, Materials or services under the Sub-Clause 13.5 [*Provisional Sums*]. Provisional Sums are often used where an amount is allocated in the Accepted Contract Amount (Contract Price (S)) for work where the extent of such work cannot sufficiently be evaluated at the time of entering into the Contract. Instead, an allowance is provided for it in the Contract. By Sub-Clause 4.11, the Accepted Contract Amount (Contract Price (S)) includes the Provisional Sums.

4.117 Sub-Clause 13.5 stipulates that a Provisional Sum may only be used on the instruction of the contract administrator. The Contract Price is adjusted accordingly and the Contractor receives payment only for work so instructed. Any Provisional Sum that is not the subject of such an instruction is simply never paid.

4.118 The contract administrator can instruct, in accordance with sub-paragraphs (a) and (b), both for work to be executed and for Plant, Materials and services to be purchased. Paragraph (a) relates to circumstances where the Contractor himself is executing the work or providing the Plant, Materials or services; paragraph (b) to "Plant, Materials or services to be purchased by the Contractor".

4.119 Work to be executed by the Contractor (including Plant, Materials or services to be supplied) and instructed under Sub-Clause 13.5(a) is to be valued under Sub-Clause 13.3 as a Variation. Where the contract administrator instructs Plant, Materials or services to be purchased by the Contractor under Sub-Clause 13.5(b), this is valued as "the actual amounts paid (or due to be paid)" together with an amount for overheads and profit

calculated in accordance with a percentage rate specified in the Contract. Plant, Materials and services to be purchased are included into the Contract Price on the basis of the actual amounts, plus the contractually stipulated percentage for overhead and profit. The Contractor is obliged to produce, when required, quotations, invoices, vouchers and accounts or receipts in substantiation of amounts claimed.

4.120 Sub-Clause 13.5(b) in the Red and MDB Books expressly provides that the Engineer can specify that Plant, Materials or services be purchased from a nominated Subcontractor. While there is no provision for the use of a Provisional Sum in relation to nominated Subcontractors in the Yellow, Silver or Gold Books, nothing in those Books prevents a Provisional Sum from being instructed to be used in this way.

4.121 As a practical matter, the scope of the Provisional Sum, and the scope of work otherwise included in the Contract Price relating to the Provisional Sum will need to be precisely defined to avoid disputes regarding what is to be covered by a Provisional Sum and what is included in the remainder of the Contract Price.

4.122 Sub-Clause 13.5 refers to each Provisional Sum being used as instructed "in whole or in part". FIDIC, in the *FIDIC Guide*, state that the Provisional Sum is not to be used in excess, and that the "Engineer or the Employer cannot increase the amount of a Provisional Sum (by Variation or otherwise). The *Guide* asserts that "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".[54] It is submitted that, for all practical purposes, there should be no great distinction to be had if a Provisional Sum is exceeded, and that any cost excess above the Provisional Sum is correctly to be paid in the manner described in Sub-Clause 13.5.

4.123 The Silver Book makes an apparent drafting change in Sub-Clause 13.5(b), replacing the phrase "for which there shall be included in the Contract Price . . . [amounts paid, overhead and profit]" with a clearer "for which there shall be added to the Contract Price less the original Provisional Sums . . . [amounts paid, overhead and profit]". The Silver Book drafting change clarifies the accounting for the Provisional Sum, by initially deducting the Provisional Sum from the Contract Price and adding the actual amounts paid (or due) together with an amount for overheads and profit calculated in accordance with a percentage rate stated in the Contract.

4.124 The Gold Book (which, terminology aside, is identical to the Yellow Book) makes one addition in respect of the use of Provisional Sums, requiring under Sub-Clause 10.3 that payment of the Auditing Body is to "be made from the Provisional Sum included in the Contract for that purpose".

Daywork

4.125 Sub-Clause 13.6 of the Red, MDB, Yellow and Silver Books allows the Engineer (Employer (S)) to instruct a Variation for work "of a minor or incidental nature" on a daywork basis.[55] Typically, daywork is used for Variations on a cost-plus basis where the

54. *FIDIC Guide*, p. 225. It is possible, though questionable, that this comes from the second sentence of Sub-Clause 13.5, which says "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".

55. The Gold Book makes no provision for Daywork and the Employer's Representative would have to instruct any additional work of a minor or incidental nature as a Variation.

precise scope of Work is unknown, such as (for example only) hand digging around a newly discovered underground utility. On the drafting, the provisions in Sub-Clause 13.6 are not to apply to work which is not a Variation. FIDIC also opine in the *FIDIC Guide* that because "a Variation shall be executed" contemplates future action only, the Sub-Clause will also not apply to work "which the Contractor executed prior to receiving an instruction that it 'shall' (in the future) be executed on a daywork basis".[56]

4.126 There is no contractual stipulation as to what constitutes "work of a minor or incidental nature". In the absence of a contract definition, "work of a minor or incidental nature" is likely to be limited to that which: (i) does not greatly or materially alter the scope of Works, and (ii) does not affect the sequence of the work or the Time for Completion. Fundamentally, the Employer (via the Engineer, where applicable) is in control of what work is carried out as daywork.

4.127 Daywork is to be valued in accordance with the Daywork Schedule included in the Contract. "Daywork Schedule" is not defined in the Yellow and Silver Books,[57] although such a schedule will be necessary if the Contract is to provide for payment on a daywork basis. If daywork is to apply, a daywork schedule must be included in the Contract; if a daywork schedule is not included in the Contract, Sub-Clause 13.6 will not apply and work cannot be instructed as daywork.[58] The *FIDIC Guide* suggests that the daywork schedule to be priced by tenderers and included in the Contract should include (i) a time-based rate (e.g., per hour, day or week) for each person or category of labour, (ii) a time-based rate for categories of Contractor's Equipment, and (iii) the payment due for each category of Materials, or possibly a per unit quantity rate for certain Materials. It is obvious from this approach that an Employer will need to have some idea what work he may wish to instruct as daywork, if the daywork schedule is to contain appropriate rates.

4.128 Additionally, Sub-Clause 13.6 contemplates that the daywork schedule may specify that there are items for which payment is not due, i.e., rates are not payable, such as where a cost might be deemed included in another rate.

4.129 The second paragraph of Sub-Clause 13.6 obliges the Contractor to submit quotations to the contract administrator before ordering Goods for the work. There is no indication of how many, or how often, quotations may be required.

4.130 Under Sub-Clause 13.6, the Contractor is required to record and submit to the contract administrator daily statements with details of personnel, equipment and Materials used the previous day. One copy of each statement is to be signed by the contract administrator and returned to the Contractor for inclusion in the next application for interim payment.[59]

PAYMENT OF THE CONTRACT PRICE

Outline of payment mechanism

4.131 The mechanics of paying the Contract Price are largely contained in Clause 14 of all the Books. Ordinary payment of the Contract Price by the Employer can be summarised,

56. *FIDIC Guide*, p. 227. Nothing, however, prevents the Parties from agreeing such an arrangement.
57. "Daywork Schedule" is defined only in the Red Book and MDB (Sub-Clause 1.1.1.10 (R), 1.1.1.9 (M)).
58. Unless the Parties subsequently agree to amend the Contract.
59. See the English case *JDM Accord* v. *The Secretary of State for the Environment* [2004] EWHC 2 (TCC) regarding the need to ensure daily record statements are properly reviewed and signed.

very simplistically, as having four main components which, for example in the Red, MDB and Yellow Books comprise:

- payment of any agreed advance payment (Sub-Clause 14.2);
- payment of amounts certified in Interim Payment Certificates (Sub-Clauses 14.3–14.7 and 14.10);
- payment of Retention Money upon the issue of the Taking-Over Certificate (Sub-Clause 14.9); and
- payment of the Final Payment Certificate (Sub-Clauses 14.11–14.13).

Advance payment

Employer's payment of the advance payment

4.132 All the Books make provision for an advance payment as an interest-free loan, although to oblige the Employer to make an advance payment, the amount of the advance payment must be stated in the relevant contract document[60]—whether as an amount or a percentage of the Accepted Contract Amount—along with details of the number and timing of instalments, applicable currencies and proportions.[61]

4.133 The first paragraph of Sub-Clause 14.2 in the various Books contemplates different details regarding the advance payment being inserted into the Contract in various locations. These are set out in Table 4.1.

Table 4.1: Advance Payment Details

<table>
<tr><th>Book</th><th>Amount/ applicability</th><th>Number and timing of instalments</th><th>Applicable currencies proportions</th><th>Repayment amortisation</th><th>Payment required within</th></tr>
<tr><td>Red</td><td>in Appendix to Tender</td><td>in Appendix to Tender or 14.7(a): one</td><td>in Appendix to Tender</td><td>14.2, para 5</td><td rowspan="3">later of 42 days after issuing the Letter of Acceptance or 21 days after receiving the Performance Security (per 4.2) and advance payment guarantee (per 14.2) (14.7(a))</td></tr>
<tr><td>MDB</td><td>in Contract Data</td><td>in Contract Data or 14.7(a): one</td><td>in Contract Data</td><td>14.2, para 5</td></tr>
<tr><td>Yellow</td><td>in Appendix to Tender</td><td>in Appendix to Tender or 14.7(a): one</td><td>in Appendix to Tender</td><td>14.2, para 5</td></tr>
</table>

60. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).
61. Details of the advance payment vary in the different Books. For example, the Silver Book further includes an amortisation rate for repayments at Sub-Clause 14.2(d).

Book	Amount/ applicability	Number and timing of instalments	Applicable currencies proportions	Repayment amortisation	Payment required within
Silver	Particular Conditions	Particular Conditions or 14.2(b): one	Particular Conditions or 14.2(c): as for Contract Price	Particular Conditions or 14.2(d)	later of 42 days after Contract in full force and effect or 21 days after receiving the Performance Security (per 4.2) and advance payment guarantee (per 14.2) (14.7(a))
Gold	in Contract Data	14.8(a): one	in Contract Data	14.2, para 5	21 days after receiving the Performance Security (per 4.2) and advance payment guarantee (per 14.2) and the Payment Certificate for the advance payment (per 14.7) (14.8(a))

4.134 If the Contract does not specify payment of the advance payment in instalments by the Employer, then by Sub-Clause 14.7(a)[62] the advance is to be paid in a single instalment. All the Books stipulate in the second paragraph of the Sub-Clause that the advance payment shall be made by the Employer when (i.e., only if) the Contractor submits a guarantee in accordance with Sub-Clause 14.2 to provide security when the Employer is paying a sum without obtaining the benefit of having any corresponding Work completed.

4.135 All the Books require security by a guarantee. The guarantee is to be in amounts and currencies equal to the advance payment, and issued by an entity and from within a country (or other jurisdiction) approved by the Employer. In all except the Gold Book, the Sub-Clause requires that the guarantee be "in the form annexed to the Particular Conditions or another form approved by the Employer". In the Gold Book, the Sub-Clause requires the guarantee to be "based on the sample form included in the tender documents or in another form acceptable to the Employer" with the tender timing being presumably, and commendably, to ensure that issues with the acceptability of the guarantee are

62. Sub-Clause 14.8(a) (G).

highlighted and resolved before the Contract is entered into. (See also Chapter 7, paragraphs 7.185–7.191.) By Sub-Clause 1.3, all approvals are required to be given in writing and not unreasonably withheld.

4.136 The mechanics of obtaining the advance payment is set out similarly in all the Books, and the Sub-Clause contemplates (in the third paragraph)[63] that the Contractor first submits a Statement under Sub-Clause 14.3, and ensures that the Employer receives the Performance Security in accordance with Sub-Clause 4.2 and the advance payment guarantee under Sub-Clause 14.2. Except for the Silver Book, the contract administrator then issues an Interim Payment Certificate for payment under the normal interim payment regime. In the Silver Book, which does not provide for Interim Payment Certificates, the Employer is obliged under Sub-Clause 14.2 to pay the first instalment after receiving a Statement under Sub-Clause 14.3, the Performance Security under Sub-Clause 4.2, and the advance payment guarantee. The Silver Book also clarifies that, unless and until the Employer receives the guarantee, the Sub-Clause will not apply.[64]

4.137 Under Sub-Clause 14.7, the Employer required to pay the first instalment of the advance payment, or the whole advance payment (as applicable), within the later of: 42 days after the Contract is entered into (although this is stated differently in the different forms—see Table 4.1), or 21 days after receiving both the Performance Security and advance payment security. Contractors may consider that the timing for payment of the advance payment is too long, as the Contractor is obliged to commence the Works before the advance payment has been paid, rather than only upon receipt of the advance payment.

4.138 The Sub-Clause requires the Contractor to ensure that the guarantee is valid and enforceable until the advance payment has been repaid, and contemplates that its amount may be progressively reduced by the amount repaid. See Chapter 7, paragraphs 7.155 *et seq.* in relation to security under the FIDIC forms, and in particular paragraphs 7.185–7.191 in relation to advance payment guarantees.

Repayment by Contractor of the advance payment

4.139 As is customary with advance payments, repayment is made by way of deductions from interim payments during the carrying out of the Works. The Contract allows the Parties to specify their own deductions in the relevant contract document.[65] Typically, advance payment guarantees step-down with payment of each instalment. The default details of the mechanics for such deductions vary among the forms, as set out in Table 4.2 below. However, the Parties are free to specify another repayment regime (e.g., in the Particular Conditions).

63. Second paragraph (S).
64. Sub-Clause 14.2 (S).
65. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

Table 4.2: Advance Payment Repayment

Book	Deductions commence (default)/Clause	Deduction rate (default)/Clause
Red	In the Payment Certificate in which the total of all certified iterim payments[66] exceeds 10% of the Accepted Contract Amount less Provisional Sums (14.2(a))	25% of the amount of each Payment Certificate[67] in the currencies and proportions of the advance payment (14.2(b))
MDB	In the next interim Payment Certificate following that in which the total of all certified interim payments[68] exceeds 30% of the Accepted Contract Amount less Provisional Sums (14.2(a))	At the amortisation rate stated in the Contract Data of the amount of each Interim Payment Certificate[69] in the currencies and proportions of the advance payment; provided that the advance payment shall be completely repaid prior to the time when 90% of the Accepted Contract Amount less Provisional Sums has been certified for payment (14.2(b))
Yellow	In the Payment Certificate in which the total of all certified interim payments[70] exceeds 10% of the Accepted Contract Amount less Provisional Sums (14.2(a))	25% of the amount of each Payment Certificate[71] in the currencies and proportions of the advance payment (14.2(b))
Silver	Advance payment shall be repaid "through proportional deductions in interim payments", the application of which entails deduction with the first interim payment (14.2, para 4, 14.2(d))	At the amortisation rate stated in the Particular Conditions (or, if not so stated, at the rate calculated by dividing the total amount of the advance payment by the Contract Price stated in the Contract Agreement less Provisional Sums) (14.2)(d))
Gold	In the Payment Certificate in which the total of all certified interim payments[72] exceeds 10% of the Accepted Contract Amount for the Design-Build less Provisional Sums (14.2(a))	(25%) of the amount of each Interim Payment Certificate[73] issued during the Design Build Period. (14.2(b))

4.140 The final paragraph of Sub-Clause 14.2 provides that "If the advance payment has not been repaid prior to the issue of the [relevant contract document][74] or termination

66. Excluding the advance payment and deductions and repayments of retention.
67. Excluding the advance payment and deductions and repayments of retention.
68. Excluding the advance payment and deductions and repayments of retention.
69. Excluding the advance payment and deductions and repayments of retention.
70. Excluding the advance payment and deductions and repayments of retention.
71. Excluding the advance payment and deductions and repayments of retention.
72. Excluding the advance payment and deductions and repayments of retention.
73. Excluding the advance payment and deductions and repayments of retention.
74. Taking Over Certificate (R/M/Y/S) or Commissioning Certificate (G).

under Clause 15 [*Termination by Employer*], Clause 16 [*Suspension and Termination by Contractor*] or Clause 19 [*Force Majeure*][75] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer". In circumstances where part of the advance payment remains outstanding prior to the issue of the Taking-Over Certificate (Commissioning Certificate (G)), it is submitted that the Employer may not withhold the Certificate pending repayment of the advance payment, since the drafting does not contemplate that repayment is a pre-condition to the issue of the Certificate under Sub-Clause 10.1[76] or 8.2.[77]

Interim payment application procedure

4.141 Sub-Clause 14.3 is largely identical in all Books.[78] In each Book, the payment process commences with the Contractor submitting a Statement to the contract administrator for processing. The Contractor is generally to submit six copies of a Statement for processing, although the last-released Gold Book has amended this by stipulating one original and five copies, in a small but useful change. The default period in all Books is "after the end of each month", though the Yellow, Silver and Gold Book expressly contemplate that another period may be stated in the Contract. The Statement (discussed in more detail below) is to be in an approved form, and the Contract requires that it (i) show in detail the amounts to which the Contractor considers himself to be entitled; and (ii) is accompanied by supporting documents, including the relevant reports required under Sub-Clause 4.21. In a project financed project, the Employer will wish to ensure that the approved form includes any information the lenders may require. Clearly, the Sub-Clause contemplates one Statement ("a Statement") per month, and clearly any (e.g., additional) Statement not submitted in accordance with the Sub-Clause would be invalid. In practice, it is not uncommon for the contract administrator and Contractor to pre-agree the Statement prior to formal submission, which can ease the administrative burden and reduce the likelihood of rejecting part of the claim.

4.142 The Books sets out a range of required components of the Statement that varies slightly and unremarkably between them. The cornerstone of the Statement, in paragraph (a) of Sub-Clause 14.3, is "the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations . . .)". To this is added or deducted amounts for those other items in the Contract relating to payment, including (variously) for changes in legislation, changes in cost, deductions for retention, recovery of the advance payment, Plant and Materials intended for the Works (discussed below) and claims under Clause 20, all balanced against amounts certified in previous Payment Certificates (included in previous Statements (S)). The Gold Book includes amounts to be added or deducted for changes in cost and changes in technology, amounts due for the Operation Service, the Asset Replacement Fund and the Maintenance Retention Fund, all of which are unique to the Gold Book and which relate primarily to the Operation Service component of that Book.

75. Clause 18 [*Exceptional Risks*] (G).
76. Sub-Clause 11.5 (G).
77. Sub-Clause 9.2 (G).
78. Excepting terminology changes between Books.

4.143 Unlike many forms of construction contract, none of the FIDIC forms specify how long the Contractor has to submit his Statement after the end of each month. The longer the Contractor takes to submit his Statement, the longer it will be before the Contractor is paid, as the time for the issuance of the Interim Payment Certificate under Sub-Clause 14.6, and the time for payment under Sub-Clause 14.7, commences only upon receipt of the Statement and supporting documents. As such, a prudent Contractor will seek to have his Statement submitted as soon as he can after the month end.

4.144 The last paragraph of Sub-Clause 14.4 states that if the Contract does not include a Schedule of Payments (schedule of payments (R/M)), the Contractor is to submit non-binding estimates of the payments which he expects to become due during each quarterly period.[79] The first estimate is to be submitted within 42 days after the Commencement Date. Revised estimates are to be submitted at quarterly intervals, until the relevant contract document[80] has been issued. Project cash flow projections are essential to enable the Employer to deal with the inherent uncertainty as to when payments will become due, and plan the funding of the Works. The Contractor's estimates are expressly non-binding and, as such, appropriately, there are no sanctions against the Contractor for getting the cash flow estimates wrong. Nonetheless, the Contractor is best placed to prepare the cash flow projections, as the programming and the carrying-out of the Works are under his control.

Schedule of Payments

4.145 Sub-Clause 14.4 provides the option of including in the Contract a Schedule of Payments (schedule of payments (R/M))[81] specifying the instalments in which the Contract Price will be paid. Additionally, the Sub-Clause is expressly subordinate to the Schedule of Payments, being applicable "unless otherwise stated in the Schedule".

4.146 The use of a Schedule of Payments allows an alternative to progress payments on the basis of value of work done. In Contracts employing a Schedule of Payments, the estimated contract value of the Works executed is determined by reference to the Schedule of Payments, irrespective of the actual value of Works executed for that scheduled item.[82] FIDIC contemplate the possibility of two types of payments in the *FIDIC Guide*: a Schedule based on an amount or percentage of the Contract Price payable for each month or period of payment; and a Schedule based on actual progress achieved in executing the Works.[83]

4.147 FIDIC recommend against the first approach, and the authors agree. In this scenario, payment of regular monthly instalment payments can become unreasonable if the Contractor's progress differs significantly from the expectation on which the Schedule is based. For this reason, FIDIC explain, a remedy as been provided in Sub-Clause 14.4(c),[84]

79. Gold Book Sub-Clause 14.4 clarifies "If the Contract does not include a Schedule of Payments for the Design Build Period and/or the Operation Service Period . . . ".

80. Taking Over Certificate (R/M/Y/S) or Contract Completion Certificate (G).

81. In the Red Book (and MDB) there is no defined term "Schedule of Payments", "because Interim payments under such a contract are typically based upon monthly measurements of quantise of work, applying the rates and prices from a Bill of Quantities": *FIDIC Guide*, p. 240.

82. See Sub-Clause 14.4(a).

83. *FIDIC Guide*, p. 240.

84. Sub-Clause 14.4(b) (S).

by which the contract administrator may proceed in accordance with Sub-Clause 3.5 to agree or determine revised instalments. The contract administrator can, where: (i) the instalments were not defined by reference to actual progress achieved; and (ii) actual progress differs from that on which the Schedule of Payments was based, agree or determine revised instalments which shall take account of the extent to which progress "is less than"[85] or "is less or more than"[86] or "differs from"[87] that on which the instalments were previously based. Contractors may find the contract administrator's entitlement to make a determination where actual progress is less "than that on which the instalments were previously based" to be problematic and to prejudice their cash flow.[88] One would speculate that Contractors (and Employers, under the MDB and Gold Books) may be tempted to question the benefit of putting in the effort to negotiate, finalise and agree a Schedule of Payments, only to find the contract administrator opening up the Schedule and making a determination that is less favourable to it. Parties may wish to consider excluding the operation of Sub-Clause 14.4(c)[89] since in that situation the Sub-Clause creates uncertainty, and there seems little to be gained by negotiating a milestone schedule, only to have it changed. If, however, Sub-Clause 14.4(c) is excluded, the Parties will need to be satisfied that they should be obliged to comply with the Schedule of Payments, without any adjustment at a later stage.

4.148 In the second 'Schedule of Payments' approach, milestone payments are generally based on a predetermined valuation of the Works relating to those milestones. In the authors' experience, this approach is the one most commonly used in large international construction contracts. Lenders often prefer this milestone payment regime, possibly because it contains greater certainty in the payment profile than progress payments. However, even in the milestone-based approach, the Schedule of Payments often places a payment value against items that have either an indeterminate or no monetary value, such as placement of orders, receipt of an approval or commencement of certain Work. In such case, the portion of the Contract Price paid at certain times may also exceed the actual "works completed value". Under Sub-Clause 14.4(a), the instalments quoted in the Schedule of Payments are taken as the estimated contract values for the purposes of Interim Payment Certificates (or under the Silver Book, interim payments). As a consequence, where the instalments were defined by reference to the actual progress achieved in executing the Works, the Parties are not entitled to look behind the Schedule of Payments. For this reason, Employers and lenders will wish to ensure that the milestone schedules are carefully examined before the Contract is entered into. Similarly, all Parties will want to ensure that the prerequisites to milestone achievement are clearly and unambiguously set out, to avoid disagreement.

4.149 In all the Books except the Silver Book,[90] by Sub-Clause 14.4(b), where the Contract includes a Schedule of Payments, unless otherwise stated in that Schedule, Sub-

85. (R/Y/S).
86. (M).
87. (G).
88. One such typical area of risk is during the design documentation portion of a design-build contract, where for ease of administration the parties may agree that payment be made in equal monthly instalments, but find that after paying, say, 75% of the relevant portion of the contract sum, the design was only 60% complete.
89. Sub-Clause 14.4(b) (S).
90. The Silver Book contains no equivalent provision to Sub-Clause 14.4(b) in the other Books. See paras. 4.161–4.162 below in relation to the Silver Book.

Clause 14.5 will not apply, and no separate payment is applicable for unfixed or offsite Plant and Materials intended for the Works.

Plant and Materials intended for the Works

4.150 Sub-Clause 14.5[91] of the FIDIC forms sets out an optional regime for payment of offsite and unfixed Plant and Materials intended for the Works. The purpose of the Sub-Clause is to improve the Contractor's cash flow, and minimise his financing costs, which in turn will affect the Contract Price. In many ways, the regime is akin to an advance payment, as payment for the Plant and Materials intended for the Works is also secured against a bank guarantee, and for which payment is deducted against the appropriate progress payment.

4.151 The default position is for the Sub-Clause not to apply, where the Contract contains no listing of Plant and Materials for payment when shipped, or when delivered to the Site.

Payment under Red, MDB, Yellow and Gold Books

4.152 Under these Books, if Sub-Clause 14.5 (14.6 (G)) is to apply, the Contract must contain (i) a list in the relevant contract document[92] of Plant and Materials listed for payment when shipped; or (ii) a list in the relevant contract document[93] of Plant and Materials listed for payment when delivered to the Site but not incorporated into the Works. If only one list is included, payment will only apply for Plant and Material on that basis (i.e., when shipped, or when delivered to the Site).

4.153 The contract administrator is to determine and certify amounts only upon satisfaction of a series of express conditions in sub-paragraphs (a) and (b), including (i) keeping of satisfactory records available for inspection and (ii) submission of a statement of the Cost of acquiring and delivering the Plant and Materials to Site (with evidence).

Plant and Materials when shipped

4.154 Where payment is to be made for "offsite" Plant and Materials when shipped, the items must, in addition to their listing in the Contract for payment upon shipment, meet the conditions in sub-paragraph (b), which require that the relevant Plant and Materials:

- (i) have been shipped to the Country, en route to the Site, in accordance with the Contract;
- (ii) are described in a clean shipped bill of lading[94] "or other evidence of shipment";
- (iii) be accompanied by evidence of payment of freight and insurance, and any other reasonably requested document; and

91. Sub-Clause 14.6 (G).
92. Appendix to Tender (R/Y); Schedules (M) or Contract Data (G).
93. Appendix to Tender (R/Y); Schedules (M) or Contract Data (G).
94. A bill will be described as 'clean' if the goods have been received on board in apparent good condition and stowed ready for transport. By comparison, a 'claused' or 'foul' bill of lading will be used if the goods appear wet, damaged, or otherwise in doubtful condition, or are not of correct quantity.

(iv) be accompanied by a bank guarantee[95] in amounts and currencies equal to the payment.

4.155 Notwithstanding the reference to a "clean shipped bill of lading", an entitlement to payment may arguably arise even if the Plant or Materials appear damaged. Paragraph (b)(iii) entitles the Contractor to submit "other evidence of shipment", which would arguably satisfy the letter of the test, if not the Parties' intention at the time of entering into the Contract. It is suggested that "other evidence of shipment" is likely to have been intended to be construed as 'other similar evidence of shipment'.

4.156 The guarantee for the Plant and Materials paid for when shipped is to be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration. The expiry of the validity of the guarantee—upon the Plant and Materials delivery to Site—coincides with the transfer of ownership to the Employer under Sub-Clause 7.7, except under the MDB, where ownership transfers upon incorporation into the Works (on which, see below).

Plant and Materials when delivered

4.157 For listed "unfixed" Plant and Materials contemplated in Sub-Clause 14.5(c) (14.6(c) (G)), in addition to their listing in the Contract for payment upon delivery, the items must by sub-paragraph (c)(ii) have been delivered to, and be properly stored on Site, be protected against loss, damage or deterioration and appear to be in accordance with the Contract.[96] That they must only "appear to be in accordance with the Contract", means that the contract administrator is not obliged to declare whether the items actually comply, and the items may packaged or stored in manner not capable of allowing thorough inspection.

4.158 For "unfixed" Plant and Materials delivered to the Site, no bank guarantee is required, as by Sub-Clause 7.7 (except in the MDB) the Employer will own the relevant items upon their delivery to Site. In MDB Sub-Clause 7.7, ownership does not transfer until the Plant or Materials are incorporated into the Works.[97] This means that the Employer will be obliged to pay (following the payment claim process) for the Plant and Materials delivered to Site, but will not own them until they are incorporated into the Works.

Amount payable

4.159 The amount to be certified for Plant and Materials intended for the Works is stipulated in the penultimate paragraph of Sub-Clause 14.5 (14.6 (G)) at 80% of the contract administrator's determination of the cost of the Plant and Materials (including delivery to Site). In this Sub-Clause "cost" is used in its natural form and not the defined

95. In a form and issued by an entity approved by the Employer, although it may be in a form similar to the advance payment guarantee.

96. Unlike the Silver Book, there is no obligation on the Contractor to mark the items identifiably as the Employer's property, which may be desirable in clarifying ownership—see *Aluminium Industrie Vaassen BV* v. *Romalpa Aluminium Ltd* [1976] 1 WLR 676, [1976] 2 All ER 552.

97. Disregarding the unusual circumstances in Sub-Clause 7.7(b), which contemplate payment for Plant and Materials in event of suspension under Sub-Clause 8.10.

term form (which excludes profit), and includes "overhead and similar charges". In the circumstances, the cost will be determined by reference to the value of the Plant and Materials in accordance with the Contract—which may be by reference to a relevant schedule of payments.

4.160 Accounting for the recovery of the advance payment is dealt with in Sub-Clause 14.3(e), by which the application for Interim Payment Certificates is to take into account any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 (14.6 (G)), so that the Contractor is not paid twice when the Plant and Materials are incorporated into the Works.

Payment: Silver Book

4.161 The regime for Plant and Materials intended for the Works in Sub-Clause 14.5 of the Silver Book is fundamentally different from the other Books, which are largely identical (subject to differences in terminology). Payment in the Silver Book is contemplated only for "Plant and Materials which are not yet on the Site", but (a) are in the Country; and (b) have been marked as the Employer's property in accordance with the Employer's instructions (which obligation is unique in the FIDIC forms), and where the Contractor has provided (i) evidence of insurance; and (ii) a bank guarantee (in terms similar to those required under the other Books). No provisions are made in the Silver Book for payment for Plant and Materials which are not in the Country.

4.162 The *FIDIC Guide* explains that the Silver Book does not deal separately and expressly with Plant and Materials before incorporation into the Works because the Silver Book is "based on the assumption that, if payments are to be made for Plant and Materials before incorporation into the Works, such payments are defined in a Schedule of Payments".[98]

Payment for Plant and Materials in event of suspension

4.163 Sub-Clause 8.10[99] of all the Books makes provision for the Contractor to be entitled to payment of the value, as at the date of suspension, of Plant and/or Materials which have not yet been delivered to Site, under certain conditions. Importantly, Sub-Clause 8.8[100] stipulates that "if and to the extent that the cause is notified and is the responsibility of the Contractor" Sub-Clause 8.10[101] does not apply.

4.164 The Contractor is so entitled where the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days; and the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the contract administrator's instructions. The Gold Book adds a paragraph stating that, if requested by the Employer's Representative, payment for Plant and/or Materials made pursuant to Sub-Clause 9.9 (G) shall be subject to the production of satisfactory evidence by the Contractor that the Plant and/or Materials are fully owned by the Contractor and are not subject to any retention of title by the supplier. This new provision is seemingly incorporated to protect

98. *FIDIC Guide*, p. 243.
99. Sub-Clause 9.9 (G).
100. Sub-Clause 9.7 (G).
101. Sub-Clause 9.9 (G).

the Employer by ensuring that the Contractor has proper title to transfer, as, upon payment, title will transfer to the Employer under the express provisions in Sub-Clause 7.7(b). By that Sub-Clause each item becomes the property of the Employer when the Contractor is entitled to payment of[102] or is paid[103] the value of the Plant and Materials under Sub-Clause 8.10 (9.9 (G)).

Issue of Interim Payment Certificates

Red, MDB, Yellow and Gold Books

4.165 After the Contractor has submitted his Statement under Sub-Clause 14.3,[104] and once the approved Performance Security has been submitted under Sub-Clause 4.2,[105] the contract administrator is to review and process the Statement under Sub-Clause 14.6 (14.7 (G)). None of the FIDIC forms requires the Contractor to revise or resubmit a Statement, nor do they entitle the contract administrator to make such a demand of the Contractor.

4.166 By Sub-Clause 14.6[106] the contract administrator is obliged to issue to the Employer an Interim Payment Certificate within 28 days[107] after receiving the Statement and supporting documents.[108] Under Sub-Clause 16.1, if the contract administrator fails to certify in accordance with Sub-Clause 14.6 (14.7 (G)), the Contractor has the right to suspend in accordance with that Sub-Clause.

4.167 While the contents of the Statement are prescribed in detail (even down to the sequence of the contents, in all except the Gold Book), there is no such requirement regarding the Interim Payment Certificate. Curiously, nothing in the Sub-Clause actually requires the Interim Payment Certificate to follow the format of the Statement, or respond on a category by category basis to the Statement—although one would expect in practice that most Interim Payment Certificates are likely to follow this format. Similarly, nothing in the Sub-Clause expressly obliges the contract administrator to make his certification by reference to the value of Works completed to the end of the previously month or by reference to any Schedule of Payments.[109] While the obligation is implicit, the express obligation in relation to the Interim Payment Certificate is different: the Interim Payment Certificate "shall state the amount that the [contract administrator] fairly determines to be due, with supporting particulars".[110] The MDB has amended this requirement, clarifying that it must be "with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any".

4.168 If an Interim Payment Certificate is in an amount which would (after retention and other deductions) be less than an agreed minimum amount stated in the relevant

102. (R/Y/S).
103. (M/G).
104. See paras. 4.141 *et seq.* above.
105. See Chapter 7, paras. 7.192 *et seq.*
106. Sub-Clause 14.7 (G).
107. 14 days (G).
108. All certificates are also to be copied the Contractor, by Sub-Clause 1.3—although this has been made explicit in Sub-Clause 14.7 of the Gold Book.
109. Although Sub-Clause 14.5 [*Plant and Materials Intended for the Works*] does stipulate the "additional amount to be certified".
110. Notwithstanding the use of the word "determines", it is submitted that this process is separate from, and does not fall within, Sub-Clause 3.5 [*Determinations*].

contract document,[111] the contract administrator is not bound to issue an Interim Payment Certificate, but must give the Contractor notice accordingly.[112] The Gold Book also adds a provision that the Interim Payment Certificate shall include any amounts due to or from the Contractor arising from a DAB decision under Sub-Clause 20.6.

4.169 The third paragraph of Sub-Clause 14.6[113] seeks to prevent unnecessary withholding of Interim Payment Certificates by the contract administrator, stipulating that an Interim Payment Certificate may not be withheld "for any other reason" other than for: (i) a failure to provide Performance Security; and (ii) the amount claimed in the Statement being below the agreed minimum claim threshold. The Sub-Clause does provide for the contract administrator to make deductions, providing that: (a) if any thing supplied or work done is not in accordance with the Contract the cost of rectification or replacement may be temporarily withheld; and (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 contract administrator, the value of this work or obligation may be withheld until it is properly performed.

4.170 The *FIDIC Guide* also makes the point that "although 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", and the rights under Sub-Clause 14.6(a) and (b) (14.7 (G)) are separate and distinct from those under Sub-Clause 14.3(c) (the deduction for retention in a Statement).[114] Consequently, certification may be withheld under Sub-Clause 14.6(a) and (b) (14.7 (G)) as well as Sub-Clause 14.3(c).

4.171 Sub-Clause 14.6 (14.7 (G)) deals with deductions which the contract administrator may make from an Interim Payment Certificate. The question whether the Employer has a separate right to make deductions from the amounts certified is considered in Chapter 6, paragraphs 6.304 *et seq*.

4.172 The final paragraph of Sub-Clause 14.6 (14.7 (G)) gives the contract administrator a right to correct or modify previous Payment Certificates, which is discussed at paragraphs 4.269–4.271 below. As well, the final sentence contains an express denial that a Payment Certificate indicates any contract administrator's acceptance, approval, consent or satisfaction in relation to the work that has been carried out.

Interim Payments: Silver Book

4.173 The Silver Book Sub-Clause 14.6 applies an approach similar in principle to that used in the other Books, but absent the Engineer or Employer's Representative. Under the Silver Book, there is no certification, as the Contract is being administered by the Employer. As with the other Books, no amount is to be paid by the Employer until he has received and approved the Performance Security.

4.174 Within 28 days after receiving the Statement and supporting documents, the Employer is to "give to the Contractor notice of any items in the Statement with which the

111. Appendix to Tender (R/Y) or Contract Data (M/G).
112. Prior to the issue of the Taking Over (G: Commissioning) Certificate only.
113. Sub-Clause 14.7 (G).
114. *FIDIC Guide*, p. 245.

Employer disagrees, with supporting particulars".[115] FIDIC opines that this notice "should allow the Contractor to calculate the payment he will receive",[116] although that obligation is at best only implied by the reference to supporting particulars.

4.175 As with the other Books, the Sub-Clause provides that there shall be no withholding (in the case of the Silver Book, of payment rather than certification), except that: (a) if any thing supplied or work done is not in accordance with the Contract the cost of rectification or replacement may be temporarily withheld; and (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 it is properly performed. In this respect, the comments above apply.

4.176 The Sub-Clause avoids any construction suggesting that the Employer is to certify the amount due to the Contractor because, as FIDIC consider that it would be unreasonable to empower either Party to define the entitlement.[117] The final paragraph of Sub-Clause 14.6 gives the Employer a right to make a correction or modification that should properly be made to any amount previously considered due, which is discussed at paragraphs 4.269–4.271 below. As in the other Books, the final sentence contains an express denial that payment indicates any Employer's acceptance, approval, consent or satisfaction in relation to the work that has been carried out.

Making and timing of payments

Payment: Red, Yellow and Gold Books

4.177 Sub-Clause 14.7(a)[118] makes provision for payment of the advance payment, which is discussed at paras. 4.132–4.140 above.

4.178 Under sub-paragraph (b) in these Books (excluding MDB), the Employer is obliged to pay the amount certified in each Interim Payment Certificate within 56 days after the contract administrator receives the Statement and supporting documents. The Sub-Clause explicitly requires that the Employer pay to the Contractor "the amount certified". Appropriately, time runs from the date of receipt of the duly prepared Statement, and any subsequent delay by the contract administrator in issuing the Interim Payment Certificate is an Employer risk. Consequently, the Employer will have less time to pay if the issue of the Interim Payment Certificate is delayed.

4.179 By sub-paragraph (c), the Employer is to pay the amount certified in the Final Payment Certificate within 56 days after the Employer receives the Final Payment Certificate. This longer period is understandable, in the context of closing out the Contract.

4.180 The final paragraph of the Sub-Clause requires the Employer to make payment of the amount due in each currency into the bank account the Contractor nominates, in the payment country for each currency specified in the Contract. As drafted, the Contractor is entitled to nominate a separate account in a separate country for each currency contemplated by the Contract. Finally, bank risk (e.g., currency transfer delay or system failure) and the cost of making the payments is borne by the Employer. This mirrors the risk

115. Sub-Clause 14.6.
116. *FIDIC Guide*, p. 245.
117. *Ibid.*
118. Sub-Clause 14.8 (G).

allocation in Sub-Clause 14.8,[119] by which financing charges are payable if the Contractor "does not receive" payment in accordance with the payment Sub-Clause.

Payment: MDB

4.181 The MDB Sub-Clause 14.7 adds an exception to the timing for the Employer's payment obligations, changing the 56-day period in paragraph (b) (see above) in these terms:

" . . . or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor;"

4.182 Under sub-paragraph (b), when the loan or credit is suspended, the Employer is required to pay the amount shown in the Contractor's Statement submitted as part of an application for an Interim Payment Certificate within 14 days after the Statement is submitted. If the Employer fails to pay the amount due within this accelerated 14-day period, the Contractor is entitled to "(i) suspend work or reduce the rate of work or (ii) terminate his employment under the Contract" under Sub-Clause 16.2(h), after giving 14 days' notice.[120]

4.183 Sub-paragraph (c) similarly contains an exception regarding suspension of the loan or credit:

" . . . or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [*Termination by Contractor*]".

4.184 The authors find this provision curious. First, it is presumed that the reference to suspension under Sub-Clause 16.2 is to paragraph (h) (rather than the second paragraph of Sub-Clause 16.1), but if so, the paragraph gives the Contractor an entitlement to suspend upon notice only in respect of Interim Payment Certificates, and only after payment becomes past due, which it does not in the circumstances contemplated in Sub-Clause 14.7(c). Additionally, Sub-Clause 14.7(c) is in the context of the Final Statement, at which point the Contractor should have long left the Site, and would therefore have little to gain by suspending or terminating. As such, the authors query whether this can be construed meaningfully.

Timing of payments: Silver Book

4.185 Sub-Clause 14.7 differs from the other FIDIC form payment Clauses in that there is no Interim Payment Certificate. Instead the Employer is explicitly obliged to pay to the Contractor "the amount which is due" in respect of each Statement. The obligation to pay "the amount which is due" is, FIDIC suggests, deliberately drafted to be objective.[121] This amount is expressly stated to be subject to Sub-Clause 2.5, but not subject to amendment

119. Sub-Clause 14.9 (G).
120. See also Chapter 8, paras. 8.304 *et seq.*
121. *FIDIC Guide*, p. 247.

by the Employer's notice in response to the Statement under Sub-Clause 14.6. This approach places any risk of the Employer under-assessing squarely with the Employer. Consequently, if a different amount is subsequently found to be due (for example, under the provisions in Clause 20), the Contractor will have a remedy for delayed payment, and possibly termination.[122]

4.186 The timing for payments other than in respect of the Final Statement is 42 days from receipt of the Statement and supporting documents, as it is in the other Books. The final amount under the Silver Book is reduced to 42 days after the receipt of the Final Statement, although it is also linked to the Contractor providing the written discharge under Sub-Clause 14.11.

4.187 The provisions regarding currency payments are identical to those for the other Books, discussed above. In respect of payment of advance payments, see paragraphs 4.132 *et seq.* above.

Statement at Completion

Red, MDB, Yellow and Silver Books

4.188 Sub-Clause 14.10 is largely similar across all Books, with the exception of the Gold Book. The Sub-Clause sets out procedure by which the Contractor submits a Statement at completion to the contract administrator with the relevant supporting documents.

4.189 Under Sub-Clause 14.10, the Contractor must, within 84 days of receiving the Taking-Over Certificate for the Works, submit to the contract administrator six copies of a Statement at completion with supporting documents. The Statement is expressly required to be in accordance with Sub-Clause 14.3 [*Application for Interim Payment Certificates*], which means that it must have the supporting documents which shall include the detailed progress report complying with Sub-Clause 4.21, unless all required reports have already been submitted (per first paragraph of Sub-Clause 4.21) and must include the items specified in items (a) to (g)[123] in Sub-Clause 14.3, as may be applicable.

4.190 Sub-Clause 14.7 lists three additional categories of information required, including (a) the value of work done up to the date in the Taking Over Certificate,[124] (b) any further sums the Contractor considers to be due,[125] and (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts are to be shown separately in this Statement at completion.

4.191 The last paragraph of the Sub-Clause (except S) obliges the Engineer to issue an Interim Payment Certificate under Sub-Clause 14.6 to the Employer, in the same manner as for the previous interim payments. In the Silver Book, similarly, the Employer is to give notice to the Contractor in accordance with Sub-Clause 14.6 [*Interim Payments*] and make payment in accordance with the payment obligations in Sub-Clause 14.7.

4.192 By Sub-Clause 14.14(b), "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"

122. This also raises interesting questions about an Employer's ability to cure what later turns out to be a payment breach if the Employer under-certifies, and the Contractor's related ability to terminate for such incurable breach.

123. (a) to (f) (S).

124. This generally corresponds to Sub-Clause 14.3(a).

125. This generally corresponds to Sub-Clause 14.3(f).

(except for matters or things arising after the issue of the Taking-Over Certificate for the Works) except to the extent that the Contractor has included an amount expressly for it in the Statement at completion. The Contractor will therefore wish to prepare the Statement at completion keeping this in mind, and make certain that he includes all relevant matters in its Statement at completion (insofar as they have arisen prior to issue of the Taking-Over Certificate), as under Sub-Clause 14.14(b), he will not be able to raise matters which are not so included at a later date.

Application, Final Payment Certificate, Discharge and Final Payment

Red, MDB, Yellow and Silver Books

4.193 Under Sub-Clause 4.11 of the Red, MDB, Yellow and Silver Books, the Contractor is to makes his payment application for the final payment by way of the Final Statement. The Contractor's right to make an application is subject to the condition that the Performance Certificate has been received. Thereafter, he must within 56 days of receiving the Performance Certificate submit six copies of a draft final statement to the contract administrator with supporting documents showing in detail, in a form approved by the contract administrator: (a) the value of the work done under the Contract, and (b) any further sums which the Contractor considers due, whether under the Contract or otherwise. The Contractor's obligation is only to commence the process by submitting the draft, not to complete it. As a matter of practicality, nothing prevents the Contractor from submitting the draft as soon as the Performance Certificate is issued.

4.194 The second paragraph sets out a regime for processing and agreeing the draft final statement, and entitles the contract administrator to require the Contractor to submit such further information as the contract administrator may reasonably require, and to make such changes as they may agree. The MDB amends this process slightly, obliging the Contractor only to submit such further information as the Engineer may reasonably require "within 28 days from receipt of said draft". The agreed draft prepared and submitted by the Contractor becomes the "Final Statement".

4.195 The final paragraph of Sub-Clause 14.11 provides that if, following discussions on any changes to the draft final statement, it becomes evident that a dispute exists, under the Red, MDB and Yellow Books the Engineer is to deliver an Interim Payment Certificate to the Employer with the agreed parts of the draft final statement. Under the Silver Book, where there is no Engineer, the Employer is to pay the agreed parts of the draft final statement under Sub-Clauses 14.6 and 14.7. If the dispute is resolved by the DAB under Sub-Clause 20.4 or by amicable settlement under Sub-Clause 20.5, the final sentence of Sub-Clause 14.11 provides that the Contractor is to prepare a "Final Statement". However, this does not apply if the dispute goes beyond those Sub-Clauses. In such case, FIDIC suggest that:

> "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)".[126]

126. *FIDIC Guide*, p. 253.

4.196 Sub-Clause 14.14(a) provides that the Employer "shall not be liable to the Contractor for any matter or thing . . . except to the extent that the Contractor has included an amount expressly for it in the Final Statement". Where there is no Final Statement, Sub-Clause 14.14(a) will not apply.

4.197 By Sub-Clause 14.12, when submitting the Final Statement, the Contractor is to submit a written discharge confirming that the total of the Final Settlement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract, along with the Final Statement. Where no Final Statement is issued (i.e., in the circumstances described above), the Contractor will be under no obligation to issue the discharge under Sub-Clause 14.12.

4.198 Sub-Clause 14.12 provides that the discharge may be conditional and state that it becomes effective only after: (i) the Contractor has received the Performance Security, and (ii) the outstanding balance of the (agreed) Final Statement. The *FIDIC Guide* contains following sample form of discharge:

"We . . . hereby confirm, in 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."[127]

Issue of Final Payment Certificate: Red, MDB and Yellow Books

4.199 Sub-Clause 14.13 obliges the Engineer to issue the Final Payment Certificate within 28 days after receipt of the Final Statement (under Sub-Clause 14.11) and Contractor's discharge (under Sub-Clause 14.12). The Final Payment Certificate is to state (a) the amount which is finally due; and (b) the balance (if any) due from the Employer to the Contractor or vice versa, after giving credit to the Employer for all amounts previously paid and all sums to which the Employer is entitled. In deciding "the amount which is finally due", it should be noted that the Engineer is not expressly tied to the Final Statement although, in practice, this is likely to be of little practical consequence, given the agreement of the Final Statement. Under the MDB only, the Final Payment Certificate is required to state the amount which the Engineer "*fairly determines* is finally due" (emphasis added).

4.200 If the Contractor does not apply for Final Payment Certificate under Sub-Clause 14.11 (presumably, though not expressly, by the 56-day deadline), the Engineer is first to request the Contractor to do so, and if the Contractor does not do so within 28 days, issue it in amount he fairly determines to be due.

4.201 By Sub-Clause 14.7(c), the Employer is required to pay the Contractor the amount certified in the Final Payment Certificate within 56 days after he receives it.

Issue of final payment: Silver Book

4.202 By Sub-Clause 14.7(c), the Employer is to pay the Contractor the final amount due within 42 days after he receives the Final Statement and the written discharge under Sub-

127. *Ibid.*

Clause 14.12. This obligation is expressly stated to be except as otherwise stated in Sub-Clause 2.5 [*Employer's Claims*].

Final Statements and Payment Certificates: Gold Book

4.203 By its nature as a design-build operate form, the Gold Book provisions in relation to final statements and final payments differ from the remaining FIDIC forms. The Gold Book applies the following conceptual regime:

- **Design-Build**: after the issuance of the Commissioning Certificate and the expiry of the Retention Period:
  - the Contractor submits a Final Statement Design-Build; and
  - the Employer's Representative issues a Final Payment Certificate Design-Build;
- **Operation Service**: after the issuance of the Contract Completion Certificate:
  - the Contractor submits a Final Statement Design-Build; and
  - the Employer's Representative issues a Final Payment Certificate Design-Build.

Final Statement Design-Build: Gold Book

4.204 Within 28 days after the end of the Retention Period, the Contractor is required by Sub-Clause 14.11 to submit to the Employer's Representative an original and five copies of the Final Statement Design-Build with supporting documents. The statement and supporting documents (which are not specified) are to show: (a) the value of all work done in respect of the Design-Build, and (b) any further sums the Contractor considers to be due to him under the Contract in respect of the Design-Build. The Contractor is also to submit a written undertaking "that the Statement is in full and final settlement of all matters under or in connection with the Contract relating to Design-Build".

4.205 The regime in the second paragraph of Sub-Clause 14.11 resembles the corresponding Sub-Clause 14.11 of the Red, Yellow and Silver Books, discussed at paragraphs 4.193 *et seq.* above. The Gold Book introduces some minor drafting changes, providing that the Employer's Representative and the Contractor "are to attempt to agree such matters, and the Contractor shall re-submit his Final Statement based on the agreement with the Employer's Representative", and deleting the obligation on the Contractor to submit further information reasonably required. As in the other Books, there is no time specified for completing the process.

4.206 As with other Books, disputes on the contents of the Final Payment Certificate Design-Build are Books to be referred to the Dispute Adjudication Board. The Employer's Representative is to issue "a Final Payment Certificate Design-Build" under Sub-Clause 14.12 for the agreed amount. The Gold Book also introduces a default provision where "the Parties cannot agree on such matters", or where the Contractor fails to submit the application within 28 days, the Employer's Representative is to issue an Interim Payment Certificate under Sub-Clause 14.7 for the amount he considers to be due. Presumably, the reference to the Parties being unable to agree must mean "cannot agree at all" because under the preceding sentence, the Employer's Representative is to issue a Final Payment Certificate Design Build "for the agreed amount".

4.207 If the Contractor is dissatisfied with the amount certified, he may refer the matter to the DAB for a decision in accordance with Sub-Clause 20.6. It is submitted that "dissatisfied with the amount certified" clearly excludes "the agreed amount". As such, the intent would seem to be that once the Contractor has agreed, his right to subsequently change his mind has expired. Unlike the other Books, the Employer's Representative is not obliged to issue any further statement in connection with the Design-Build once disputes are resolved.

Final Payment Certificate Design-Build

4.208 Sub-Clause 14.12 requires the Employer's Representative to issue the Final Payment Certificate Design-Build within 28 days of receiving the Final Statement Design-Build (or the resubmitted Final Statement, if applicable) and the undertaking from the Contractor. If no written undertaking is submitted, the obligation in Sub-Clause 14.12 will not arise.

4.209 The Final Payment Certificate Design-Build is to state (a) the amount which is finally due for the Design-Build (i.e., including (a) and (b) under Sub-Clause 14.11); and (b) the balance (if any) due from the Employer to the Contractor or vice versa, after giving credit to the Employer for all amounts previously paid and all sums to which the Employer is entitled in respect of the Design-Build.

4.210 The Employer is obliged pay the amount due in accordance with normal operation of Sub-Clause 14.8 upon receipt of the Final Payment Certificate Design-Build.

4.211 There is one clear disconnect between Sub-Clauses 14.11 and 14.12, which arises in circumstances where the Parties cannot agree: the Employer's Representative is to issue an Interim Payment Certificate under Sub-Clause 14.11. Having just done so, Sub-Clause 14.12 then provides that he is to issue a Final Payment Certificate, within 28 days of receiving the Final Statement Design-Build. Clearly this cannot be the intent, and in such circumstances it is submitted that the issue of the Interim Payment Certificate as contemplated under Sub-Clause 14.11 should satisfy the obligation.

4.212 As with the other Books, by the first paragraph of Sub-Clause 14.16, "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 in the Final Statement Design-Build . . . ". In this respect, the comments above regarding the Final Statement in respect of the other Books apply equally to the Contractor's Final Statement Design-Build.

Application for Final Payment Certificate Operation Service: Gold Book

4.213 The process for the application of the Final Payment Certificate Operation Service detailed in Sub-Clause 14.13 mirrors the first two paragraphs of Sub-Clause 14.11 [*Application for Final Payment Certificate Design-Build*]. The Contractor must submit the written undertaking and Final Statement Operation Service with supporting documents within 56 days of receiving the Contract Completion Certificate. The submission is to show: (a) the value of all work done in respect of the Operation Service including authorised expenditure from the Asset Replacement Fund, and (b) any further sums which the Contractor considers to be due to him under the Contract, including any unused monies from the Maintenance Retention Fund. The drafting of this provision differs from the Statement at

completion in the other Books, and omits any reference to a separate category of amounts the Contractor estimates will become due to him. As such, Contractors will presumably include any estimated amounts as part of (b).

4.214 The Contractor is also to submit a written discharge in accordance with Sub-Clause 14.14 stating, when submitting the Final Statement Operation Service that the total Final Statement Design-Build and Final Statement Operation Service represents full and final settlement of all monies due to the Contractor under or in connection with the Contract. The comments in paras. 4.193–4.198 above, on the discharge under the other Books, apply equally to Sub-Clause 14.14, and the sample form in the *FIDIC Guide* remains appropriate for the Gold Book as for the other Books.

Final Payment Certificate Operation Service: Gold Book

4.215 Under Sub-Clause 14.15, the Employer's Representative is obliged to issue the Final Payment Certificate Operation Service within 28 days of receiving (i) the Final Statement Operation Service under Sub-Clause 14.13 and (ii) the written discharge under Sub-Clause 14.14. The contents of the Final Payment Certificate Operation Service are to include:

(a) the amount which is finally due for the Operation Service (i.e., including (a) and (b) under Sub-Clause 14.13);
(b) the amount which is finally due for the Contract; and
(c) the balance (if any) due from the Employer to the Contractor or vice versa, after giving credit to the Employer for all amounts previously paid and all sums to which the Employer is entitled in respect of the Design-Build.

4.216 On the drafting, the Final Payment Certificate Operation Service requires the Employer's Representative to tally up the sum total of some 20-plus years' effort. This is a somewhat odd provision, although under Sub-Clause 14.3 the Contractor will have been obliged to keep a running total from commencement of the Works.

4.217 Under the second paragraph of Sub-Clause 14.15, if the Employer's Representative disagrees with or cannot verify any part of the Final Statement Operation Service, he and the Contractor are to attempt to agree, and the Employer's Representative is to issue a Final Payment Certificate Operation Service for the agreed amount. As with the other Books, the Sub-Clause does not stipulate a time for completing the process.

4.218 The Employer's Representative is to issue "a Final Payment Certificate Operation Service" under Sub-Clause 14.15 for the agreed amount. Where the Parties "cannot agree on such matters"[128] the Employer's Representative is to issue a Final Payment Certificate Operation Service for the amount he considers to be due. Any dispute on the amount certified in the Final Payment Certificate Operation Service is referred to the DAB for decision. Sub-Clause 20.11 makes provision for resolution of the dispute should there be no DAB in place at the end of Operation Service for any reason, and provides that disputes are referred directly to arbitration.

4.219 Finally, upon receipt of the Final Payment Certificate Operation Service, the Employer is obliged to pay the Contractor in accordance with normal operation of Sub-Clause 14.8.

128. See also the comments on Sub-Clause 14.11 at paras. 4.205–4.207 above, which apply here.

Cessation of Employer's liability

4.220 Sub-Clause 14.14[129] deals with the cessation of the Employer's liability to the Contractor. In respect of the first paragraph of this Sub-Clause, see discussion at paragraphs 4.193–4.202, and 4.208–4.219 above.

4.221 The second paragraph expressly provides that the first paragraph does 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. This Sub-Clause limits the Contractor's entitlement to make claims against the Employer (but not the Employer's rights as against the Contractor). The Sub-Clause should also be read with the related Sub-Clauses 11.9 [*Performance Certificate*] and 11.10 [*Unfulfilled Obligations*].[130]

4.222 The Gold Book goes further, adding a new paragraph that stipulates that, if the Contractor has not submitted any matter to the DAB under Sub-Clause 20.6 within 56 days of receiving notification of the payment amounts in either Final Certificate (Design-Build or Operation Service), then:

(i) he will be deemed to have accepted the amounts so certified, and
(ii) the Employer shall be deemed to have no further liability to the Contractor,

subject only to due payment being made under the Final Payment Certificate Operation Service and the Performance Security being returned.

4.223 In order for the Contractor to maintain his right to a claim, he must include an amount expressly for any matter or thing for which the Contractor wishes to be paid in the Statement at completion (if it has arisen by then) and in the Final Statement, or Final Statements in the Gold Book

4.224 The purpose of the Sub-Clause is sensible, as it grants the Employer a measure of certainty as to his final liability to the Contractor.

Asset Replacement Schedule and Asset Replacement Fund: Gold Book

Asset Replacement scheme generally

4.225 The Asset Replacement Fund is unique to the Gold Book. Sub-Clause 14.18 states that the Asset Replacement Fund is to contain money to be made available to the Contractor on a scheduled basis "to provide the necessary funding for the replacement of items of Plant identified in the Asset Replacement Schedule as required for the continued efficient operation of the Works for the duration of the Operation Service Period".[131]

4.226 A full understanding of the operation of the Asset Replacement Fund for each Contract can only be gained from the Employer's Requirements and any Schedules detailing the particular purposes for which the Asset Replacement Fund is to be used. However, by operation of Sub-Clauses 14.5 and 14.18, certain features of the Asset Replacement Fund are clear:

- The Asset Replacement Fund is used to pay for pre-planned, 'capital cost' type expenditure for major Plant items.

129. Sub-Clause 14.16 (G).
130. Sub-Clauses 8.6 and 8.8 (G).
131. Sub-Clause 14.18.

- The replacement of the Plant items is to be determined in the Asset Replacement Schedule, which is prepared by the Contractor at the time of entering into the Contract, and is to identify the assets to be replaced and their timing.[132]
- The Asset Replacement Schedule must identify items of Plant "required for the continued efficient operation of the Works for the duration of the Operation Service Period".

Asset Replacement Schedule

4.227 Sub-Clause 14.5 purports to deal with the Asset Replacement Schedule, although the details of the schedule itself are absent. Although the Asset Replacement Schedule is to be prepared by the Contractor before the Contract is entered into, Sub-Clause 14.5 does not provide for the Parties to amend the Asset Replacement Schedule during the Operation Service Period. Any such change would therefore have to be effected by an amendment to the Contract by the Parties.

4.228 The second paragraph of Sub-Clause 14.5 makes a key and explicit point: payment will not be made on any account for assets that are replaced but not identified in the Asset Replacement Schedule, unless they are instructed as a Variation under Clause 13. The reference to a Variation presumably contemplates merely that the Employer has a right to purchase a new item of Plant during the Operation Service, if he sees the need to do so.

4.229 If "Assets"[133] are replaced ahead of the scheduled date in the Asset Replacement Schedule, the Contractor will not be reimbursed until the scheduled date. Conversely, if the Contractor waits until after the scheduled date to replace an asset, payment will not be released until after the replacement has been effected.[134]

4.230 The final paragraph of Sub-Clause 14.5 provides that any money that remains in the Asset Replacement Fund at the time of issue of the Contract Completion Certificate will be dealt as described in Sub-Clause 14.18 [*Asset Replacement Fund*].

Asset Replacement Fund

4.231 Sub-Clause 14.18 is the heart of the asset replacement regime, setting out the Contractor's entitlements to claim from the Asset Replacement Fund and any relevant restrictions to his entitlement.

4.232 Although Sub-Clause 14.18 does not explicitly say so, it is discernable from the Contract that the Asset Replacement Fund itself is established, funded and managed by the Employer. However, there is no obligation in the Contract on the Employer to actually establish a separate Asset Replacement Fund, which would assist the Contractor in guarding against Employer credit risk. Sub-Clause 2.4 [*Employer's Financial Arrangements*] does, however, provide that "The Employer's arrangements for financing the design, execution and operation of the Works, including the provision of the Asset Replacement Fund, shall be detailed in the Financial Memorandum" which is to be given to the

132. Sub-Clause 1.1.3, Sub-Clause 14.18.
133. Sub-Clause 14.5 capitalises "Asset" but the Gold Book does not define it.
134. These provisions are essentially duplicated in Sub-Clause 14.18, in paras. 8 and 2.

Contractor at the time of tender as part of the Employer's Requirements (*per* Sub-Clause 1.1.4.3).

4.233 Further, the Sub-Clause contemplates that "The Employer shall authorise release of funds from the Asset Replacement Fund" for amounts certified in each applicable Interim Payment Certificate, and that "Funds will only be disbursed from the Asset Replacement Fund to the values and in accordance with the time scales for replacement identified in the Asset Replacement Schedule". The combination of these provisions implies that FIDIC contemplates the Asset Replacement Fund being separate and distinct from the Employer's general revenue.

4.234 The second paragraph details the normal mechanics of operating the Asset Replacement Fund regime. In each Statement applying for payment and submitted by Contractor under Sub-Clause 14.3, the Contractor is to include any monies due and claimable from the Asset Replacement Fund. To be entitled to claim from the Asset Replacement Fund, both the "date or other operational milestone identified in the Asset Replacement Schedule" must have passed, and the replacement must have been effected on or before the scheduled date. The Contractor's entitlement to claim is limited to the amount set out in the Asset Replacement Fund, and the "Under no circumstances will the amount payable . . . be increased from the amount due according to the Asset Replacement Schedule, irrespective of the value or amount of replacements which have been made". This provision makes it clear that the Contractor is to bear the risk that the amount specified in the Asset Replacement Schedule will be sufficient to fund the cost of effecting the asset replacement.

4.235 By Sub-Clause 14.1, the Contract Price includes the Asset Replacement Fund, priced at the Base Date. This means that the amounts to be made available in the Asset Replacement Fund are to be indexed under Sub-Clause 13.8. The Sub-Clause also stipulates that if the Contract Price is subject to adjustments for changes in cost under Sub-Clause 13.8 [*Adjustments for Changes in Cost*], the amounts due from the Asset Replacement Fund are to be adjusted on the same basis. Notably, however, if there are no such Schedules of cost indexation included in the Contract, Sub-Clause 13.8 is not to apply, although this would seem unlikely in the design-build operate context.

4.236 The third paragraph provides that if there is any money remaining in the Asset Replacement Fund upon completion of the Contract "due to planned replacements, which by mutual agreement of the Parties, are not required or used", the money will be shared equally between the Parties. The Contractor is to submit a claim for such amount with his Application for Final Payment Certificate Operation Service. This is in theory of benefit to the Employer, by saving him from paying for asset replacement that does not ultimately need to be carried out, and motivates the Contractor to be alert to such opportunities, as his entitlement to 50% of the unspent moneys is likely to exceed any profit he would make if he had actually carried out the work. The authors query however, how effective this will be in practice, as the Employer can have either: (i) a new asset for 100% of the scheduled cost (as well as ownership of the asset replaced), or (ii) nothing, for 50% of the scheduled cost.

4.237 The second half of Sub-Clause 14.18 sets out the procedure by which assets are replaced. The fourth and fifth paragraph expressly clarifies that the Asset Replacement Fund is not to cover the cost of:

(a) routine maintenance and defect correction;

(b) replacement of Plant and Material with less than five years life expectancy;
(c) spares provided between scheduled dates for major plant replacement; or
(d) the replacement of Plant and Materials other than those identified in the Asset Replacement Schedule.

4.238 In each of (a) to (d) above, the Contractor is to bear the cost, as it is deemed included in the Contract Price. Additionally, items requiring replacement arising from unexpected breakdown or damage to the Employer's assets caused by third parties are, by the combined operation of the second paragraph of Sub-Clause 14.5, Sub-Clause 14.18(d) (above) and 17.4(b) [*The Contractor's Risks during the Operation Service Period*], borne by the Contractor, unless they are specified Employer's Risks listed under Sub-Clause 17.3 [*The Employer's Risks during the Operation Service Period*].[135]

4.239 The Contractor is to notify the Employer's Representative at least 28 days prior to the intended replacement of any Asset Replacement Schedule item. Ostensibly, this would include those that are replaced earlier than scheduled (e.g., because of breakdown), although in the circumstances the ability to give such notice would seem unlikely.

4.240 Paragraph seven provides a "sword and shield" approach to cost certainty in the asset replacement. Funds are only to be disbursed from the Asset Replacement Fund "to the values and in accordance with the time scales for replacement identified in the Asset Replacement Schedule". While the Contractor clearly bears the risk that the amount in the Asset Replacement Schedule is insufficient to fund the asset replacement, as noted above, he is also clearly entitled to the full amount stated in the Asset Replacement Schedule even if the actual replacement cost is less than scheduled.

4.241 The final paragraph of Sub-Clause 14.18 provides that where the Contract is terminated for any reason (including under both Clause 15 for Contractor breach and Clause 16 for Employer breach), any amount remaining in the Asset Replacement Fund, including any accrued interest is the Employer's.

Maintenance Retention Fund: Gold Book

4.242 The Maintenance Retention Fund in Sub-Clause 14.19 is, fundamentally, a retention fund security for the Employer during Operation Service, to ensure the proper performance by the Contractor of his maintenance obligations.

4.243 The Maintenance Retention Fund is funded by deductions of 5% from each interim payment under Sub-Clause 14.7, starting with the first interim payment after the Commissioning Certificate. Deductions are to continue until the last Interim Payment Certificate is issued, or until the Maintenance Retention Fund reaches the value (if any) stated in the Contract Data, whichever is earlier. The Contract does not make any stipulation regarding the Maintenance Retention Fund, such as requiring the Employer to deposit the money into a separate account, or trust account, or otherwise remove it from the Employer's general revenue.

4.244 The Sub-Clause entitles the Contractor, at his election, to substitute a Maintenance Retention Guarantee (in a form and with an entity approved by the Employer).[136] The Sub-Clause does not specify the amount of the Maintenance Retention Guarantee, and

135. Such risks may be insured under the insurances required by Clause 19.
136. Which, by Sub-Clause 1.3, must not be unreasonably withheld or delayed.

stipulates only that it "must not exceed" the maximum amount of the Maintenance Retention Fund, although equally, it would seem unlikely that an Employer would accept less than the maximum. Any such guarantee is to remain valid and in force until the issue of the Contract Completion Certificate. The early substitution of a Maintenance Retention Guarantee would benefit the Contractor by improving his cash flow, and would benefit the Employer by giving him access to a maximum amount of the Maintenance Retention Fund earlier than he would have under the retention scheme.

4.245 The second paragraph entitles the Employer, if any maintenance required under the Contract is not carried out by the Contractor, to carry out such maintenance himself after giving "due Notice" to the Contractor and recover "any amounts standing" from the Maintenance Retention Fund. If those amounts are insufficient, the Employer may set off the unrecovered costs against any payment due to the Contractor under the Contract, and to the extent that no such payment is due, recover the remainder as a debt due from the Contractor. The Contract does not specify what "due Notice" will be, and the time granted to the Contractor will no doubt depend on fact and circumstance.

4.246 It is noteworthy that the Gold Book contemplates the Maintenance Retention Fund/Guarantee not as being general security for the performance of the Contractor's obligations during Operation Service, but only in respect of his maintenance obligations. Sub-Clause 14.19 permits the Employer's access to the Maintenance Retention Fund only if the Contractor fails to carry out maintenance required under the Contract, although this may not of itself, in many common law jurisdictions, prevent an Employer from successfully making a call upon a Maintenance Retention Guarantee. This approach is also carried through in the sample form of Maintenance Retention Guarantee in the Gold Book, wherein the form proposes that the Employer certify that the Contractor "has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract".[137]

4.247 After the issue of the Contract Completion Certificate, any unclaimed portion of the Maintenance Retention Fund is to be included in the Final Payment Certificate Operation Service and paid to the Contractor with the final payment.

PAYMENT ISSUES

Employer's financial arrangements

Red, MDB, Yellow and Silver Books

4.248 Sub-Clause 2.4 seeks to provide the Contractor reassurance of the Employer's ability to comply with its payment obligations. The Sub-Clause requires the Employer to submit, within 28 days of receiving a request from the Contractor, reasonable evidence that financial arrangements are in place to pay the Contract Price punctually. Under all these Books but the MDB, until there is such a request (which by Sub-Clause 1.3 must be in writing), the Employer has no obligation. The MDB contains a provision obliging the Employer also to do so before the Commencement Date, without requiring a request from the Contractor,

137. Mistakenly, the Maintenance Retention Guarantee form also states that it becomes effective "upon receipt of the advance payment", which only occurs at the commencement of Design-Build.

and makes it a condition precedent to commencement of the Works under Sub-Clause 8.1.

4.249 The second sentence obliges the Employer to notify the Contractor "if the Employer intends to make" (MDB: "before the Employer makes") material changes to its financial arrangements, giving detailed particulars. On the drafting, the second sentence contains a mandatory obligation discrete from the first sentence, which is not triggered by a Contractor request, although the *FIDIC Guide* states that "The Employer has no obligation under Sub-Clause 2.4 unless and until he receives the Contractor's request".[138]

4.250 The MDB adds a new paragraph to Sub-Clause 2.4, requiring the Employer to give notice to the Contractor, with detailed particulars, within seven days after the Bank has notified the Borrower, that it has suspended disbursements under the loan financing (in whole or in part) the execution of the Works. Additionally, "If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in such notice of the extent to which such funds will be available".

4.251 The Employer's failure to comply with Sub-Clause 2.4 leads to a Contractor right to suspension and, ultimately, termination. Under Sub-Clause 16.1, if the Employer fails to comply with Sub-Clause 2.4, the Contractor may suspend work (or reduce the rate of work), upon 21 days' notice[139] until he has received the "reasonable evidence". The Books do not specify what would constitute reasonable evidence, although the arrangements must "enable the Employer to pay the Contract Price [punctually (M)] (as estimated at that time) in accordance with Clause 14 [*Contract Price and Payment*]." Sub-Clause 16.2(a) entitles the Contractor to terminate upon 14 days' notice if the Contractor does not receive the reasonable evidence within 42 days after giving notice of suspension under Sub-Clause 16.1.[140]

4.252 The MDB further supplements the suspension and termination regime in contemplation of where the Bank has suspended disbursements, and no alternative funds are available as provided for in Sub-Clause 2.4. In such case:

(i) by Sub-Clause 16.1 the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than seven days after the Borrower having received the suspension notification from the Bank, and
(ii) under Sub-Clause 16.2(h), if the Contractor has not received the sums due to upon expiration of the 14 day payment period under Sub-Clause 14.7, he may either: (i) suspend work or reduce the rate of work, or (ii) terminate upon 14 days' notice to the Employer.

Gold Book

4.253 Sub-Clause 2.4 of the Gold Book is largely similar to the Yellow Book, but contains a few material amendments. As such, relevant comments made above apply equally to the Gold Book.

138. *FIDIC Guide*, p. 78.
139. As the right to issue the notice arises only *if* the Employer fails, the right to suspend would only accrue at day 49.
140. See also Chapter 8, paras. 8.304 *et seq.*

4.254 Most significantly, it requires "The Employer's arrangements for financing the design, execution and operation of the Works, including the provision of the Asset Replacement Fund" to be detailed in the Financial Memorandum, which forms part of the Employer's Requirements (*per* Sub-Clause 1.1.4.3), and which is therefore given to the Contractor at the time of tender.

4.255 The remainder of the Sub-Clause, and the suspension and termination remedies, are the same as under the Yellow Book aside from rearrangement of the drafting, and two minor changes. First, the Gold Book simply refers to the Employer being able to "pay the Contract Price", and deletes "(as estimated at that time) in accordance with Clause 14 [*Contract Price and Payment*]". Secondly, the Gold Book clarifies that the Employer is obliged to give Notice to the Contractor, not only if he intends to make material changes to his financial arrangements, but also if he "has to do so because of changes in his financial or economic situation".

Delayed payment

4.256 Under Sub-Clause 14.8 (14.9 (G)) if the Contractor does not receive payment in accordance with Sub-Clause 14.7 (14.8 (G)) he is entitled to receive financing charges, i.e., interest on the unpaid amount. See Chapter 8, paragraphs 8.225 *et seq*.

Payments by Contractor to Employer

4.257 The various FIDIC forms contain a limited number of Clauses where the Contractor is to make payment to the Employer in the ordinary course of properly carrying out the Works.

Payments for electricity, water and gas

4.258 All the Books other than the Gold Book contain near identical provisions in Sub-Clause 4.19 by which the Contractor is to pay for certain utilities, details and prices for which are to be fixed in the Contract. These Books do not contemplate a scenario wherein no price has been established in the Contract for the provision of such utilities. The Contractor's entitlement to use such utilities (which is qualified that they must be used for the Works)[141] is predicated both on the utilities being available on Site and details and prices for them being fixed in the Contract; accordingly, where the Contract does not contain such prices, the Contractor has no contractual entitlement to use such utilities even if they are available on Site.[142]

4.259 This provision is largely a provision of convenience, where such services are available either on Site. In many cases, in practice, there is not a lot to be gained by an Employer by requiring the Contractor to pay under this Sub-Clause, since ultimately the Contractor will include such costs in the Contract Price.

141. Under the Gold Book, the use of such utilities extends to the "provision of the Operation Service".

142. In relation to Testing under Sub-Clause 7.4, the Contractor is obliged to provide (among other things) all electricity, fuel, consumables and materials as are necessary to carry out the specified tests efficiently.

4.260 The quantities consumed and the amounts due at the Contract prices for such services are subject to the usual "agreed or determined" process, applying Sub-Clause 2.5 [*Employer's Claims*] and Sub-Clause 3.5 [*Determinations*].[143] Sub-Clause 2.5 stipulates that the usual notice from the Employer is not required for payments due under Sub-Clause 4.19 [*Electricity, Water and Gas*], under Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Material*], or for other services requested by the Contractor. The Sub-Clause is also, in practice, the mechanism linking the payment amount to a line item for Employer's claims in the Statement.

4.261 In the Gold Book, the Contractor does not purchase the utilities from the Employer. Instead, this Book contemplates that he takes over the supply in his own name and is to pay the electricity, water, gas and other services directly to the utility provider. This approach makes perfect sense during the Operation Services Period, as the Contractor will likely have ongoing costs. Whether this is administratively simpler and easier that the approach in the other Books during the Design-Build Period will depend on the circumstances and utilities available on Site.

Payments for Employer's Equipment

4.262 In all Books, Sub-Clause 4.20 contains provisions similar to the utilities provisions (in the Red, MDB, Yellow and Silver Books) in respect of the Contractor using any Employer's Equipment for which details, arrangements and prices are stated in the Contract.

4.263 As for utilities, payment for Employer's Equipment is subject to the usual "agreed or determined" process, applying Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*] and Sub-Clause 3.5 [*Determinations*].

4.264 See also Chapter 3, paragraphs 3.274–3.277 in relation to Employer's Equipment generally, and Chapter 3, paragraphs 3.278–3.279 in respect of free-issue materials.

Contractor to pay Employer's costs

4.265 The FIDIC forms contain various Clauses by which the Contractor is to pay any additional costs incurred by the Employer, often by way of direct reference to Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*]. The various Sub-Clauses provide that the Employer is, expressly or implicitly, entitled to recover from the Contractor costs incurred as a result of specific matters which can be broadly described as being the responsibility or attributable to the Contractor. The particular circumstances which give rise to the entitlement and the extent of costs recoverable are discussed elsewhere but summarised in Table 4.3. Although in most cases the Employer's right to payment of these costs is stated in the Sub-Clause which specifies the entitlement as being expressly to be subject to Sub-Clause 2.5 (20.2 (G)), it is suggested that this Sub-Clause will apply to all such claims.

143. The Red, MDB and Yellow Books stipulate that the Contractor must provide any apparatus necessary for his use of these services and for measuring the quantities consumed, at his risk and cost.

Table 4.3: Contractor to pay Employer's Costs

Sub-Clause	Description
5.2 (Y/S/G)	Employer costs of review/approval of Contractor's Document resubmitted upon failure to comply with the Contract.[144]
7.5	Employer costs arising from retesting after rejection.
7.6	Employer cost of engaging others to carry out remedial works after Contractor failure to do so.
8.6 (9.5 G)	Employer costs arising from expedited programme.
9.2 (11.2 (G))	Employer costs of carrying out Tests on Completion after undue delay by Contractor.
9.3/9.4(a) (11.3/11.4(a) (G))	Employer costs due to failure/retesting after a failure to pass the Tests on Completion (by reference to Sub-Clause 7.5).
11.4(a) (12.3 (G))	Employer engages others to remedy defects or damage after Contractor failure to do so.

Clearance of Site

4.266 Although not generally contemplated as being in the ordinary course of events, Sub-Clause 11.11 (of all the Books other than the Gold Book) contemplates potential payment to the Employer of certain costs if the Contractor fails to clear the Site after the Performance Certificate is issued. The Contractor is obliged to "remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site". If all these items have not been removed within 28 days after the Employer issues the Performance Certificate, the Employer is entitled to "sell or otherwise dispose of" any remaining items, and is entitled "to be paid the costs incurred in connection with or attributable to, such sale or disposal and restoring the Site".

4.267 While this may be a clear and practical solution, it may be problematic. First, the Sub-Clause contemplates that the Contractor (or potentially the Employer, in the case of surplus material, wreckage or rubbish) must own all the items being dealt with. In practice, this may well not be true in relation to Contractor's Equipment or Temporary Works which are often hired from a third party.

4.268 Additionally, the Employer is entitled to be paid "the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site". Here, "costs" is used in its normal meaning rather than the defined term "Cost". In respect of both the Contractor's payment to the Employer for his costs, and the payment of the balance of the moneys from the sale, these Books impose no express time-frame for the making of the payment.

144. This is expressly stated in the Gold Book to give rise to an Employer's claim under Sub-Clause 20.2.

Corrections to Payment Certificates or payments

4.269 The opening sentence in the last paragraph of Sub-Clause 14.6 (R/M/Y) (14.7 (G)) states that the contract administrator may, in any Payment Certificate, make any correction or modification that should properly be made to any previous Payment Certificate. The Silver Book similarly states that the Employer may, by any payment, make any correction or modification that should properly be made to any amount previously considered due.

4.270 This is a standard Clause in many forms of construction contracts, and is included for the sensible purpose of allowing a contract administrator to remedy a mistake in the subsequent payment certificate (or payment, as the Silver Book contemplates), but may be open to abuse. The Contractor, on the one hand, should equally be entitled to know where he stands, so that he can manage his cash flow. The contract administrator, on the other hand, should be entitled to correct a genuine error if, for example, if he forgets to deduct retention, or makes a mathematical error.

4.271 Additionally, the *FIDIC Guide* observes that although the title of the Sub-Clause mentions only Interim Payment Certificates, because headings are not taken into consideration in interpretation (*per* Sub-Clause 1.2), the provision expands to allow the correction or modification to be made as late as the Final Payment Certificate. The *Guide* further considers (correctly, the authors submit) that the provision does not extend to correction or modification of the Final Payment Certificate itself, as "such a misinterpretation would be inconsistent with Sub-Clauses 1.1.4.4, 14.11 and 14.13".[145]

Deduction of Retention Money

4.272 Retention is discussed in detail at Chapter 7, paragraphs 7.216–7.238. See also Chapter 7, paragraphs 7.155 *et seq.* in relation to security generally.

Currencies of payment and related issues

4.273 Sub-Clause 14.15 (14.17 (G)) states that the Contract Price shall be paid in the currency or Currencies stated in the Appendix to Tender (R/Y), Schedule of Payment Currencies (M), Contract Agreement (S), or Contract Data (G).[146] Unless the Particular Conditions state otherwise, where more than one currency is named in the relevant contract document,[147] payments are to be made in accordance with the regime set out in paragraphs (a) to (e). Fundamentally, the exchange rate for currencies is fixed (*per* sub-paragraphs (a)(i) and (e)), except where the Particular Conditions state otherwise.

4.274 Sub-paragraph (a) is stated as being applicable only if the Accepted Contract Amount (Contract Price (S)) was expressed in local currency only, but the Contract provides that payment is to be made (whether partly or wholly) in other currencies.[148] In such case:

145. *FIDIC Guide*, pp. 245–246.

146. The substance of the Sub-Clause is identical across the different Books apart from differences in the terminology.

147. For simplicity, references to these locations are made to the relevant contract document but should be read as the Appendix to Tender (R/Y), Schedule of Payment Currencies (M), Contract Agreement (S), or Contract Data (G).

148. In the authors' experience, this approach is quite common, particularly where the Contractor is comprised of two or more members from countries with different currencies, such as a local and offshore partner.

- under sub-paragraph (a)(i) the agreed proportions of local and foreign currencies and the fixed rates of exchange in the relevant contract document are to be used for calculating the payments. This means that the Contractor bears the risk of currency fluctuation between local and foreign currency after the Base Date.
- Sub-paragraph (a)(ii) requires that payments and deductions for provisional sums under Sub-Clause 13.5 and changes in the law of the Country under Sub-Clause 13.7 shall each be made in the applicable currencies and proportions—namely the applicable currencies and the agreed proportions stated in the relevant contract document.
- Sub-paragraph (a)(iii) requires that other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3,[149] must also be made in the same currencies and agreed proportions specified in stated in the relevant contract document.

4.275 These provisions are straightforward and, it is submitted, to be administered 'mechanically' in light of the fixed currency proportions and fixed exchange rates in the relevant contract document.

4.276 The remaining sub-paragraphs (b) through (e) apply both if the Accepted Contract Amount (Contract Price (S)) was expressed in local currency only, and if it was expressed in more than one currency.

4.277 Under sub-paragraph (b), payment of any damages specified in the relevant contract document are to be made in the currencies and proportions specified in the relevant contract document. In the Red, MDB and Yellow Books, the damages specified in the example forms in the relevant contract document included in the Books are only delay damages. In the Yellow Book, although it is not stated, it may have been intended that this would apply to non-performance damages, if they are stated in the Appendix to Tender. In the Silver Book, the damages specified will be limited to those set out in the Particular Conditions, although we would expect these to be delay and non-performance damages. In the Gold Book, the example form of Contract Data has taken a different approach, and sets out a space for insertion of the currency and proportion for all damages stated in the Contract Data, for example, delay damages under Sub-Clause 9.6 and performance damages under Sub-Clause 10.7. In each of these cases, the calculation is again determined 'mechanically'.

4.278 Sub-paragraph (c) confirms that "other payments" to the Employer by the Contractor are to be made in the currency in which the sum was expended by the Employer, unless otherwise agreed by the Parties.

4.279 In sub-paragraph (d) if an amount in a particular currency owed by the Contractor is more than the amount in that currency owed to the Contractor, the sub-paragraph allows the Employer to recover the difference in these sums from amounts otherwise payable to the Contractor in other currencies.

4.280 Sub-paragraph (e) provides a default mechanism if more than one currency is named but no rates of exchange are stated in the relevant contract document. In such case the exchange rates are those prevailing on the Base Date and determined by the central bank of the Country. In this event, the rates of exchange will be fixed for the duration of the Contract.

149. Namely: (a) the estimated contract value of the Works and Contractor's Documents produced, (b) adjustments for changes in legislation and cost, (c) deductions for retention, and (d) adjustments for the advance payment and repayments.

4.281 Under Sub-Clause 13.8 of the Red, MDB and Yellow Books, if it applies, the adjustments for changes in costs contain a mechanism that allows changes in currency to be addressed in the formula for adjustment: see para. 4.104 above.

4.282 See also the discussion in paras. 4.93–4.94 above, on Sub-Clause 13.4 [*Payment in Applicable Currencies*] and currency issues arising when an adjustment is agreed under Clause 13 [*Variations and Adjustments*].

4.283 Finally, it should be noted that MDB Sub-Clause 3.1(d) fetters the Engineer's discretion, requiring that the Engineer to "obtain the specific approval of the Employer before specifying the amount payable in each of the applicable currencies" under Sub-Clause 13.4. It is unclear how this provision is intended to affect the Engineer's duties under MDB, because the process in Sub-Clause 13.4 is prescriptive and mandatory, and gives the Engineer no discretion. Accordingly, it is submitted that the Employer's right of approval will be limited to checking that the Engineer has properly calculated the currency exchange in accordance with the Sub-Clause. Under Sub-Clause 1.3, the Employer's approval must not unreasonably be withheld or delayed.

Taxes

4.284 Unless otherwise provided in the Particular Conditions, the Contractor is responsible for payment of taxes by application of Sub-Clause 1.13(b) (1.14 (b) (G)) [*Compliance with Laws*]. The Contractor is also required to indemnify and hold the Employer harmless against and from the consequences of any failure to do so. Sub-Clause 14.1 [*Contract Price*], provides in effect that the Contract Price must include all allowances for taxes, and that the Contract Price will not be adjusted for any taxes, duties and fees required to be paid by him under the Contract, except for changes in legislation under Sub-Clause 13.7 (13.6 (G)).

4.285 MDB Sub-Clause 14.1 adds a sub-paragraph (e), which specifies that unless otherwise stated in the Particular Conditions, but notwithstanding the Contractor's obligations to pay all taxes as contemplated in sub-paragraph (b), Contractor's Equipment (and related essential spare parts) imported by the Contractor for the sole purpose of executing the Contract is to be exempt from the payment of import duties and taxes upon importation. If the Contractor is not exempt, the Parties will need to amend the Sub-Clause.

4.286 Sub-Clause 6.2 of the MDB also adds a new second paragraph, under which the Contractor is required to inform his personnel about their liability to pay personal income taxes and any benefits as are subject to tax, and must perform such duties in regard to such deductions thereof as may be imposed on him by such laws.

4.287 Finally, in respect of taxes generally, the authors note that in cross border transactions, the implications of withholding taxes and taxable income inside and outside the Country will have to be considered by the Parties and their specialist tax advisers, as will the potential tax benefits of splitting the onshore and offshore portions of the Works.

Changes in Contractor's financial situation

Gold Book

4.288 Sub-Clause 4.25 [*Changes in the Contractor's Financial Situation*] is unique to the Gold Book and imposes two reporting obligations on the Contractor.

4.289 The Sub-Clause requires the Contractor to immediately notify the Employer, giving detailed particulars, if he "becomes aware of any change to the Contractor's financial situation which will or could adversely affect his ability to complete and fulfil all his obligations under the Contract". The Employer is then required to "advise the Contractor of what action he intends to take and/or what action the Employer requires the Contractor to take" within 28 days of receiving the Contractor's Notice.

4.290 Under the Gold Book, the key consequence of Sub-Clause 4.25 for the Contractor is triggering the Employer's right to termination under Sub-Clause 15.2(e). Sub-Clause 15.2(e) crystallises the Employer's right to terminate the Contract upon 14 day's notice —whether or not the Contractor gives notice—if the Employer "reasonably concludes that the Contractor will be unable to complete or fulfil his obligations under the Contract".[150]

4.291 It is unsurprising, that the European International Contractors consider that "Sub-Clause 4.25 and Sub-Clause 15.2(e) are completely unnecessary, as the Employer is sufficiently protected by the guarantees given by the Contractor and by Sub-Clause 15.2(f)"[151] (which grants an immediate right to termination upon bankruptcy or insolvency).

4.292 In respect of the second option, it is entirely unclear what action the Employer is entitled to require the Contractor to take. Presumably, the action would be outside the Employer's rights under the Contract, and the Contractor would accordingly have no obligation to comply with the Employer's demands, except to avoid the threat of termination.

4.293 The obligation in the second paragraph is more straightforward, requiring the Contractor to provide the Employer with the Contractor's audited financial statements and report on an annual basis.

Payment to nominated Subcontractors

Yellow, Silver and Gold Books

4.294 The Yellow, Silver and Gold Books contain no specific provisions regarding payment of nominated Subcontractors. See Section Chapter 3, paragraphs 3.350 *et seq.* regarding nominated Subcontractors generally.

Red and MDB Books

4.295 Unlike the process for other sub-contracts, which are left to the Contractor to administer, by Sub-Clause 5.3, the amount that the Contractor is to pay the nominated Subcontractor is certified by the Engineer as due in accordance with the sub-contract, albeit as a Provisional Sum. Any payment to nominated Subcontractors is to form part of 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*].

150. See Chapter 8, paras. 8.304 *et seq.*

151. EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for Design, Build and Operate Projects* (2009, European International Contractors), p. 35.

4.296 Sub-Clause 13.5 states that the Contractor is to be paid the actual amounts that the nominated Subcontractor is paid, plus overhead and profit. Sub-Clause 5.4 (discussed below) provides that the Employer may in certain circumstances make payment direct to nominated Subcontractors.

Direct payment to nominated Subcontractors

4.297 Under Sub-Clause 5.4 of the Red and MDB Books, before issuing a Payment Certificate that includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. In practice, this situation is unlikely to arise unless the Engineer suspects the Contractor is in default under the nominated subcontract—which typically occurs when the nominated Subcontractor tells the Engineer that this is so. However, the Engineer has no obligation or duty to request such evidence, unless imposed by applicable Law.

4.298 Following the request, the Contractor must then either submit this reasonable evidence to the Engineer, or must both satisfy the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and provide the Engineer with reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement to the withholding. If the Contractor does not do so, 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 contemplated. If the Employer pays the nominated Subcontractor direct, the Sub-Clause provides that the Contractor must repay that amount to the Employer.

4.299 While the Sub-Clause is an acknowledgment that there is a distinctive relationship between the nominated Subcontractor and the Employer arising from his nomination,[152] it does not impose any mandatory obligation on the Employer whatsoever. If the Contractor fails to provide the relevant evidence, the Employer has an entitlement to pay the Subcontractor direct, but not an obligation.[153] Payment is also at the Employer's—not the Engineer's—discretion. Additionally, if the Employer does elect to pay the nominated Subcontractor, the Sub-Clause gives him the discretion to pay part or all of the amounts previously certified.

152. This is illustrated by the fact that the Employer has no such right in respect of the Contractor's other Subcontractors.

153. Certain jurisdictions have statutory regimes by which any sub-contractor may in certain circumstance oblige an employer to set money aside for the purpose of such payment—see, for example the, Australian *Contractor's Debts Act* 1997 (NSW), and *Subcontractors' Charges Act* 1974 (Qld).

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CHAPTER FIVE

TIME

INTRODUCTION

5.1 Time is one of the fundamental variables in every construction project, and perhaps the one that the parties have the least control over. This chapter concerns the Contractor's time obligations under the FIDIC forms. It is specifically related to the construction period, that is the period from the date after which the Contractor is required to commence the design (if appropriate) and execution of the Works to the completion of the Works. In all the Books, the first is marked by the Commencement Date, which is notified to the Contractor under Sub-Clause 8.1 [*Commencement of Works*],[1] and the second by the issue of the Taking-Over Certificate for the Works or, in the Gold Book, the Commissioning Certificate for the Design-Build.

5.2 The Contractor's obligations as to time can essentially be divided into two separate, although related, obligations:

- an obligation to complete the Works (Design-Build (G)) and any Sections within the relevant Time for Completion;[2] and
- an obligation to proceed with due expedition and without delay.

5.3 The first of these obligations, in particular, is a major subject of disputes. This is because, if the Contractor fails to comply with this obligation, he is typically liable to pay delay damages to the Employer, which accrue on a daily basis for each day of delay. This liability can be potentially significant.

5.4 The Commencement Date may, and almost invariably will, be later than the date on which the Contract comes into effect. As a consequence, several of the Parties' obligations under the FIDIC forms arise after the award of the Contract and may take place before the Commencement Date. These pre-commencement steps arise in the following Sub-Clauses:

- Sub-Clause 1.6 [*Contract Agreement*] (not S): Parties to enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance;
- Sub-Clause 2.4 [*Financial Arrangements*] (M): Employer to submit before the Commencement Date reasonable evidence that financial arrangements are in place (in the Gold Book, this is to be included in the Financial Memorandum in the Employer's Requirements);
- Sub-Clause 4.2 [*Performance Security*]: Contractor to deliver Performance Security to the Employer within 28 days after receiving the Letter of Acceptance (or, in the Silver Book, after both Parties have signed the Contract Agreement);
- Sub-Clause 4.3 [*Contractor's Representative*]: Contractor to submit name of Contractor's Representative to the contract administrator prior to the Commencement Date if the Contractor's Representative is not named in the Contract;

1. "*Commencement Date*" (G).
2. Time for Completion of Design-Build (G).

- Sub-Clause 14.2 [*Advance Payment*]: arrangements for the advance payment may be made prior to the Commencement Date;

5.5 Given the two distinct and fundamentally different phases in the Gold Book, the Design-Build Period and the Operation Service Period, the Contractor's general time obligations under the Contract are set out in Clause 8 [*Commencement Date, Completion and Programme*], but the Contractor's specific time obligations as to completion of the Design-Build are then set out in Clause 9 [*Design-Build*]. The Contractor's obligations as to the Operation Service under Clause 10 [*Operation Service*] are not considered further in this chapter, for the principal reason that these obligations in so far as they relate to time, can be summarised simply as: the Contractor is required to provide the Operation Service for the period stated in the Contract Data and this obligation remains fixed and unaltered, whether or not either or both Parties fail to comply with their obligations during the Operation Service Period.[3]

COMMENCEMENT

5.6 For the Works to be completed, they must obviously be commenced at some point. Under the FIDIC forms, commencement is governed by Sub-Clause 8.1 [*Commencement of Works*] in the Red, MDB, Yellow and Silver Books, and Sub-Clause 9.1 [*Commencement of Design-Build*] in the Gold Book. This Sub-Clause requires the Contractor to commence the design (under the Contractor-design forms) and execution of the Works within a specified period after the Commencement Date.

5.7 The Commencement Date also marks the formal commencement of the construction period (R/M), the design and construction period (Y/S) or Design-Build Period (G)[4] and, as a result, is a key date in the course of the project under the FIDIC forms to which many of the Parties obligations are tied. Most significantly, the Time for Completion[5] starts running from the Commencement Date.[6] Also on this date, the full responsibility for the care of the Works and the Goods is assumed by the Contractor.[7]

Commencement Date

5.8 The Commencement Date is defined as the date notified under Sub-Clause 8.1 or Sub-Clause 9.1 (G).[8] The notification provisions set out in these Sub-Clauses in the Red, Yellow, Silver and Gold Books are broadly similar, whereas the procedure under the MDB is

3. Sub-Clauses 8.2 and 10.6.
4. "Design-Build Period" is defined as "the period from the Commencement Date to the date stated in the Commissioning Certificate" (Sub-Clause 1.1.30). The Commissioning Certificate certifies completion of the Design-Build (Sub-Clauses 1.1.8 and 11.7). See further paras. 5.176 *et seq.* below in relation to the Commissioning Certificate.
5. Time for Completion of Design-Build (G).
6. Sub-Clause 1.1.3.3 (R/M/Y/S); Sub-Clause 1.1.78 (G).
7. Sub-Clause 17.2 (R/M/Y/S); Sub-Clause 17.5 (G).
8. Sub-Clause 1.1.3.2 (R/M/Y/S); Sub-Clause 1.1.6 (G).

significantly different and thus requires separate consideration.[9] This is the equivalent to 'notice to proceed' provisions in bespoke contracts.

5.9 In addition, the Silver Book expressly provides for the option of specifying an actual calendar date to be the Commencement Date in the Contract Agreement.[10] It is also of course available for the Parties to a Contract under the other forms to specify the Commencement Date in the Contract Agreement (or the Letter of Acceptance).

5.10 The obvious advantage of fixing the Commencement Date in the Contract Agreement is that it provides certainty and thus may facilitate the administration of the Contract.[11] However, given that the Commencement Date marks the formal commencement for the design and execution of the Works, and, as such, various obligations are tied to it, the disadvantage is that it does not provide any flexibility in the time within which preparatory steps necessary before the work can begin must be completed. The specification of the Commencement Date will start the clock running with regard to the Time for Completion and will fix the time when the Contractor is required to commence work. For example, in the Silver Book, any inability of or delay by the Employer to obtain necessary licences or permits for the Works to commence or to give the Contractor access to the Site on this date (if no other time is stated in the Particular Conditions)[12] may have knock-on effects and may entitle the Contractor to relief. Therefore, care should be taken if the Commencement Date is to be specified in the Contract Agreement to ensure that it is realistic and achievable.

5.11 Indeed, even if the Commencement Date is not specified in the Contract Agreement but to be notified, under all the Books apart from the MDB there is still a significant element of inflexibility as to the timing of the Commencement Date, which may not be appropriate for a specific project or acceptable to the Parties. Certain 'pre-commencement' steps must be taken related to the date of the Letter of Acceptance or Contract Agreement and not the Commencement Date.[13] There may also be other matters which are still to be

9. Although the MDB retains the common definition of the Commencement Date, envisaging that it will be notified under Sub-Clause 8.1, Sub-Clause 8.1 in this Book does not in fact include express terms relating to notification as discussed in paras. 5.22–5.29 below.

10. Sub-Clause 1.1.3.2 of the Silver Book includes "unless otherwise defined in the Contract Agreement". The example form of Contract Agreement in the Silver Book includes an optional Clause for specifying the Commencement Date. It is assumed that this possibility is expressly recognised in the Silver Book because the draftsmen envisaged that there would be a lengthy period of negotiation between the Parties prior to the conclusion of a contract under the Silver Book, as a result of which, by the time that the Contract Agreement is concluded, there would be a real element of certainty as to when the Commencement Date will be and when the Employer will be in a position to give access to and possession of the Site and will have obtained any necessary licences and permits. The *FIDIC Contracts Guide* states that there is no reference to the Contract Agreement in the Red and Yellow Books "only because the notification by the Engineer is the procedure most often used", but the Guidance for the Preparation of the Particular Conditions in these Books nevertheless suggest that it may be considered advisable to record the Commencement Date in the Contract Agreement to be entered into under Sub-Clause 1.6 "if lengthy tender negotiations were necessary" or to facilitate the administration of the Contract. FIDIC, *The FIDIC Contracts Guide* (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils), ("*FIDIC Guide*"), p. 168.

11. *Ibid*., p. 51.

12. Sub-Clause 2.1 of the Silver Book requires the Employer to give the Contractor right of access to, and possession of, the Site with effect from the Commencement Date if no time for access to, and possession of, the Site is stated in the Particular Conditions.

13. For example, under Sub-Clause 4.2, the Contractor is required to deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance (or, in the Silver Book, after both Parties have signed the Contract Agreement). See also Sub-Clause 1.6 [*Contract Agreement*] and para. 5.4 above.

concluded following the contract award for the work to proceed, for example, obtaining the lease of the Site, obtaining licences or permits or finalising the funding agreements.

5.12 An alternative means of achieving the equivalent of the Commencement Date is to provide for the point at which the Contract comes into force being dependent on the fulfilment of specified conditions precedent by a certain time. The form of Contract Agreement in the Silver Book provides for this as an option. The MDB also establishes the Commencement Date at the date on which specified conditions precedent are satisfied.

Red, Yellow, Silver and Gold Books

5.13 The notification provisions in Sub-Clause 8.1 of all the Books (except the MDB) are broadly similar. Under all these Books, it is the contract administrator who is required to give notice to the Contractor of the Commencement Date. The Red, Yellow and Silver Books all require that not less than 7 days' notice of the Commencement Date is given; in the Gold Book the Notice must be given not less than 14 days prior to the Commencement Date. In many instances, the precise timing of the giving of notice will be decided after consultation with (or approval by) the Employer.

5.14 As discussed in Chapter 6, paragraph 6.161 *et seq.*, the use of the word "notice" (or "Notice" (G)) in this context has a dual significance. Firstly, the contract administrator is required to inform the Contractor of the Commencement Date at least 7 (or 14 (G)) days in advance of that date (i.e., to give 7 days' notice). Secondly, such information must be formally communicated to the Contractor in accordance with requirements for notices set out in Sub-Clause 1.3. Thus, such notice must be given in writing, sent to the appropriate address using acceptable methods of transmission (etc.) and copied to the Employer (R/Y/G). There is, however, no particular wording required for this notice. It is nevertheless advisable, for certainty, to make it clear that the notice is being given under Sub-Clause 8.1. The *FIDIC Guide* includes a suggested form of this notice.[14]

5.15 In addition to requiring notice to be given of the Commencement Date, Sub-Clause 8.1 of all the Books (except the MDB) also prescribes the time period for the Commencement Date (unless otherwise stated in the Particular Conditions (R/Y/G) or Contract Agreement (S)):[15]

- Red, Yellow and Gold Books: "within 42 days after the Contractor receives the Letter of Acceptance".
- Silver: "within 42 days after the date on which the Contract comes into full force and effect under Sub-Clause 1.6".

5.16 The purpose of prescribing a final date is to protect the Contractor so that he may not be held to his tender offer for an indefinite period or be required to complete the Works within the Time for Completion in a manner significantly different from that anticipated at the time of signing the Contract.

5.17 These are absolute requirements which can potentially cause problems. The *FIDIC Guide* indicates that the 42-day period is specified because usually one or both of the Parties

14. *FIDIC Guide*, p. 168.

15. Note also that in the example form of wording included in the Guidance for Preparation of Particular Conditions in these Books for use where the Employer is to provide a payment guarantee further provides that no notice may be given under Sub-Clause 8.1 until the Contractor has received this guarantee.

prefers an early Commencement Date.[16] The Parties should, however, consider whether this time period is appropriate having regard to the circumstances of their particular project, not just with respect to the completion of any steps which need to be carried out prior to the Commencement Date, but also in relation to any obligations which are to be performed within a specified period after the Commencement Date. For example, in the Red and Yellow Books, the example form of Appendix to Tender provides for access to the Site to be given within a specified period from the Commencement Date.

5.18 There is no mechanism under the Contract for the Commencement Date to be later than as prescribed. The contract administrator should therefore ensure (so far as he is able to) that the notification provisions are followed and the Employer should take the necessary steps to ensure that he will be able to comply with his obligations which are related to the Commencement Date.

5.19 These Books do not prescribe any remedy if notice is given beyond the last permitted date. If the notice is not served by the last date it may be invalid, depending on the governing law. In such a case, the Contractor would be entitled to reject the notice. If the Contractor does reject the notice, in practice the Parties may negotiate an amendment to the Contract under which, for example, the contract administrator is entitled to serve the notice at a later date and, in return, the Contractor is entitled to an adjustment to the Contract Price and/or the Time for Completion.

5.20 The Contractor's specific remedies, if any, in the event of a prolonged postponement of the Commencement Date will depend on the governing law.

5.21 This position under the FIDIC forms is different from that adopted in many bespoke forms, which typically provide that the Employer is entitled to give a notice to proceed by no later than a specified date and, accordingly, that the Employer has no power to give a notice to proceed after the last date.

MDB

5.22 The MDB form adopts a different procedure from the other Books for ascertaining the Commencement Date.[17] Instead of relying on notice being given or a date being prescribed in the Contract Agreement, under Sub-Clause 8.1 the Commencement Date is the date on which certain conditions have been fulfilled and the Contractor receives an instruction from the Engineer recording the agreement of both the Employer and the Contractor that these conditions have been fulfilled and to commence the Works, unless otherwise specified in the Particular Conditions.[18]

5.23 The conditions precedent that must be fulfilled are:

16. *FIDIC Guide*, p. 168.

17. Note, however, that the definition of "Commencement Date" in Sub-Clause 1.1.3.2 (M) and the time within which the Contractor is required to submit a programme under Sub-Clause 8.3 are the same as in the Red and Yellow Books, and refer to the notice being given under Sub-Clause 8.1. It is suggested that this "notice" should be construed as being a reference the Engineer's instruction.

18. The use of conditions precedent in this way is a variant to the alternative Clause in the Contract Agreement for the Silver Book which provides that the Contract shall come into full force and effect upon satisfaction of certain conditions precedent. The approach in the MDB is different to that in the optional provision in the Silver Book, since the MDB uses conditions precedent to establish the Commencement Date, whereas the Silver Book uses conditions precedent to the Contract coming into full force and effect.

(a) signature of the Contract Agreement by both Parties and, if required, approval of the Contract by relevant authorities of the Country;
(b) delivery by the Employer to the Contractor of reasonable evidence of the Employer's financial arrangements under Sub-Clause 2.4;
(c) except as otherwise specified in the Contract Data, the Employer having given possession of the Site to the Contractor and given the Contractor any permissions under Sub-Clause 1.13(a) that are required for the commencement of the Works; and
(d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2, provided that the corresponding bank guarantee has been delivered by the Contractor.

5.24 Once these conditions have been fulfilled, the Engineer must liaise with the Employer and the Contractor to obtain their "agreement" that this is the case and then issue an instruction to the Contractor recording such agreement and instructing the Contractor to commence the "Work".[19] The purpose of recording the agreement in the instruction is to provide some comfort and protection to the Parties and the Bank that the conditions have been fulfilled. This instruction must be in writing to comply with the formalities for agreements and instructions under the Contract.[20]

5.25 Although the Commencement Date is defined as the date at which the required conditions precedent have been fulfilled and the Contractor has received the Engineer's instruction, in practice it will obviously be the latter.

5.26 There is a potential inconsistency between condition (c) above and the Employer's obligation to give access in accordance with Sub-Clause 2.1. Sub-Clause 2.1 appears to envisage that access to the Site will be given after the Commencement Date.[21]

5.27 If the Contractor does not receive the instruction from the Engineer within 180 days from receipt of the Letter of Acceptance, the Contractor is entitled to terminate the Contract under Sub-Clause 16.2(i). This intends to provide a long-stop date to deal with the position where the Parties are unable to agree the date on which the conditions precedent have been satisfied and to provide a final date for the satisfaction of the conditions precedent.

5.28 The provision is curious insofar as it provides for termination by the Contractor only, and that such termination is treated as a termination for default by the Employer.[22] It may, however, be the case that the Parties in good faith are simply unable to agree on the date on which the conditions precedent were satisfied (and so preventing the Engineer from giving the instruction to commence) or that the Contractor, for its own reasons, seeks to

19. "Work" is not a defined term and it is suggested that this is a typographical error and should read "Works".

20. Sub-Clauses 1.3 and 3.3. See Chapter 6, para. 6.158 in relation to agreements and paras. 6.109–6.118 in relation to instructions.

21. Under Sub-Clause 2.1 the Employer is required to give the Contractor possession of the Site on the time(s) stated in the Contract Data or, if no such time is stated, then in accordance with the programme submitted under Sub-Clause 8.3. The example form of the Contract Data includes a space for specifying the date of access as a date after the Commencement Date. However, if no time for possession is stated in the Contract Data, the Contractor is required only to submit the programme under Sub-Clause 8.3 28 days after the Commencement Date. Consequently, the effect of the condition (c) may be to require the Employer to give the Contractor possession before the Commencement Date can be established, whatever his obligations to give possession under Sub-Clause 2.1, unless this is expressly stated in the Contract Data as not being a condition precedent for the Commencement Date.

22. See Chapter 8, paras. 8.304 *et seq.*

prevent agreement being reached. Similarly, the Contractor may delay the satisfaction of the conditions precedent by refusing to sign the Contract Agreement or to provide the advance payment security. Whilst the Employer, in principle, could terminate the Contract for convenience under Sub-Clause 15.5, the terms of such termination under the MDB entitle the Contractor to the same payment and compensation as when the Contract is terminated by the Contractor under Sub-Clause 16.2 for cause. Such a termination may also not be carried out to avoid a termination by the Contractor under sub-paragraph (i) of Sub-Clause 16.2 [*Termination by Contractor*].

5.29 The use of conditions precedent with a long-stop date is fairly common in bespoke contracts. Such contracts do, however, most usually adopt a different approach to the situation where the conditions precedent are not satisfied by the long-stop date. In such a case, the bespoke provisions usually provide that either party may terminate the contract and do not treat such a termination as if it were a termination for default by the other party.

Obligation to commence the Works

5.30 Under Sub-Clause 2.1 all the Books apart from the Gold Book, the Contractor is required to commence the execution of the Works (R/M) or the design and execution of the Works (Y/S) "as soon as is reasonably practicable" after the Commencement Date. In the Gold Book, under Sub-Clause 9.1 the Contractor must commence the design and execution of the Works within 28 days of the Commencement Date. However, the FIDIC forms do not prevent the Contractor from commencing this work before the Commencement Date, although he may not be entitled to access to and possession of the Site until on or after the Commencement Date. Indeed, it may even be advisable for the Contractor to start mobilising and taking other preparatory steps, as well as carrying out design work, prior to the Commencement Date.

5.31 The meaning of "commence" here is straightforward: within the relevant period after the Commencement Date the Contractor must start the design (if included) and execution of the Works. In the Yellow, Silver and Gold Books, it is unlikely that the reference to design *and* execution of the Works is intended to create separate obligations in respect of the commencement of both these aspects of the Works but should be interpreted as simply recognising the dual responsibilities of the Contractor under these Books in relation to the Works. Therefore, the threshold of what is required on the part of the Contractor to comply with this obligation is not particularly high. However, as suggested in the *FIDIC Guide*,[23] there are practical difficulties in defining what constitutes commencement of the "execution of the Works" as opposed to early preparatory steps which the Contractor must take, such as the mobilisation of Contractor's Equipment, which might not fall strictly within the definition of the Works.[24]

5.32 The *FIDIC Guide*[25] explains that it was because of these practical difficulties that no time period for commencement was specified in the Red, Yellow and Silver Books, and

23. *FIDIC Guide*, p. 168.

24. These practical difficulties are (partly) caused by the definition of the Works itself. The definition of Works expressly excludes Contractor's Equipment (Sub-Clauses 1.1.5.1, 1.1.5.7 and 1.1.5.8 (R/M/Y/S); 1.1.18, 1.1.79, 1.1.82 (G)). Thus the commencement of mobilising the Contractor's Equipment alone may not be sufficient to discharge the obligation to commence the execution of the Works.

25. *FIDIC Guide*, p. 168.

instead the Contractor is required in those Books (and the MDB) to commence "as soon as is reasonably practicable". What is "as soon as is reasonably practicable" is also difficult to define with any certainty and will depend on the individual circumstances of each Contract.

5.33 In reality, all the parties involved are likely to be considerably more interested in the date on which the Works are completed than whether the Contractor has strictly complied with his obligation to commence. Despite the potential difficulties in defining, with certainty, what will constitute commencement for these purposes, the threshold for commencement is likely to be met as soon as *any* aspect of the design and execution of the Works has commenced. The Contractor is then required to proceed with this work with due expedition and without delay. Consequently, in the authors' view, the obligation to commence should not be accorded undue significance.

5.34 Nevertheless, if the Employer or contract administrator has concerns that the Contractor has not taken any steps to commence the Works within the required time, the contract administrator could give the Contractor notice to correct this failure under Sub-Clause 15.1 [*Notice to Correct*], requiring him to commence within a reasonable time. If the Contractor then still fails to commence or, even if no such notice is given, the Contractor has shown no intention to commence, the Employer may be entitled to terminate the Contract for cause under Sub-Clause 15.2 upon 14 days' notice, subject to the governing law.

PROGRAMME

Generally

5.35 Good planning on the part of the Contractor is critical to the success of every Contract, whatever its size and complexity. Every project will invariably involve a number of different tasks or activities to be carried out, often in a specific sequence, by a variety of people other than the Contractor, using particular (limited) resources, taking different periods of time and within different constraints. Proper planning by the Contractor therefore involves, first, the identification and appreciation of all these factors and their interrelationship, and then the development of a realistic plan or strategy as to how they will be managed in order to achieve the requirements of the Contract. On the basis of this plan/strategy and the information obtained during the planning stage, the Contractor will then invariably produce a works programme. The programme will set out the anticipated order, timing and duration of the different tasks or activities which, if adhered to, will result in the Works (or Sections) being completed within the Time for Completion and the other obligations of the Contractor being fulfilled.

5.36 Under Sub-Clause 8.3 [*Programme*], the Contractor is contractually required to submit a programme to the contract administrator at the outset of the formal period for design (if included) and construction of the Works. In the Red, MDB, Yellow and Gold Books, the Contractor is required to submit the programme within 28 days of receiving the notice of the Commencement Date under Sub-Clause 8.1. In the Silver Book, the Contractor is required to submit the programme within 28 days after the Commencement Date.

5.37 The purpose of this programme is to allow the Employer's Personnel to plan their activities and for the contract administrator to monitor the Contractor's progress.[26] In this way, it is primarily a project management device. To achieve these purposes, it is therefore essential that the programme be regularly updated to reflect the actual progress, any changes in the Contractor's intentions and any events that might arise during the course of the Contract. Accordingly, Sub-Clause 8.3 of the FIDIC forms require the Contractor to submit revised programmes when the current programme does not reflect any of these matters.

5.38 Programmes are also now commonly used to support or dispute the Contractor's claims for extensions of time or additional Costs. However, it is important to recognise that the Contractor's entitlement to an extension of time under the FIDIC forms is based upon the extent to which an event for which he is entitled to an extension of time has delayed or will delay completion of the Works and is not stated to be determined by reference to the programme to be submitted under the Contract. Consequently, while the programme submitted under Sub-Clause 8.3 may be useful evidence to support or defend a claim, it will not be the end of the matter. Moreover, the weight that can be attributed to this programme for this purpose will depend on its accuracy, its detail and the regularity by which it is updated.

Contents of programme

5.39 Sub-Clause 8.3 sets out a detailed list of the information that must be included in each programme to be submitted.[27] The list of information to be included varies slightly between the Books in recognition of the fact that the actual stages involved will depend on the Book and the fact that the Silver Book envisages less involvement by the Employer in the day-to-day management of the project.

5.40 The key information that must be included in the programme in accordance with Sub-Clause 8.3 is:

- the order in which the Contractor intends to carry out the Works;
- the anticipated sequence and timing of the various stages involved (including design, Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection, testing, commissioning and trial operation (as appropriate depending on the Book));[28]
- the period of Operation Service (G);
- each of the stages for work by each nominated Subcontractor (R/M);
- the periods for reviews under Sub-Clause 5.2 [*Contractor's Documents*] (Y/S/G);
- the periods for any other submissions (including the supply of samples in accordance with Sub-Clause 7.2 [*Samples*] (G)), approvals and consents specified in the Employer's Requirements (Y/G);

26. *FIDIC Guide*, p. 171.

27. This is a significant improvement on the equivalent provision (Sub-Clause 1.4.1) in previous version of the FIDIC Red Book (4th Edn), which was noticeably lacking in this regard and left it to the Engineer to prescribe its form and contents. It simply required the Contractor to submit a programme, "in such form and detail as the Engineer shall reasonably prescribe".

28. The specific stages listed in each form differs. The Red Book and MDB contain a common list, as do the Yellow and Gold Books. The Silver Book simply requires the anticipated timing of "each major stage of the Works".

- the sequence and timing of inspections and tests specified in the Contract; and
- a supporting report containing a general description of the methods that the Contractor intends to adopt and estimates of the number of personnel and equipment that will be required for each major stage in the execution of the Works (covering, in the Gold Book, both the Design-Build and the Operation Service).[29]

5.41 In addition, under the MDB, the Contractor is required to include in the programme an alleviation programme for Site staff and labour and their families in respect of Sexually Transmitted Infections and Sexually Transmitted Diseases (including HIV/AIDS), including details of the resources to be provided or utilised for this purpose, any related sub-contracting proposal and a detailed cost estimate, with supporting documentation, of providing this programme.[30]

5.42 Form and detail of programme. Although the list of information that is to be included in the programme set out in Sub-Clause 8.3 is quite detailed, the FIDIC forms are silent as to the form and detail of the programme itself and it is therefore left to the Contractor to decide these (unless otherwise specified in the Contract).[31] There are many different forms in which programmes can be presented, ranging from a simple bar chart to critical path method (CPM) network diagrams.[32] The appropriate choice will depend on the size and complexity of the work involved. If the Employer (or contract administrator) requires a particular form or particular software package to be used for the preparation of the programme or a specific level of detail, this should be specified in the Contract, not only so that the Contractor is required to prepare the programme in that form, but also so that he can budget for it in his tender. Given the purposes of the programme,[33] it may be advisable that the programme also be required to identify the critical path.

5.43 There is an obvious tension between the interests of the Employer/contract administrator and the Contractor as to how much information should be included in the programme. The Employer or contract administrator will usually want the programme to be as detailed as possible, not only so that they can plan their activities, but also so that they can ascertain the likely effect on progress of delays on their part or by other contractors, or of proposed Variations or instructions. On the other hand, the Contractor may not wish to provide the Employer/contract administrator with information such as the anticipated float in the programme for fear that the Employer will use this to their advantage.

5.44 When preparing the programme, the Contractor should ensure that the anticipated sequence and timing of the various stages and activities involved in the Works reflect the requirements and constraints of the Contract. In addition to the contractual periods which

29. The Gold Book further requires the supporting report to include the Contractor's proposed manning schedule for the Operation Service.

30. Sub-Clause 6.7 (M).

31. This should be compared with the requirements of the previous forms. In the 4th Edition of the Red Book, the form was to be specified by the Engineer (Sub-Clause 14.1, see n. 27). In the 3rd Edition of the Yellow Book (Sub-Clause 12.1), the form was to be stated in the Preamble (the equivalent of the Appendix to Tender in the current Yellow Book). On the other hand, the Orange Book (Sub-Clause 4.14) required the programme to be "developed using precedence networking techniques, showing early start, late start, early finish and late finish dates". Also see, for example, The Society of Construction Law, *Delay and Disruption Protocol* (October 2002) (www.eotprotocol.com) for suggestions on the form and detail of programmes; Keith Pickavance, *Delay and Disruption in Construction Contracts* (3rd Edn, 2005, Informa Professional), Chapter 7.

32. See, for example, Pickavance, *Ibid.*, Chapter 8 for a discussion on the various types of programme.

33. See paras. 5.47 *et seq.* below.

are expressly identified in Sub-Clause 8.3 to be included in the programme, for example, the periods of review of Contractor's Documents under Sub-Clause 5.2 [*Contractor's Documents*], the programme should also reflect the date(s) on which the Employer is required to give the Contractor possession of the Site and show the Works (and Section(s)) being completed by the Time for Completion.

5.45 Contract administrator's review. The contract administrator is not formally empowered or required to approve or consent to the programme. Instead, he has a 21-day period in which to review the programme and within which he may give notice if he does not consider that it complies with the Contract. If the contract administrator notifies the Contractor that the programme fails to comply with the Contract or is not consistent with actual progress and the Contractor's stated intentions, the Contractor is required to submit a revised programme.

5.46 The reference to compliance with the Contract, as opposed only to Sub-Clause 8.3, indicates that what is at issue is not simply whether the programme contains all the information required but whether the Contractor's proposals for the manner in which the Works will be executed reflect the requirements and constraints of the Contract. For example, the contract administrator could therefore reject the initial programme if it fails to show the Works being completed within the Time for Completion. Similarly, the contract administrator could reject the programme if it shows that the Employer is to make any Employer's Equipment available earlier than the date specified in the Specification (R/M) or Employer's Requirements (Y/S/G).[34] However, the contract administrator cannot give notice under this Sub-Clause in respect of a programme which complies with the Contract simply because he has a different view as to how the work should be carried out or the work could be carried out in another way that is more convenient to the Employer.

Role and status of the programme

5.47 The programme to be submitted under Sub-Clause 8.3 has two primary purposes:

(i) as a project management device to inform the contract administrator of the Contractor's intended sequence and timing of the activities so that the contract administrator can plan for the activities that involve the input or participation of the Employer, the contract administrator or others (e.g., provision of design or drawings, design review periods, access to site etc.); and
(ii) to allow the contract administrator to monitor the Contractor's progress.

5.48 This programme does not form part of the Contract. As a result, it does not amend or vary the Parties' obligations from those already set out in the Contract. However under several Sub-Clauses, while not amending or varying the Parties' obligations, the programme has the effect of defining or refining certain obligations:

- Sub-Clause 8.3 requires the Contractor to "proceed in accordance with the programme, subject to his other obligations under the Contract".
- Under Sub-Clause 8.3, the Employer's Personnel are "entitled to rely upon the programme when planning their activities".

34. Sub-Clause 4.20.

- In the Red, MDB, Yellow and Gold Books, under Sub-Clause 2.1 [*Right of Access to the Site*], if no time(s) is stated in the Appendix to Tender (R/Y) or Contract Data (M/G), the Employer must give the Contractor such right of access and possession "within such times as may be required to enable the Contractor to proceed in accordance with the programme submitted under Sub-Clause 8.3".[35]
- The Contractor's progress will be monitored against the programme submitted under Sub-Clause 8.3 and, if the Contractor's progress has fallen (or will fall) behind the programme, other than as a result of a cause listed in Sub-Clause 8.4 (9.3 (G)) [*Extension of Time for Completion*],[36] the contract administrator is entitled to instruct the Contractor to expedite progress.[37]

5.49 The requirement for the Contractor to proceed in accordance with the programme, whilst well-intentioned, may potentially, depending on the governing law, give rise to consequences (or arguments as to consequences) which, in the authors' view, were not intended. For example, it could be argued that a mere failure by the Contractor to proceed in accordance with the programme without reasonable excuse may entitle the Employer under the Red, MDB, Yellow and Silver Books to terminate the Contract under Sub-Clause 15.2(c)(i) (15.2(c) (S)) on account of failure by the Contractor "to proceed with the Works in accordance with Clause 8". This issue would not arise in relation to the Gold Book in which the Employer's right to terminate under Sub-Clause 15.2(c)(i) in relation to the Design-Build Period is restricted to a failure by the Contractor, without reasonable to excuse, "to proceed with the Works in accordance with Sub-Clause 9.1 [*Commencement of Design-Build*]"[38] and so does not include a failure by the Contractor to comply with Sub-Clause 8.3. The authors consider that it is unlikely that it was intended under the Red, MDB, Yellow and Silver Books that a mere failure to comply with the programme could give rise to an entitlement to terminate under Sub-Clause 15.2(c)(i) (15.2(c) (S)). One way in which this risk potentially could be avoided is for the Contractor to consistently update its programme as required by Sub-Clause 8.3.

Duty to update programme

5.50 The Contractor's obligations as to the Sub-Clause 8.3 programme are ongoing and do not end with the submission of the first programme within the initial 28-day period. Under the first paragraph of Sub-Clause 8.3, the Contractor is required to submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations.

5.51 In addition to this common obligation, the Silver and Gold Books each expressly provide for revisions to be made to the programme in other circumstances:

- Under the Silver Book, the Contractor is also required (under the third paragraph of Sub-Clause 8.3) to submit a revised programme to the Employer in the event that he

35. See Chapter 3, paras. 3.103 *et seq.*
36. "*Extension of Time for Completion of Design-Build*" (G).
37. See paras. 5.194 *et seq.* below.
38. Sub-Clause 15.2(c)(i) in the Gold Book also includes a failure by the Contractor, without reasonable excuse, to proceed with the Works, in accordance with Sub-Clause 10.2, which concerns the commencement of the Operation Service.

has given notice to the Employer of a specific probable future event or circumstance which may affect or delay the execution of the Works.[39]

- In the Gold Book, Sub-Clauses 13.6 [*Adjustments for Changes in Legislation*] and 13.7 [*Adjustments for Changes in Technology*] refer to adjustments being made to the programme to take into account any change in cost resulting from a change in the Laws of the Country and changes in technology, new materials or products which the Contractor is required to adopt, respectively.

5.52 In addition to these duties, the Contractor is also required to submit a revised programme in two situations instigated by the contract administrator:

- If the contract administrator gives notice to the Contractor that a programme fails to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions (final paragraph of Sub-Clause 8.3).
- If the contract administrator instructs the Contractor to do so under Sub-Clause 8.6 (9.5 (G)). This Sub-Clause entitles the contract administrator to instruct the Contractor to expedite progress when actual progress is too slow to complete within the Time for Completion or the Contractor has fallen (or will fall) behind the current programme other than as a result of a cause listed in Sub-Clause 8.4 (9.3 (G)) which governs the Contractor's entitlement to an extension of time.

5.53 There is obviously a degree of cross-over between these two situations as to the circumstances when the contract administrator can require the Contractor to submit a revised programme. By way of example, where the Contractor's actual progress is less than as stated in the previous programme, the Contractor will be required to submit a revised programme because his previous programme is inconsistent with his actual progress. The revised programme may then show a date for completion of the Works which is later than the Time for Completion. The contract administrator is, in this situation, entitled to require the Contractor to submit a further revised programme under Sub-Clause 8.3 because the revised programme does not comply with the Contract. In this situation, if the contract administrator does require a further revised programme he will, no doubt, at the same time, issue an instruction to expedite progress under Sub-Clause 8.6 (9.5 (G)).

Failure to submit programme

5.54 For the reasons discussed above, the existence of an up-to-date and accurate programme plays an important role in the project management of the Contract. However, there is no express sanction if the Contractor fails to submit a programme at the outset within the required time or to submit a revised programme when required.

5.55 In this situation:

(a) the contract administrator may give the Contractor notice to correct under Sub-Clause 15.1 [*Notice to Correct*];[40]

39. Although this obligation to submit a revised programme in these circumstances exists in the Silver Book only, it is related to the requirement present in all the Books for the Contractor to give early warning. See para. 5.63 below.

40. "Notice" (G).

(b) the contract administrator may, in principle, suspend the Works under Sub-Clause 8.8 (9.7 (G)) [*Suspension of Work*] and notify the Contractor that the cause of the suspension was the responsibility of the Contractor, if the failure to submit the programme is of sufficient concern that the contract administrator and the Employer's Personnel are unclear as to the way in which the Works are to be performed; and

(c) ultimately, the Employer could terminate the Contract under Sub-Clause 15.2(a) on account of failure by the Contractor to comply with the notice to correct as contemplated in paragraph (a) above.

5.56 It will also be noted that, under Sub-Clause 2.1 [*Right of Access to the Site*] of all the Books, unless the time(s) for access to and possession of the Site is stated in the relevant contract document,[41] the Contractor's right to such access and possession will be governed with reference to the programme submitted under Sub-Clause 8.3. Consequently, if no time is stated in the relevant contract document and the Contractor fails to submit a programme, difficulties will arise as to when the Contractor will be entitled to possession of the Site.

Tender programme

5.57 As stated above, the programme submitted in accordance with Sub-Clause 8.3 is not a contract document. Yet, although not covered by the terms of any of the FIDIC forms, it is common for tenderers to be requested or required to submit an outline programme (or schedule of work) as part of the Tender. The issue then arises as to whether the Tender programme should be incorporated as part of the Contract. The advantage of incorporating a programme into the Contract, from the Employer's perspective, is that the Contractor is bound to carry out the Works in accordance with that programme. The disadvantage, from the Employer's perspective, is that if the Employer wishes to change to the programme, the Employer may be exposed to a claim from the Contractor for an extension of time and/or recovery of additional cost.[42] If the Parties decide to include a programme as a contract document, the programme should be incorporated by express reference in the Contract Agreement (or Letter of Acceptance).

5.58 It is also common for the Tender programme to be incorporated in the Contract, intentionally or inadvertently, through the incorporation of the Tender. Indeed, the inclusion in the MDB and the Silver Book of the Tender in the list of documents forming the Contract makes this a real possibility in these Books. It is therefore suggested that, if the tender programme is not intended to form part of the Contract where the remainder or parts of the Tender is incorporated, its status should be expressly qualified or excluded from the Contract in the Letter of Acceptance or, in the Silver Book, the Contract Agreement.

PROGRESS

5.59 As stated above, the Contractor's principal time obligation is to complete the Works within the Time for Completion, which is calculated from the Commencement Date. On

41. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

42. See, for example, the English case of *Yorkshire Water Authority* v. *Sir Alfred McAlpine & Son (Northern) Ltd* (1986) 32 BLR 114.

one view, it could be said that the Contractor should be entitled to take until the Time for Completion before the Employer has any remedies, since it is only at that stage that the Contractor is in breach of Sub-Clause 8.2 (9.2 (G)). Such a position is unlikely to be acceptable to the Employer, since the Employer may wish to take proactive action in circumstances where the Contractor is significantly behind schedule and before the Time for Completion has passed. For this purpose, the FIDIC forms contain express provisions in Sub-Clause 8.1 (9.1 (G)) which seek to regulate the Contractor's progress.

Obligation to proceed with due expedition and without delay

5.60 Under Sub-Clause 8.1 (9.1 (G)), having commenced the design (if included) and execution of the Works within the required period after the Commencement Date, the Contractor is then required to proceed with the Works "with due expedition and without delay". This obligation regulates the Contractor's day-to-day progress and, although indirectly related to the obligation to complete within the Time for Completion (see below), is a separate obligation in its own right. It is also additional to the Contractor's obligation to proceed in accordance with the programme (subject to this other obligations under the Contract) under Sub-Clause 8.3.

5.61 The expression "with due expedition and without delay" has its origins in ICE 5th Edition and is widely used in standard form contracts. Perhaps surprisingly, however, little (if any) guidance can be found in case law as to the meaning of this phrase. Consequently, it is suggested that these words should be given their ordinary meaning, although their proper interpretation in each individual Contract will of course depend on the governing law. 'Expedition' means 'promptness or speed' in performance. In turn, 'due' describes the level of expedition with which the Contractor must proceed, namely that which is appropriate or necessary. This raises the question as to appropriate or necessary for what? Here, these words should be read within the context of the Contract as a whole. Therefore, it is suggested that the obligation to "proceed with due expedition" requires the Contractor to proceed with a degree of speed to progress the Works towards completion by the Time for Completion as required by Sub-Clause 8.2 (9.2 (G)). The meaning of 'proceeding without delay' is easier to discern and, it is suggested, simply requires the Contractor not to delay in his progress. Although connected and similar, the expressions "with due expedition" and "without delay" should, in the authors' view, be considered to give rise to separate obligations because it is likely that the fact that they have both been included would be taken into account in the interpretation of this provision. 'Due expedition' could be said to relate to a positive obligation to keep up the appropriate level of progress, whereas "without delay" conveys a negative obligation not to postpone or slow down progress.

Failure to proceed

5.62 The Employer's remedies if the Contractor fails to proceed are discussed at Chapter 8, paragraphs 8.27 *et seq.* and, in relation to the contract administrator's power to instruct the Contractor to expedite progress under Sub-Clause 8.6 (9.5 (G)), paras. 5.194 *et seq.* below.

Early warning and updates on progress

5.63 As part of the discussion on the Contractor's progress, it should be mentioned that the Contractor has specific reporting duties in relation to progress. Under Sub-Clause 4.21

[*Progress Reports*], the monthly progress reports to be submitted by the Contractor are to include charts and detailed descriptions of progress (sub-paragraph (a)) and comparisons of actual and planned progress (sub-paragraph (h)). In addition, under Sub-Clause 8.3 (8.4 (G)) the Contractor is under an obligation to inform the contract administrator of probable future events or circumstances which may adversely affect or delay the execution of the Works. In the Gold Book, this obligation is imposed on both Parties, and thus extends to the Employer (but interestingly not the Employer's Representative). In the Red, MDB, Yellow and Gold Books the contract administrator is then empowered to "require the Contractor to submit an estimate of the anticipated effect of the future events or circumstances, and/or a proposal under Sub-Clause 13.3 [*Variation Procedure*]".

SUSPENSION

Generally

5.64 Subject to the governing law, the Parties are not entitled to suspend the progress of the Works except where the Contract provides an express power. This power is granted to the contract administrator by Sub-Clause 8.8 (9.7 (G)). The Contractor is also entitled to suspend in limited circumstances under Sub-Clause 16.1 [*Contractor's Entitlement to Suspend Work*] in the event of certain specific failures on the part of the Employer or the contract administrator and upon giving the required 21 days' notice.[43]

Instruction to suspend

5.65 Sub-Clause 8.8 (9.7 (G)) gives the contract administrator the unilateral power to instruct the Contractor to suspend progress of all or part of the Works. This is a wide-reaching power because such an instruction may be given "at any time".[44] There are no restrictions on the reasons for or the time when an instruction to suspend can be given. However, only the contract administrator, and not the Employer,[45] has this power to instruct the Contractor to suspend. Accordingly, if the Employer wishes that progress should be suspended, he should request the contract administrator to issue the required instruction, rather than issue the instruction himself.

5.66 All the Books apart from the Gold Book do not require the contract administrator to give reasons for the suspension; only the Gold Book requires him to inform the Contractor of the reason. However, if the cause of the suspension is the responsibility of the Contractor and the Employer wishes to avoid having to compensate the Contractor for the consequences of the instruction to suspend, the contract administrator must notify the cause.

5.67 The Sub-Clause is silent as to the period of notice that must be given and the period within which the Contractor must comply with the instruction. This allows for the necessary degree of flexibility. For example, if the contract administrator decides to suspend

43. Sub-Clause 16.1. See Chapter 8, paras. 8.286 *et seq*.

44. Note that, in the Gold Book, the Employer's Representative has a similar power to instruct the Contractor to suspend progress of the Operation Service under Sub-Clause 10.6(c).

45. Except, of course, in the Silver Book where the power is vested in the Employer.

on account of safety, it may be that the suspension is to take effect immediately. By contrast, if the suspension is purely for the Employer's convenience, in practice, more notice may be given. In any event, when instructing the suspension the contract administrator should state expressly when the suspension is to come into effect.

Obligations during period of suspension

5.68 Following the contract administrator's instruction to suspend progress, the Contractor is required to protect, store and secure (and maintain (G))[46] the part of the Works, in respect of which progress has been suspended, against any deterioration, loss or damage during the suspension. This is consistent with the Contractor's obligation to take care of the Works under Sub-Clause 17.2 (17.5 (G)).

5.69 A major issue which arises in relation to any suspension instructed by the contract administrator (other than where the cause of the suspension is the responsibility of the Contractor) is whether the Contractor is entitled to demobilise its workforce and remove the Contractor's Equipment (insofar as his workforce and Contractor's Equipment are not required for the performance of the Contractor's obligation to protect, store and secure the part of the Works affected). The FIDIC forms do not contain any express entitlement of the Contractor to demobilise or remove the Contractor's Equipment as a result of a suspension instructed by the contract administrator. Moreover, Sub-Clause 4.17 [*Contractor's Equipment*] in the Red, MDB, Yellow and Gold Books provides that the Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the contract administrator.[47] Accordingly, the suspension notice issued by the contract administrator should indicate whether the Contractor is permitted to demobilise and/or remove any Contractor's Equipment or whether the Contractor is required to remain on standby at the Site and not remove any Contractor's Equipment. If not addressed in the notice, the Contractor can also request confirmation of these matters, which would be prudent in any event.

5.70 If the contract administrator requires the Contractor to remain on standby and to maintain the Contractor's Equipment at the Site, the Contractor will be entitled to recover the Cost incurred in doing so under Sub-Clause 8.9(b) (9.8(b) (G)) [*Consequences of Suspension*]. Equally, if the Contractor is permitted to demobilise and/or remove the Contractor's Equipment, and the Contractor does so, the contract administrator will need to take into account the time which will be needed by the Contractor to remobilise and return the Contractor's Equipment to the Site in assessing any extension of time to which the Contractor is entitled under Sub-Clause 8.9(a) (9.8(a) (G)). The Contractor may not be required to remain under suspension indefinitely. If the suspension has continued for more than 84 days, the Contractor may exercise its rights under Sub-Clause 8.11 (9.10 (G)).[48]

46. The authors consider that the obligations in the Red, MDB, Yellow and Silver Books to "protect, store and secure" are continuing obligations throughout the period of the suspension and intended to mean that the Contractor is required to ensure that there is no deterioration in the condition of the part of the Works affected. The addition of the word "maintain" in the Gold Book is, in the authors' view, intended to be no more than an express statement of this position and is not intended to impose an obligation to "maintain" the Works in the sense that a maintenance contractor is retained to perform maintenance works on an operating facility.

47. There is no equivalent provision in Sub-Clause 4.17 of the Silver Book.

48. See paras. 5.84–5.86 below.

5.71 The issue of demobilisation and/or removal of the Contractor's Equipment is unlikely to arise where the contract administrator instructs a suspension for a cause which is the responsibility of the Contractor. In this case, the Contractor will be focused on removing the cause of the suspension so that the suspension can be lifted.

5.72 Suspension under Sub-Clause 8.8 (9.7 (G)) relates only to progress of the Works and does not effect the Parties' other obligations under the Contract. Consequently, for example, the Employer's obligations in respect of payment under Sub-Clause 14.7 (14.8 (G)) will continue to the extent that under that such payments become due during the suspension.

Contractor's entitlement on suspension

5.73 Unless the contract administrator notifies the Contactor of the cause of the suspension and that cause is the responsibility of the Contractor, the Contractor has the entitlements set out in Sub-Clause 8.9–8.11 (9.8–9.10 (G)). To the extent that the cause is notified and is the responsibility of the Contractor, these Sub-Clauses do not apply.

5.74 The FIDIC forms do not define the situations where the cause of the suspension may be "the responsibility of the Contractor". The authors consider that suspensions which are necessary to prevent unsafe working, breach of the local laws and vitiation of the insurance would be suspensions for causes for which the Contractor is responsible. Further matters may also include a failure to submit a revised programme under Sub-Clause 8.3.

5.75 Sub-Clause 8.8 (9.7 (G)) provides that Sub-Clauses 8.9–8.11 (9.8–9.10 (G)) do not apply "to the extent that the cause . . . is the responsibility of the Contractor". If, for example, the contract administrator were to suspend the whole of the Works on account of safety, whereas in fact the concern could appropriately have been dealt with by a suspension of part of the Works, it is the authors' view that the suspension may only be considered to be for a cause for which the Contractor is responsible to the extent that the suspension related to the part of the Works affected by the issue of safety. Sub-Clauses 8.9–8.11 (9.8–9.10 (G)) would apply to the extent that the suspension did not relate to the part of the Works affected by the issue of safety.

5.76 If the whole of the Works are suspended for a cause for which the Contractor is responsible and the Contractor rectifies that cause, the question arises as to the Contractor's entitlement under Sub-Clauses 8.9–8.11 (9.8–9.10 (G)) if the suspension continues beyond the time when the Contractor rectified the cause. In the authors' view, Sub-Clauses 8.9–8.11 (9.8–9.10 (G)) would apply from the time that the Contractor rectified the cause because from that time the suspension ceased to be for a cause which is the responsibility of the Contractor.

Extension of time and Cost

5.77 Under Sub-Clause 8.9 (9.8 (G)), the Contractor is entitled to an extension of time for any delay and Cost incurred in complying with the contract administrator's instruction to suspend progress and in resuming the work. This Sub-Clause contains the standard Contractor-claim provisions found throughout the FIDIC forms, including that the Contractor's entitlement is subject to Sub-Clause 20.1.

5.78 Although Sub-Clause 20.1 itself contains a strict notice provision in the event that the Contractor considers himself entitled to any extension of time or additional payment, Sub-Clause 8.9 (9.8 (G)) also expressly requires the Contractor to give notice to the contract administrator if he suffers delay and/or incurs Cost as mentioned above. However, unlike Sub-Clause 20.1, there is no requirement for the Contractor to give this notice within a specified time. The *FIDIC Guide* suggests that he should do so as soon as possible after the receipt of the instruction to suspend[49] and this seems eminently sensible. However, this is not stated in the Contract. Unlike the notice under the first paragraph of Sub-Clause 20.1, the Contractor's failure to give a timely notice under Sub-Clause 8.9 would not bar the Contractor's entitlement under that Sub-Clause; however, failure to give the notice under Sub-Clause 8.9 in a timely fashion may, under the last paragraph in Sub-Clause 20.1, cause any entitlement to any extension of time and/or additional payment to be reduced to the extent (if any) that the failure prejudiced the proper investigation of the claim. Nevertheless, in practice, notice under both Sub-Clauses 8.9 (9.8 (G)) and 20.1 can be given at the same time in a single written communication by referring to both Sub-Clauses.

5.79 Although Sub-Clause 8.9 (9.8 (G)) provides only that the Contractor is entitled to the Cost incurred in complying with the contract administrator's instruction to suspend progress and resuming the work, it is suggested that this should not be construed literally but must have been intended to include the Cost incurred directly as a result of the suspension for which the Contractor will not otherwise be paid as part of the Contract Price. This would include the Cost of complying with the obligation under Sub-Clause 8.8 (9.7 (G)) to protect, store, etc. the Works.

5.80 However, logically, the Contractor's entitlement does not extend to an extension of time or payment of Cost incurred in rectifying matters for which he is responsible. Specifically, under the last paragraph in Sub-Clause 8.9 (9.8 (G)) the Contractor is not entitled to any extension of time or payment of the Cost incurred in remedying the consequences of his faulty design, workmanship or materials or in making good the consequences of his failure to comply with his obligation to protect, store, secure or maintain[50] in accordance with Sub-Clause 8.8 (9.7 (G)). Accordingly, it is unlikely, subject to the governing law, that the Contractor will be entitled to make a claim to rectify damage or deterioration to the Works, since (unless the cause of the damage or deterioration is an Employer's risk) the damage or deterioration is most likely to be attributable to a failure by the Contractor to protect, store and secure the affected part of the Works.

5.81 In the MDB form, under Sub-Clause 8.12, the Contractor is required only to make good any deterioration, defect in or loss of the Works, Plant or Materials "after receiving from the Engineer an instruction to this effect under the Clause 13 [*Variations and Adjustments*]". This addition has two consequences. First, the Contractor is under no obligation to make good in the absence of an instruction from the Engineer. Second, the Contractor is entitled to a Variation for the making-good. The Contractor's entitlement to a Variation in these circumstances is curious since, as noted above, the Contractor would not usually be entitled to any extension of time or additional payment for carrying out rectification works (unless the cause of the damage or the deterioration is an Employer's

49. *FIDIC Guide*, p. 180.
50. Gold Book only.

risk). One possible reconciliation of Sub-Clauses 8.9 and 8.12 in this Book might be that the Engineer is to instruct the rectification work as a Variation under Sub-Clause 8.12 (and Clause 13) but that, in the circumstances set out in the final paragraph of Sub-Clause 8.9, the Contractor would not be entitled to any time or money in respect of this Variation.

Payment for Plant and Materials

5.82 Although suspension of progress does not suspend the Employer's payment obligations, under almost every Contract the amount to which the Contractor is entitled to be paid will in some way be connected with progress, as opposed simply to time. Consequently, suspension can have a significant impact on the Contractor's cash flow by delaying payment of amounts to which, if the progress had not been suspended, he would have been entitled earlier. This is particularly pertinent in relation to the supply of Plant and Materials that have not yet been delivered to the Site. The FIDIC forms seek to address this in Sub-Clause 8.10 (9.9 (G)) [*Payment for Plant and Materials in Event of Suspension*]. Under this Sub-Clause, the Contractor is entitled to payment of the value of Plant and Materials (as at the date of suspension) which have not been delivered to Site if the work on the Plant or delivery of Plant or Materials has been suspended for more than 28 days and the Contractor has marked the relevant Plant and Materials as the Employer's property as instructed by the contract administrator. This is, in effect, an 'on account' payment of amounts to which the Contractor will later become entitled as payment for executing the Works.

5.83 At the time when the Contractor becomes entitled to payment under Sub-Clause 8.10 (9.9 (G)) of (or under the MDB, is paid) the value of an item of Plant or Materials, that item will become the property of the Employer under Sub-Clause 7.7 [*Ownership of Plant and Materials*] (to the extent that this transfer of ownership is consistent with the Laws of the Country).[51]

Prolonged suspension

5.84 Although the contract administrator has an unfettered discretion to instruct the Contractor to suspend progress, the suspension is not permitted to continue indefinitely if the Contractor is not responsible for its cause. Under Sub-Clause 8.11 (9.10 (G)) [*Prolonged Suspension*], if the suspension continues for 12 weeks and the cause of the suspension is not the responsibility of the Contractor, the Contractor may request the contract administrator's permission to proceed with the suspended work. Unless this permission is given within 28 days after the request, the Contractor is entitled to specific remedies depending on whether the suspension affected a part or the whole of the Works.

5.85 If the suspension affects only part of the Works, the Contractor may elect, by giving notice to the contract administrator, to treat that part of the Works "as an omission under Clause 13 [*Variations and Adjustments*]". Omissions are referred to only in Sub-Clause 13.1 of Clause 13, and this Sub-Clause relates to the initiation of Variations. Consequently, on

51. Sub-Clause 9.9 of the Gold Book further makes the Contractor's entitlement to payment under this Sub-Clause subject to production of satisfactory evidence by the Contractor that the relevant "Plant and/Materials are fully owned by the Contractor and are not subject to any retention of title by the supplier".

the Contractor's notice, the affected part should be treated as work having been omitted on the instruction of the contract administrator and valued in accordance with the principles for valuing Variations under the different forms.[52] It also follows that the work that is treated as omitted cannot subsequently be awarded to another contractor.[53] If the suspension affects the whole of the Works, the Contractor is entitled to terminate the Contract under Sub-Clause 16.2.[54]

5.86 Under Sub-Clause 8.11 (9.10 (G)), the Contractor may have to wait for up to 16 weeks of suspension before he has any remedy. In long-term projects, this may not be a relatively significant period of time. However, the suspension provisions are potentially open to abuse by the contract administrator given the wide discretion that he has in giving an instruction to suspend. There is nothing in the FIDIC Conditions to prevent him from giving permission to proceed on the 28th day after Contractor's request and then instructing a new suspension the following day, which would restart the clock and require the Contractor to wait a further 12 weeks before he can request permission to proceed again. As a result, if the Contractor is concerned that the Contract may be administered in this way and the governing law does not provide any remedy, the Contractor may wish to seek to amend the terms of this Sub-Clause so that the remedies under it are available after an aggregate period of suspension for which the Contractor is not responsible in any given calendar period.

Resumption of work

5.87 The FIDIC forms do not expressly address the procedure to be followed by the contract administrator for the resumption of work. It is, however, implicit in Sub-Clause 8.12 (9.11 (G)) [*Resumption of Work*], which refers to "the instruction to proceed", that it is envisaged that the contract administrator will instruct the Contractor to resume work.[55] Alternatively, after a prolonged suspension, the Contractor may also request permission to proceed.[56]

5.88 After permission or the instruction to proceed is given by the contract administrator, the Contractor and the contract administrator are required to carry out a joint inspection of the Works, the Plant and the Materials affected by the suspension.[57] The likely purpose of this inspection is to prepare a jointly agreed (if possible) record of the condition of the Works, Plant and Materials, and to identify any remedial work that may be required. Indeed, this is an express requirement of the Employer's Representative in Sub-Clause 9.11 of the Gold Book. This is because the Contractor is required to rectify any deterioration, defect in or loss to the Works, Plant or Materials which has occurred during the suspension. Under Sub-Clause 8.12 of the MDB, however, the Contractor is required to carry out this work only after receiving an instruction from the Engineer to this effect under Clause 13. As to the Contractor's entitlement to time and money in respect of such a Variation, see paragraph 5.81 above.

52. See Chapter 4, para. 4.73 *et seq.*
53. See Chapter 3, paras. 3.304–3.305 and 3.310.
54. Sub-Clause 16.2(f) (R/M/Y/G); Sub-Clause 16.2(e) (S). See Chapter 9.
55. See Chapter 6, paras. 6.109 *et seq.*
56. See paras. 5.84–5.86 above.
57. Sub-Clause 8.12.

OBLIGATION TO COMPLETE

Generally

5.89 A contractor's obligation to complete the work which he has agreed to carry out within the time required by the contract is one of the most important obligations under almost every construction contract. In this respect, all the Books adopt near identical provisions, which are found in Sub-Clause 8.2 [*Time for Completion*] of the Red, MDB, Yellow and Silver Books, and in Sub-Clause 9.2 [*Time for Completion of Design-Build*] of the Gold Book:

- Sub-Clause 8.2 of the Red, MDB, Yellow and Silver Books provides that "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)".
- Sub-Clause 9.2 of the Gold Book provides that "The Contractor shall complete the whole of the Design-Build of the Works, and each Section (if any), within the Time for Completion of the Design-Build of the Works or Section (as the case may be) as set out in the Contract Data".

5.90 In view of the Contractor's additional obligations under the Gold Book to provide the Operation Service, the Contractor's obligation of timely completion relates only to the Design-Build element of the Contractor's obligations. This obligation is, in fact, not only found in Sub-Clause 9.2 but also in Sub-Clause 8.2,[58] which requires the Contractor to "complete the whole of the Design-Build and each Section (if any), in accordance with Sub-Clause 9.2 . . . , or as extended under Sub-Clause 9.3".[59] Despite Sub-Clause 8.2 referring to the "whole of the Design-Build" and Sub-Clause 9.2 referring to the "whole of the Design-Build of the Works", it is suggested that these provisions are intended to have the same effect and require the Contractor to complete the Design-Build within the Time for Completion of the Design-Build.[60]

5.91 The FIDIC forms also allow for the possibility of requiring the Contractor to complete specified parts of the Works, or "Sections", at different times both from each other and from when Works or, in the Gold Book, the Design-Build of the Works as a whole[61] are required to be completed. The relevant provisions have been drafted in such a way that the same provisions govern the time obligation in respect of completing both the whole of the Works (or Design-Build of the Works (G)) and any Sections.

5.92 The Contractor's obligations under Sub-Clause 8.2 (9.2 (G)) must be read together with Sub-Clause 8.7 (9.6 (G)), which sets out the consequences if the Contractor fails to comply with Sub-Clause 8.2 (9.2 (G)), and Sub-Clause 10.1 (11.5 (G)), which deals with

58. Sub-Clause 8.2 also includes the Contractor's obligation to provide the Operation Service for the period stated in the Contract Data. This is only provision in the Gold Book which expressly deals with the period of the Contractor's Operation Service obligations.

59. The inclusion of the words "or as extended under Sub-Clause 9.3" is circular. Sub-Clause 9.2 requires the Contractor to complete the whole of the Design-Build of the Works within the Time for Completion of Design-Build which, by definition, includes any extension under Sub-Clause 9.3.

60. The example form of Contract Data included with the Gold Book contains duplicate provisions for specifying the "Time for Completion of Design-Build" (Sub-Clauses 1.1.78 and 9.2) but does not include a space for specifying the "Time for Completion of the Design-Build of the Works".

61. The significance of the expression "whole of the Works" as opposed to "the Works" appears to be simply to differentiate the intervening obligations to the complete the individual Sections.

the issue of Taking-Over Certificates or, in the Gold Book, Commissioning Certificates. This is because the Contractor's obligation of timely completion is inextricably linked to his liability for delay damages under Sub-Clause 8.7 (8.5 and 9.6 (G)). These delay damages are expressly stated to be the only damages due from the Contractor for his failure to comply with Sub-Clause 8.2 (9.2 (G)). In addition, the period in respect of which the Contractor is liable to pay delay damages ceases on the date stated in the Taking-Over Certificate or Commissioning Certificate (G). See paragraph 5.151 below as to the contents of a Taking-Over Certificate (which applies equally to a Commissioning Certificate (G)).

5.93 Taking-over marks the stage at which the Works are handed back to the Employer[62] for use. It is related to the Employer's entitlement to delay damages because once the Employer has the right to use the Works he, in principle, ceases to suffer losses due to the delay of the Contractor in completing the Works, for which damage the delay damages are the only damages payable. As its name suggests, the issue of the Taking-Over Certificate plays a major role in the taking-over process under the FIDIC forms.

5.94 In the Gold Book, the Works are not taken over by the Employer on completion because, after completion, the Contractor maintains possession of the Works for their operation during the Operation Service Period. Consequently, there is no provision in this Book for the issue of a Taking-Over Certificate. Instead, completion is marked by the issue of a Commissioning Certificate, which is similar, but not identical, to the Taking-Over Certificate under the other Books. In addition, the Gold Book includes additional provisions relating to completion of the Design-Build which are not found in the other Books.

5.95 The Contractor's obligation to complete the Works within the Time for Completion should be distinguished from completion of his obligations under the Contract, which are not considered to have been fulfilled until the issue of the Performance Certificate or, under the Gold Book, the Contract Completion Certificate.

Time for Completion

5.96 In the Red, MDB, Yellow and Silver Books, "Time for Completion" is defined as[63]:

- "the time for completing the Works or a Section (as the case may be)" under Sub-Clause 8.2
- as stated in the relevant contract document[64]
- with any extension under Sub-Clause 8.4 [*Extension of Time for Completion*],
- calculated from the Commencement Date.[65]

5.97 In the Gold Book, "Time for Completion"' is not a defined term. Instead, this Book adopts "Time for Completion of Design-Build", presumably to make it clear that this obligation relates only to the Design-Build and not the Contractor's Operation Service obligations. The definition of "Time for Completion of Design-Build" in Sub-Clause 1.1.8 is similar to "Time for Completion" in the other Books, namely:

62. Or where the Employer re-takes possession of the Works.
63. Sub-Clause 1.1.3.3 (R/M/Y/S).
64. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).
65. See paras. 5.8 *et seq.* above.

- the time for completing the Design-Build or a Section thereof (as the case may be) under Sub-Clause 9.2
- as stated in the Contract Data
- with any extension under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]
- calculated from the Commencement Date.

5.98 The differences between the "Time for Completion of Design-Build" in the Gold Book and the "Time for Completion" in the other Books are not material for the purposes of this chapter and so, for brevity and convenience to the reader, references below to "Time for Completion" should be read as also referring to "Time for Completion of Design-Build" under the Gold Book.[66]

5.99 In relation to the definition of Time for Completion, the key points here are that the Time for Completion is the time stated in the relevant contract document[67] and it runs from the Commencement Date. It should also be apparent from its definition that the Time for Completion is not fixed and may be extended under Sub-Clause 8.4 (9.3 (G)). Extensions of time are considered in more detail in Chapter 8, paragraphs 8.236 *et seq*.

5.100 It is intended that the "Time for Completion" will be a period of time (i.e., a number of days) and not a specific date. This appears from the words "calculated from the Commencement Date". Therefore, the Time for Completion should be specified in the relevant contract document also as a number of days (as indicated in the example forms of these documents included in the Books). These are calendar days and not working days.[68] If the Time for Completion is specified in the relevant contract document as a date, as opposed to a number of days, the Contractor's obligation would be to complete by the stated date. This date would remain unaffected whether or not the Commencement Date was at the beginning or end of the 42-day period set out in Sub-Clause 8.1, if the Commencement Date is not also stated as a date (which it might be in the Silver Book, for example).

5.101 Sub-Clause 8.2 (9.2 (G)) requires only that the Contractor complete the Works or, in the Gold Book, the Design-Build of the Works *within* the Time for Completion. Therefore, the Contractor is permitted to complete before the expiry of this period.

Extent of 'completion' required

5.102 The Contractor's obligation under Sub-Clause 8.2 (9.2 (G)) is to complete the whole of the Works or, in the Gold Book, the Design-Build of the Works within the Time for Completion. This gives rise to the question as to what is required of the Contractor to discharge this obligation.

5.103 In general, the Contractor is not required to complete the Works or Design-Build (G) *absolutely* within the Time for Completion but to the extent specified in the Contract

66. In the Gold Book, however, Sub-Clauses 5.1, 9.6 and 13.3 refer to the "Time for Completion" and not the "Time for Completion of Design-Build". In addition, the example form of Contract Data included in the Gold Book makes provision for the "Time for Completion for each Section" to be specified. Given that "Time for Completion" is not a defined term in the Gold Book, it is suggested these words are intended to read as "Time for Completion of Design-Build".

67. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

68. "Day" is defined under Sub-Clause 1.1.3.8 (R/M/Y/S) and Sub-Clause 1.1.28 (G) as "a calendar day".

upon which they will be considered complete for these purposes. In addition, the FIDIC forms all provide for other matters, not strictly falling within the definition of the Works, which are required as conditions precedent for the Works to be considered to have been completed.

5.104 The relevant provisions of the Gold Book are notably different from those in the other Books and, consequently, the Gold Book is considered separately below.

Red, MDB, Yellow and Silver Books

Completion of the whole of the Works (and Sections)

5.105 Under Sub-Clause 8.2 of the Red, MDB, Yellow and Silver Books, the Contractor is required to "complete the whole of the Works, and each Section (if any) within the Time for Completion for the Works, and each Section (as the case may be)". The words "complete the whole of the Works" here, however, should not be read in isolation as an absolute obligation.

5.106 If the Contractor fails to comply with Sub-Clause 8.2, he is liable, under Sub-Clause 8.7 [*Delay Damages*], to pay delay damages to the Employer. These delay damages are stated to be payable for each day between the Time for Completion and the date stated in the Taking-Over Certificate. Under Sub-Clause 10.1 [*Taking Over of the Works and Sections*], the date to be stated in the Taking-Over Certificate is not the date on which the Contractor completed the whole of the Works but the date that the Contractor completed the Works or Section "in accordance with the Contract . . . *except for any minor outstanding work and defects which will not substantially affect the use of the Works . . . for their intended purpose* (either until or whilst this work is completed and these defects are remedied)" (emphasis added).

5.107 It follows that the Contractor is not required to complete the Works absolutely for them to be considered completed for the purposes of Sub-Clause 8.2, but complete them subject to the permitted minor outstanding work and defects. This is not the same as achieving 'substantial completion',[69] the concept used in the 4th Edition of the Red Book.[70] The approach taken in the FIDIC forms is, however, commonly adopted in international bespoke contracts.

5.108 In respect of the Yellow and Silver Books, the obligation to complete the Works in accordance with the Contract will include completing any work that is necessary to fulfil the Employer's Requirements.[71]

5.109 In principle, it is a question of fact whether the Works (or Section) have been completed to the required extent such that the Works (or Section) can be used for their intended purpose without such use being "substantially affected" by any minor outstanding work or defects. In practice, the scope of the work that the contract administrator considers must be completed prior to the Works (or Section) being considered completed for the purposes of Sub-Clause 10.1 will frequently be the subject of discussions between the

69. But see comments concerning the deemed issue of a Taking-Over Certificate under Sub-Clause 10.1 at paras. 5.156–5.159 below.

70. Sub-Clause 48.1. The standard of 'substantial completion' is used in other standard forms, for example, the ICE forms.

71. Under Sub-Clause 4.1 (Y/S), the Works includes "any work which is necessary to satisfy the Employer's Requirements, [Contractor Proposals (Y) and Schedules (Y)]".

Contractor and the contract administrator well in advance of the Contractor's application for a Taking-Over Certificate. A 'punchlist' (or 'snagging list') is commonly drawn up by the contract administrator to identify this work together with the "minor outstanding work and defects" which may be completed or rectified during the Defects Notification Period. If there is any disagreement between the Parties as to whether the work listed in the punchlist falls within the exception of "minor outstanding works and defects", this is likely to give rise to dispute that could be referred to the DAB.

5.110 In any event, Sub-Clause 10.4 [*Surfaces Requiring Reinstatement*] in the Red, MDB and Yellow Books provides that "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."

Other matters required for Works to be considered completed

5.111 In addition to the Works being completed to the extent required under Sub-Clause 10.1, Sub-Clause 8.2 of the Red, MDB, Yellow and Silver Books expressly states that the Contractor's obligation to complete the Works within the Time for Completion "includes" additional matters which do not strictly fall within the definition of the "Works".[72] In effect, Sub-Clause 8.2 makes these additional matters conditions precedent for the Works to be considered to have been completed for the purposes of this Sub-Clause. The relevant additional matters required by the different Books are set out in Table 5.1.

5.112 By Sub-Clause 8.2(a), all the Books require that the Works must have passed the Tests on Completion as a condition precedent for the Works to be considered to have been completed. Tests on Completion are discussed in Chapter 3, paragraphs 3.385 *et seq*. However, if the Works fail the Tests on Completion after an initial failure, the Employer has the option under Sub-Clause 9.4(c) to elect to have a Taking-Over Certificate issued.[73]

5.113 Under Sub-Clause 8.2(b), the Contractor is also required to have completed "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". In this respect, various Sub-Clauses in these Books expressly identify such work by the expression "The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 until . . . ". The work that is required under the different Books varies as between the Books and is listed in Table 5.1. Work that falls within Sub-Clause 8.2(b) is not limited to the work identified in the General Conditions. The obligation under this Sub-Clause relates to work stated in the "Contract" which includes not only the Conditions but also the other documents forming the Contract.[74] Nevertheless, it is apparent that, to invoke this provision, it is intended that the required work should be expressly identified

72. The "Works" are defined as "the Permanent Works and the Temporary Works, or either of them as appropriate" (Sub-Clause 1.1.5.8 (R/M/Y/S)). In turn, the "Permanent Works" are defined as "the permanent works to be [designed and (Y/S)] executed by the Contractor under the Contract" (Sub-Clause 1.1.5.4 (R/M/Y/S)); and the "Temporary Works" are defined as "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" (Sub-Clause 1.1.5.7 (R/M/Y/S)).

73. In addition, under Sub-Clause 10.3, the Employer is deemed to have taken-over the Works (or Section) 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.

74. Sub-Clause 1.1.1.1 (R/M/Y/S).

using a similar expression as is used in the General Conditions.[75] The most appropriate location for this work to be identified as being required for the purpose of Sub-Clause 10.1 is most likely to be the Specification in the Red Book and MDB, and in the Employer's Requirements in the Yellow and Silver Books.

5.114 Where a contractor carries out the design of the works (or an element of the works), certain documents relating to this design are usually required to have been provided by the contractor as a condition precedent to the issue of the relevant taking-over certificate. The FIDIC forms are no different and it is through Sub-Clause 8.2(b) in the Red, MDB, Yellow and Silver Books that they make the submission of certain Contractor's Documents to the contract administrator a condition precedent for the Works to be considered to be completed before a Taking-Over Certificate will be issued.

5.115 Under the Red Book and MDB, where the Contractor is required to design part of the Permanent Works, submission to the Engineer of the "as-built" drawings 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 (Sub-Clause 4.1(d)).

5.116 Under the Yellow and Silver Books, the following matters are required before the Works are to be considered to be completed:

- supply by the Contractor to the Engineer (Y) or Employer (S) of the specified number and types of copies of the as-built drawings in accordance with the Employer's Requirements (Sub-Clause 5.6);
- receipt by the Engineer (Y) or Employer (S) of the final operation and maintenance manuals and such other manuals as are specified in the Employer's Requirements (Sub-Clause 5.7);[76]
- training by the Contractor of the Employer's Personnel in relation to operation and maintenance of the Works if the Contract specifies that such training is to be carried out before taking-over (Sub-Clause 5.5).

75. The *FIDIC Guide* helpfully suggests that the expression "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 . . . " should be used whenever the Contract is to require a particular item of work to be completed within the Time for Completion and prior to taking-over (p. 169).

76. The second paragraph of Sub-Clause 5.7 (Y/S) refers to the receipt of "final operation and maintenance manuals in such detail, and other manuals specified in the Employer's Requirements for these purposes". Although not entirely clear, the authors consider that the words "in such detail" are intended to refer back to the first paragraph of that Sub-Clause, which concerns the supply of provisional operation and maintenance manuals, which must be "in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant".

Table 5.1: Additional matters identified under Sub-Clause 8.2 (9.2 (G)) and other related Sub-Clauses as being required to be completed within the Time for Completion

Sub-para	Red Book and MDB	Yellow and Silver Books	Gold Book*
(a)	Achieving the passing of the Tests on Completion.		Passing the Tests on Completion under Sub-Clause 11.1.
(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: Where the Contractor is required to design part of the Permanent Works, submission to the Engineer of the "as-built" drawings 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 (Sub-Clause 4.1(d)).	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) Supply to the Engineer (Y) or Employer (S) the specified number and types of copies of the as-built drawings in accordance with the Employer's Requirements (Sub-Clause 5.6). (ii) Receipt by the Engineer (Y) or Employer (S) of final operation and maintenance manuals in such detail and any other manuals specified in the Employer's Requirements for these purposes (Sub-Clause 5.7). (iii) Completion of training if the Contract specifies training which is to be carried out before taking-over (Sub-Clause 5.5).	Completing all work which is stated in the Contract as being required under Sub-Clause 11.5: (i) *Supply to the Employer's Representative the specified number and types of copies of the as-built drawings, in accordance with the Employer's Requirements (Sub-Clause 5.5).*** (ii) *Supply to the Employer's Representative of the balance of the required operation and maintenance manuals (Sub-Clause 5.6).***

Sub-para	Red Book and MDB	Yellow and Silver Books	Gold Book*
(c)	–	–	Preparation and delivery to the Employer's Representative of Contractor's Documents required under Sub-Clause 5.2.

Notes:

* Only the matters expressly or indirectly identified under Sub-Clause 9.2 in the Gold Book are listed in this table.

** The text in italics sets out work that is stated, in the Gold Book, as being required under Sub-Clause 11.7 but not Sub-Clause 11.5. No work is in fact stated in the General Conditions as being required under Sub-Clause 11.5. For the purpose of this comparison, therefore, the reference to Sub-Clause 11.7 in the relevant Sub-Clauses has been taken to be a reference to Sub-Clause 11.5.

5.117 Note that under Sub-Clause 5.2 of the Yellow and Silver Books, the Contractor's Documents are stated to include "documents required to satisfy all regulatory approvals" but there is no corresponding requirement in the General Conditions that these must be provided prior to taking-over. However, if these documents are not supplied, the Employer may not be able to obtain an operation permit for the Works. Consequently, it may be appropriate for these documents to be expressly identified as being required for the purposes of taking-over under Sub-Clause 10.1.[77]

5.118 It is notable that the Contractor's obligation to clear the Site of Contractor's Equipment, surplus material etc. and to dismantle the Temporary Works only arises "upon the issue of a Taking-Over Certificate"[78] and that this obligation does not have to be completed as a condition precedent before a Taking-Over Certificate may be issued under Sub-Clause 10.1.

Gold Book

5.119 As with the other Books, the starting point in the Gold Book is Sub-Clauses 9.2 and 9.6, which are similar to Sub-Clauses 8.2 and 8.7 in the other Books. Sub-Clause 9.2 in full provides:

"The Contractor shall complete the whole of the Design-Build of the Works, and each Section (if any) within the Time for Completion of Design-Build for the Works or Section (as the case may be) as set out in the Contract Data, including:

(a) passing the Tests on Completion[79] under Sub-Clause 11.11 [*Testing of the Works*];

77. In the Gold Book, the Contractor is required to provide these documents for the Works to be considered to be completed under Sub-Clauses 9.2(c) and 11.5. Sub-Clause 9.2(c) requires the Contractor to prepare and deliver to the Employer's Representative "Contractor's Documents required under Sub-Clause 5.2".

78. Sub-Clause 4.23 (R/M/Y/S).

79. Note that, in the Gold Book, "Tests on Completion" is not a defined term. Instead, its equivalent to that in the other Books is "Tests on Completion of Design-Build" (Sub-Clause 1.1.76). Nevertheless, it is suggested that this expression is clearly indeed to be read as "Tests on Completion of Design-Build". Tests on Completion of Design-Build are considered further in Chapter 3, paras. 3.402 *et seq*.

(b) completing all work which is stated in the Contract as being required under Sub-Clause 11.5 [*Completion of the Works and Sections*]; and
(c) preparation and delivery to the Employer's Representative of Contractor's Documents required under Sub-Clause 5.2 [*Contractor's Documents*]."

5.120 As in the other Books, therefore, Sub-Clause 9.2 in the Gold Book requires the Contractor to complete, within the Time for Completion, various other matters which do not strictly fall within the "Design-Build of the Works" and "Sections" but which are required as conditions precedent for them to be considered to have been completed for this purpose. These matters are set out in Table 5.1 above. Similarly, if the Contractor fails to comply with Sub-Clause 9.2, he is liable, under Sub-Clause 9.6 [*Delay Damages relating to Design-Build*], to pay delay damages to the Employer, which are stated to be payable for each day that elapses between the "relevant Time for Completion" and the date stated in the Commissioning Certificate.

5.121 However, the question as to what is required of the Contractor in order to comply with his obligations under Sub-Clause 9.2 is not as straightforward as in the other Books. This is because, although "Commissioning Certificate" is defined as "the certificate issued by the Employer's Representative to the Contractor under Sub-Clause 11.7", the Gold Book contains not one (as in the other Books) but two Sub-Clauses, Sub-Clauses 11.5 and 11.7, which govern the issue of Commissioning Certificates. The scope of these provisions would, on the face of the drafting, appear to be different: Sub-Clause 11.5 is stated to apply to the issue of a Commissioning Certificate in respect of the Works or Section, whereas the Commissioning Certificate issued under Sub-Clause 11.7 relates to completion of the Contractor's Design-Build obligations.

5.122 Moreover, the Gold Book includes, in Sub-Clauses 11.5 [*Completion of the Works and Sections*] and 9.12 [*Completion of Design-Build*], additional provisions not found in the other Books, which expressly set out when completion is deemed or considered to have been achieved. The scope of these provisions would again appear, on the face of the drafting, to be different, with Sub-Clause 11.5 relating to the Works and Sections and Sub-Clause 9.12 relating to the Design-Build.[80]

5.123 In the authors' view, the draftsmen would appear to have intended that there should be only one Commissioning Certificate for the Design-Build/Works and that, accordingly, Sub-Clauses 11.5 and 11.7 should be construed as being complementary and relate to the issue of a single Commissioning Certificate. Similarly, the authors also consider that it was intended that the Contractor's obligations to complete the Design-Build of the Works under Sub-Clause 9.2 and to complete the Design-Build in accordance with Sub-Clause 9.12 should be construed as a single obligation. Whilst the drafting is unclear, the authors have adopted this approach in seeking to interpret these provisions. The authors, however, recommend that Parties should include appropriate amendments in the Contract to clarify whether a single Commissioning Certificate is envisaged and when the Design-Build/Works will be considered to have been completed for the purposes of issuing such

80. The requirements of these provisions are also circular in that the Works/Section or Design-Build are not deemed or considered to be completed until a Commissioning Certificate has been issued in respect of the Works/Section or Design-Build under Sub-Clauses 11.5 and 11.7, respectively. However, a requirement for the issue of a Commissioning Certificate under both Sub-Clause 11.5 and 11.7 is that the Works/Section or Design-Build have been completed in accordance with the Contract, which, in the case of the Design-Build, it is suggested, requires the conditions set out in Sub-Clause 9.12 to have been satisfied.

a Commissioning Certificate, which reflect their intentions in relation to their particular project.

5.124 Sub-Clauses 11.5 and 9.12 expressly require matters additional to those set out in Sub-Clause 9.2 to have been completed as conditions precedent for the issue of a Commissioning Certificate under the respective Sub-Clause. The specific requirements of Sub-Clause 9.12 are, however, inconsistent with the provisions of Sub-Clauses 9.2 and 11.5, and the list of matters in Sub-Clause 9.12 is incomplete. For example, Sub-Clause 9.12(c) introduces an additional requirement of the Employer's Representative's *approval* of the as-built and operation and maintenance manuals to be submitted under Sub-Clauses 5.5 and 5.6 respectively. Yet, under Sub-Clauses 5.5 and 5.6 (and by reference Sub-Clause 9.2(b)), the Contractor is required only to supply these documents, and not also obtain the Employer's Representative's approval. A comparison of the matters listed in Sub-Clauses 9.12 and 11.5 is set out in Table 5.2 below. In the authors' view, the Contractor will be required to comply with all of these provisions in order for the Design-Build/Works to be considered completed and be entitled to a Commissioning Certificate. In this way, it is suggested that the provisions of Sub-Clauses 9.2, 9.12, 11.5 and 11.7 should be read as being complementary. The authors, however, recommend that the Parties clarify these provisions to remove the inconsistencies and to ensure certainty as to the requirements for their particular project is reflected.

Completion of the whole of the Design-Build/Works

5.125 Sub-Clause 11.5 of the Gold Book is drafted in similar terms to Sub-Clause 10.1 in the other Books and, on the same basis as for the other Books, requires the Contractor to have completed the Works 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". However, unlike the other Books, the outstanding work and defects that are required to be remedied must also be listed in the Commissioning Certificate issued under that Sub-Clause.

5.126 In addition, under Sub-Clause 9.12(a), the Works are required to have been "fully designed and executed in accordance with the Employer's Requirements and other relevant provisions of the Contract".

Other matters required for Design-Build/Works to be considered completed

5.127 As with Sub-Clause 10.2 in the other Books, Sub-Clause 11.5 expressly requires additional matters "described in Sub-Clause 9.2" to be completed as part of the Contractor's obligation to complete the Works in accordance with the Contract. These additional matters, along with further matters specified in Sub-Clauses 9.12 and 11.5 can, therefore, be considered as conditions precedent for the Design-Build/Work to be considered to be completed.

5.128 Sub-Clause 9.2(b) is essentially the equivalent to Sub-Clause 8.2(b) in the other Books, although in a more abbreviated form, and as with the other Books, two Sub-Clauses in the Gold Book, Sub-Clauses 5.5 and 5.6, identify specific matters that must be

completed for the Design-Build/Works to be considered completed for the purposes of issuing the Commissioning Certificate.[81]

5.129 Tests on Completion of Design-Build. Sub-Clause 9.2(a) requires the passing of the Tests on Completion under Sub-Clause 11.1. Although "Tests on Completion" is not a defined term, this is clearly intended to be read as "Tests on Completion of Design-Build". This requirement is repeated in Sub-Clause 9.12(b).

5.130 As-built drawings, operation and maintenance manuals and Contractor's Documents. Under Sub-Clause 5.5, the Contractor is required to supply to the Employer's Representative the as-built drawings in accordance with the Employer's Requirements; and under Sub-Clause 5.6 to supply to the Employer's Representative the balance of the required operation and maintenance manuals which the Contractor has not already provided prior to the Commissioning Period. Sub-Clause 9.12(c) also requires these documents to be supplied, but adds the additional requirement that they have also been approved by the Employer's Representative before the Design-Build/Works is to be considered to be complete.

5.131 Under Sub-Clause 9.2(c), the Contractor is required to prepare and deliver to the Employer's Representative "Contractor's Documents required under Sub-Clause 5.2 [*Contractor's Documents*]" within the Time for Completion of Design-Build. This obligation supplements that in Sub-Clause 9.2(b) and extends the documents that must be submitted prior to the Design-Build/Works being considered to be completed to *all* Contractor's Documents, including documents required to satisfy regulatory approvals.[82]

Table 5.2: Comparison of matters expressly required under Sub-Clauses 9.12 and 11.5 of the Gold Book for the Design-Build and Works, respectively, to be considered or deemed to be complete

	Sub-Clause 11.5	**Sub-Clause 9.12**
	Works	**Design-Build**
Works	The Works have been 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 and have been listed in the Commissioning Certificate (sub-paras. (a) and (i)).	The Works have been fully designed and executed in accordance with the Employer's Requirements and other relevant provisions of the Contract (sub-para. (a)).

81. These Sub-Clauses refer to the issue of the Commissioning Certificate under Sub-Clause 11.7 and not Sub-Clause 11.5. On the basis that Sub-Clauses 11.5 and 11.7 should be considered to be complementary and read together, this work must be completed before the Commissioning Certificate can be issued.

82. As noted in para. 5.117 above, there is no equivalent condition in the Yellow and Silver Books, and thus the Contractor is not required to provide, for example, documents required to satisfy regulatory approvals unless specified in the Contract.

	Sub-Clause 11.5	Sub-Clause 9.12
	Works	**Design-Build**
Tests on Completion of Design-Build	Passing of Tests on Completion under Sub-Clause 11.1 (sub-para (a), 9.2 (a)).	The Works have passed the Tests on Completion of Design-Build in accordance with Sub-Clause 11.1 (sub-para. (b)).
As-Built	*Employer's Representative has received the relevant as-built drawings in accordance with the Employer's Requirements (sub-para. (a), 9.2(b)).**	As-built drawings in accordance with Sub-Clause 5.5 have been supplied and approved by the Employer's Representative (sub-para. (c)).
O&M	*Employer's Representative has received all operation and maintenance manuals (sub-para. (a), (9.2(b)))**	Operation and maintenance manuals in accordance with Sub-Clause 5.6 have been supplied and approved by the Employer's Representative (sub-para. (c)).
Contractor's Documents	Preparation and delivery to the Employer's Representative of the Contractor's Documents required under Sub-Clause 5.2 (sub-para. (a), 9.2(c)).	–
Commissioning Certificate	Issue, or deemed issue, of a Commissioning Certificate in accordance with Sub-Clause 11.5 (sub-para. (b)).	Issue of the Commissioning Certificate required under Sub-Clause 11.7 (sub-para. (d)).

Notes:

* Text in italics sets out work that is required under Sub-Clause 11.5(a), by reference to the matter described in Sub-Clause 9.2.

Sectional completion

5.132 All the Books make provision to require the Contractor to complete specified parts of the Works, or "Sections", by different times within the Time for Completion of the Works or Design-Build (G). This is achieved by relating the Contractor's obligations in the Conditions, not only to the Works, but also to Sections. Consequently, the same provisions relating to the completion of the Works, as discussed in paras. 5.96–5.131 above, apply equally to completion of Sections. By these provisions, the Works can be put into use in phases once each Section has been completed, without waiting for the whole of the Works to be completed. There are advantages to both Parties: the Employer is entitled to use parts of the Works as soon as they have been completed and are ready for use; the Contractor will also reduce his exposure in relation to the risk of loss or damage to the Works, liability for delay damages, and liability to rectify defects, since the Defects Notification Period for that Section will start upon completion of the Section.

5.133 "Section" is defined as a part of the Works specified in the relevant contract document[83] as a Section (if any).[84] To invoke the provisions for sectional completion, for parts of the Works to have the status of Sections it is therefore essential that they are expressly specified as such in the relevant contract document. The definition of these Sections should be in sufficient detail to avoid any uncertainty as to what part of the Works they relate, for example with precise geographical details.[85] If no Sections are defined in the relevant contract document (or elsewhere in the Contract), the sectional completion provisions will not apply.

5.134 Importantly, for the provisions relating to Sections to operate as intended, the following Section-specific information should also be set out in the relevant contract document:

- a Time for Completion for each Section;[86]
- a rate for the delay damages that will apply to each Section; and
- the percentage value of each Section for the purpose of releasing Retention Money (if this option is adopted).

5.135 If no separate Time for Completion is specified, the Contractor will not be required to complete any Section prior to the Time for Completion of the Works or Design-Build (G). If no rate of delay damages is specified for each Section, the Employer will not be entitled to recover any liquidated delay damages due to late completion of a Section. In addition, if delay damages are only specified in relation to the Works as a whole and not in relation any Sections which are required to be completed earlier than the Works (or Design-Build (G)), under common law jurisdictions, this may prejudice the Employer's entitlement to liquidated damage in respect of late completion of the Works where Sections have been taken over.[87]

5.136 Gold Book. Sub-Clause 9.2 of the Gold Book contemplates that the Contractor might be required to complete the Design-Build of Sections prior to the completion of the whole of the Design-Build of the Works. Many of the provisions relating to the completion of the Works, as required in the Design-Build phase, also refer to Sections.[88] Whilst Sub-Clauses 9.12 and 11.7 do not refer expressly to Sections, in the authors' view, it may well have been intended that these provisions should also apply to Sections. The authors recommend that the Parties clarify, in the Contract, the manner in which these provisions are intended to operate, if it is intended that there are to be Sections defined in the Contract.

5.137 There is, however, a more fundamental uncertainty as to how it is intended that sectional completion may operate under the Gold Book, specifically in relation to the Operation Service Period. The Operation Service Period is defined as "the period from the date stated in the Commissioning Certificate as provided for under Sub-Clause 10.2 . . . to

83. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

84. Sub-Clause 1.1.5.6 (R/M/Y/S); Sub-Clause 1.1.70 (G).

85. Guidance for the Preparation of Particular Conditions in the Red, Yellow and Silver Books.

86. Sub-Clause 1.1.3.3 (R/M/Y/S) defines "Time for Completion" as "the time for completing the Works or *a Section* (as the case may be) under Sub-Clause 8.2 . . . as stated in the [Appendix to Tender (R/Y)/Contract Data (M)/Particular Conditions (S)]" (emphasis added).

87. See Chapter 8, paras. 8.38 *et seq*.

88. For example, Sub-Clause 11.1 refers to Tests on Completion of Design-Build being carried out on both the Works and a Section.

the date stated in the Contract Completion Certificate". Sub-Clause 10.2 in turn provides that "The Operation Service shall not commence until the Design-Build of the Works *or any Section* has been completed in accordance with Sub-Clause 9.12" (emphasis added). It is accordingly uncertain whether there should be a single Operation Service Period, which commences on the completion of the Design-Build/Works, or separate Operation Service Periods, which commence on the completion of each Section. The authors recommend that the Parties clarify this matter in the Contract, having regard to the requirements of the particular project.

Taking-Over: Red, MDB, Yellow and Silver Books

Generally

5.138 Under the Red, MDB, Yellow and Silver Books,[89] the Works (and Sections) are to be taken over by the Employer. This concept of 'taking-over' by the Employer plays a central role in the regulation and demarcation of the Parties' responsibilities under the Contract. In broad terms, taking-over marks the stage at which the Works are handed back to the Employer for use,[90] together with the responsibility for the care of the Works which up to then was with the Contractor. It is applied variously to the Works, Sections and, in the Red, MDB and Yellow Books, parts of the Works. However, although there are several references to the Works being or having been taken over by the Employer,[91] what amounts to 'taking over' is not defined.

5.139 The Conditions nevertheless make it clear at what point the Works, Section or parts of the Works are taken over (or deemed to have been taken over), and also the consequences that follow from such taking-over. These consequences are primarily governed by the issue and contents of a Taking-Over Certificate. In addition, the underlying policy of the FIDIC forms is that Employer has no right to use the Works if the Contractor has failed to (or has yet to) complete them in accordance with the Contract (except after termination).[92]

5.140 The primary taking-over provision is found in Sub-Clause 10.1, which provides that the Works and each Section are to be taken over by the Employer when two conditions have been satisfied, namely completion of the Works or Section and the issue (or deemed issue) of a Taking-Over Certificate for the Works or Section. The Taking-Over Certificate under this Sub-Clause certifies that the Works or Section, including the other matters that are required as a condition precedent for them to be considered completed, have been completed to extent required under Sub-Clause 8.2. In these circumstances, therefore, the Employer has no right to use the Works until the completion criteria have been met and a Taking-Over Certificate has been issued.[93]

89. For the equivalent in the Gold Book, see paras. 5.176 *et seq.* below on the Commissioning Certificate.

90. Or where the Employer re-takes possession.

91. Sub-Clauses 1.1.3.4, 1.1.3.6, 5.4 (Y/S), 10.1, 10.2, 10.3 (R/M/Y), 12.1 (Y/S) and 18.2(e)(iii). See also Sub-Clauses 1.1.6.3 and 1.8 which refer to the taking-over of the Contractor's Documents and Plant respectively.

92. *FIDIC Guide*, p. 189.

93. However, the Red, MDB and Yellow Books provide an alternative means by which the Employer can use a part of the Works prior to completion of the Works or a Section by the Engineer. This is by the contract administrator issuing a Taking-Over Certificate for that part of the Works under the first paragraph of Sub-Clause 10.2. See paras. 5.161 *et seq.*

5.141 Under the Red, MDB, Yellow and Silver Books, the contract administrator (i.e. in the Silver, the Employer) is responsible for the issue of a Taking-Over Certificate.

5.142 The significance of a Taking-Over Certificate is not limited to certifying completion of the Works or Section or to permit the Employer to use a part of the Works. Many of the Parties' rights, liabilities and obligations are affected by the date of issue of a Taking-Over Certificate and its contents. The particular significance of a Taking-Over Certificate depends on whether it is issued in respect of the Works, or a Section or a part of the Works, and on the particular FIDIC form used. A summary of various consequences that follow the issue of a Taking-Over Certificate is set out in the Table 5.3 below.

5.143 The most important of these consequences are most likely to be, on the issue of any Taking-Over Certificate (whether for a part, a Section or the Works):

- the responsibility for the care, and thus the risk of loss or damage, of that part, Section or the Works passes back to the Employer; and
- the Contractor's liability for delay damages is reduced or ceases.

5.144 And on the issue of a Taking-Over Certificate for the Works or a Section:

- the Defects Notification Period for the Works or a Section commences on the date stated in the Taking-Over Certificate that the Works or the Section was completed;
- the first half of the Retention Money held in respect of the Works or Section is to be certified (not S) and paid to the Contractor.

Table 5.3: Summary of consequences that follow the issue of a Taking-Over Certificate depending on the aspect of the Works in respect of which the certificate is issued (Red, MBD, Yellow and Silver Books)

Works, Sections and Parts of the Works	Sub-Clause
• Responsibility for care of the whole of the Works, Section or part of the Works passes back to the Employer on issue of a Taking-Over Certificate.	17.2
• Liability for delay damages ceases on the date stated in the Taking-Over Certificate for the Section or the Works (Sub-Clause 8.7), or, in case of parts of the Works (not S), from the date stated in the Taking-Over Certificate is reduced in respect of remainder of the Works and affected Section (Sub-Clause 10.2).	8.7/10.2
Works and Sections	
• Defects Notification Period commences on the date on which the Works or Section is completed as stated in the Taking-Over Certificate.	1.1.3.7

Works, Sections and Parts of the Works	Sub-Clause
• The first half of the Retention Money held in Respect of the Works or Section is to be certified (not S) and paid to the Contractor when the Taking-Over Certificate has been issued and (Y/S) the Works or Section have passed all specified tests.	14.9
Works (all on issue of Taking-Over Certificate for the Works)	
• Contractor is required to submit a Statement at completion within 84 days after receiving the Taking-Over Certificate.	14.10
• Contractor is required to clear the Site.[94]	4.23
• Insurance cover required for the Works and Contractor's Equipment is reduced.	18.2
• Contract administrator's power to initiate Variations ceases.	13.1
• Any outstanding repayment due in respect of the advance payment becomes immediately due and payable by the Contractor.	14.2
• Contractor is no longer required to submit revised cash-flow estimates (if applicable).	14.4
• Restriction lifted on minimum amount that may be certified in an Interim Payment Certificate.	14.6 (R/M/Y)
• Monthly retainer fee payable to the DAB/DB is reduced by 50% from the first day of the calendar month following the month in which the Taking-Over Certificate is issued.	DAB/DB (R/M)

Issue of Taking-Over Certificate for Works and Sections under Sub-Clause 10.1

5.145 Sub-Clause 10.1 sets out the standard procedure and conditions for the issue of a Taking-Over Certificate in respect of the Works or a Section. Although they are principally drafted in relation to the Works, the second paragraph makes it clear that the same provisions apply to Sections, if appropriate.

5.146 Contractor's application for a Taking-Over Certificate. The first stage in the procedure is the Contractor's application to the contract administrator to issue a Taking-Over Certificate. The Contractor's application must be made "by notice" and the formalities relating to notices under Sub-Clause 1.3 must be complied with. The notice must be in writing and delivered in accordance with the requirements of that Sub-Clause. This application can be made up to 14 days in advance of the date when the Works or Section, in the Contractor's opinion, will be completed and "ready for taking over".

5.147 The contract administrator has no right to issue a Taking-Over Certificate unilaterally under Sub-Clause 10.1. The Contractor is also under no obligation to apply for a Taking-Over Certificate when the Works (or Section) have been completed. It is therefore

94. Except for Goods required for him to fulfil his obligations during the Defects Notification Period.

for the Contractor alone to decide when to apply. In practice, the Contractor will wish to apply for a Taking-Over Certificate as early as possible to minimise the risk of delay damages.

5.148 Works (or Section) to be completed in accordance with the Contract. When issuing a Taking-Over Certificate under Sub-Clause 10.1, the contract administrator is required to certify the date on which the Works (or Section) have been completed in accordance with the Contract, including the other matters that are required for the Works (or Section) to be considered to have been completed under Sub-Clause 8.2, but 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)". The scope of what is required is discussed in paras. 5.105–5.118 above.

5.149 As part of the process of establishing whether the Works (or Section) have been completed in accordance with the Contract, the contract administrator will usually draw up a list of outstanding work and defects (commonly known as a 'punchlist' or 'snagging list'). To this end, the *FIDIC Guide* suggests that, as part of this process, or even in anticipation of the Contractor's application, it may be desirable for there to be a joint inspection of the Works (or Section) when they are considered to be complete, attended by representatives of both Parties and the contract administrator.[95] In practice, discussions between the Contractor and the contract administrator on the punchlist will frequently begin some time before the Contractor applies for a Taking-Over Certificate. During these discussions, the outstanding work is identified. In particular, the contract administrator will identify what work needs to done before the Taking-Over Certificate will be issued and what work will be included in the punchlist for completion after the issue of the Taking-Over Certificate.

5.150 Response to Contractor's application. Once the contract administrator receives the Contractor's application, he must respond within 28 days by either issuing a Taking-Over Certificate or rejecting the application.

5.151 Any Taking-Over Certificate issued under Sub-Clause 10.1 must comply with the formalities required for certificates under Sub-Clause 1.3: it must be in writing, delivered in accordance with that Sub-Clause and, in the Red, MDB and Yellow Books, be copied to the Employer.[96] The Taking-Over Certificate must also state the date that the Works (or Section) were completed in accordance with the Contract (except for minor outstanding work and defects). This date is important because it determines the point in time when the Contractor ceases to be liable to pay delay damages under Sub-Clause 8.7 (if he is in delay). Otherwise, there is no specific wording that must be used.

5.152 The *FIDIC Guide*[97] suggests the following wording for a 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".

95. *FIDIC Guide*, p. 189.

96. See Chapter 6, paras. 6.146 *et seq*.

97. *FIDIC Guide*, pp. 189–190. A Sample Form of Taking-Over Certificate for a Section is also provided on p. 190 of the *FIDIC Guide*.

5.153 Whilst Sub-Clause 10.1 does not formally require the contract administrator to identify the minor outstanding work and defects in a punchlist or snagging list, in practice the contract administrator will almost invariably do so. Irrespective of whether a punchlist or snagging list is issued with the Taking-Over Certificate, the Contractor is obliged, under Sub-Clause 11.1(a) to complete "any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as instructed by the [contract administrator]".

5.154 If the contract administrator rejects the Contractor's application, he is required to give reasons for his rejection and to specify the work that is required to be completed for the Works or Section to have been completed to enable the Taking-Over Certificate to be issued. The Contractor is then required to complete the specified work before making a further application.

5.155 The only ground for rejection is that the Works or Section have not been completed to the extent required under this Sub-Clause. It is uncommon for the Contract to specify exactly what work will be considered "minor" for these purposes, in order to provide flexibility. Consequently, the contract administrator will have to exercise his own judgement when considering the Contractor's application.

5.156 Failure to respond to Contractor's application. If the contract administrator fails to respond by either issuing a Taking-Over Certificate or rejecting the application within the required 28-day period, by Sub-Clause 10.1 a Taking-Over Certificate is deemed to have been issued on the 28th day if the Works or Section are "substantially in accordance with the Contract". This deemed issue of the Taking-Over Certificate is clearly intended to provide strong encouragement to the contract administrator to respond to the Contractor's application within the required time, whilst also providing protection to the Employer if the Works are not "substantially in accordance with the Contract". There are, however, two principal points to note.

5.157 First, the deemed issue of the Taking-Over Certificate is conditional upon the Works or Section being "substantially in accordance with the Contract". This expression is not defined or used elsewhere in the General Conditions. However, while no guidance in this respect can be found in the *FIDIC Guide*, an identical provision was included in the Orange Book[98] and the Guide to the Orange Book[99] indicates that the test to be applied under that form to determine whether the Works are "substantially in accordance with the Contract" was intended to involve a lower threshold than that to be applied to determine whether the Works have been completed for the purposes of issuing a Taking-Over Certificate under the other provisions of Sub-Clause 10.1 (i.e., whether any minor outstanding work or defects will not substantially affect the use of the Works for their intended purpose). The Orange Book Guide[100] further suggests that the Works being "substantially in accordance with the Contract" is the same as achieving "substantial completion".[101]

98. Orange Book, Sub-Clause 10.1.

99. FIDIC, *Guide to the use of FIDIC Conditions of Contract for Design-Build and Turnkey* (1 Edn, 1996, Fédération Internationale des Ingénieurs-Conseils), p. 89.

100. *Ibid*. states: "substantial completion is sufficient to entitle the Contractor to the deemed certification mentioned in the last sentence of Sub-Clause 10.1 . . . ".

101. In any event, under Sub-Clause 11.1(a), the Contractor remains obliged to complete the outstanding work within such reasonable time as instructed by the contract administrator.

5.158 Second, even when it is clear that the contract administrator has failed to respond to the Contractor's application within the 28-day period, the Parties will frequently disagree as to whether the Works or Section have been completed to the required extent. Therefore, they will often be at odds as to whether a Taking-Over Certificate is deemed to have been issued and thus will continue under the Contract on the basis of a different understanding as to the stage reached. This may be particularly significant in determining whether the Contractor's liability to pay delay damages under Sub-Clause 8.7 has come to an end. Practically, if the Contractor is concerned that the Employer wrongfully considers that a Taking-Over Certificate has not been deemed issued in these circumstances, this is likely to be a dispute that the Contractor may refer to the DAB under Sub-Clause 20.4 for its decision. Equally, if the Employer sees that the Contractor is demobilising in circumstances where the Employer does not consider the Works or Section to be "substantially in accordance with the Contract", the Employer should refer that matter to the DAB.

5.159 Dispute over Taking-Over Certificate. The most usual situation, however, is where the contract administrator rejects the Contractor's application and refuses to issue the Taking-Over Certificate in circumstances where the Contractor considers it to be due. If the Contractor disagrees with the contract administrator's rejection and informs the Employer of this disagreement, this is likely to be a dispute which can be referred to the DAB under Sub-Clause 20.4.

Taking over part of the Works

Silver Book

5.160 In the Silver Book, the Employer is expressly prohibited under Sub-Clause 10.2 from taking over or using any part of the Works (other than Sections), except as "may be stated in the Contract or as may be agreed by both Parties". Any attempt by the Employer therefore to take over or use any part of the Works contrary to these provisions would likely be a breach of the Contract, and may also entitle the Contractor to an extension of time under Sub-Clause 8.4(c).

Red, MDB and Yellow Books

5.161 By Sub-Clause 10.2 of the Red, MDB and Yellow Books, the Employer is expressly prohibited to use any part of the Works:

- "except as a temporary measure which is either specified in the Contract or agreed by both Parties", or
- "unless and until the Engineer has issued a Taking-Over Certificate for the relevant part".

5.162 In relation to the second of these exceptions, the first paragraph of Sub-Clause 10.2 gives the Employer the unilateral right to require the Engineer to issue a Taking-Over Certificate for "any part of the Permanent Works", even though it is not a Section. In its commentary on this Sub-Clause, the *FIDIC Guide*[102] states that:

102. *FIDIC Guide*, p. 192.

"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".

5.163 It is also suggested that this Sub-Clause may be relied upon in projects where the product that the Contractor is required to construct under the Contract is comprised of a number of separate units, for example flats in a residential development being constructed under the Red Book or MDB, to allow the Employer to take over each unit once it has been completed, without necessarily being required to specify each flat as a separate Section in the Contract. However, care should be exercised in considering this option, due to the potential difficulties that arise if the part of the Works taken over under Sub-Clause 10.2 is either incomplete, or the use of that part of the Works adversely affects the Contractor in completing the remainder of the Works.

5.164 Furthermore, it is suggested that it may be difficult to operate this provision in circumstances where the whole of a Section or the Works are subject to a performance specification (for example, the Employer's Requirements in the Yellow Book). In such a case, by taking over a part of the Works, the Employer may prejudice the Contractor's ability to achieve the passing of the Tests on Completion of the Works or Section. The Contractor may, in such case, argue that he is discharged from the requirement to pass the Tests on Completion on account of prevention by the Employer.

5.165 Taking-Over Certificate under Sub-Clause 10.2. Under the Red, MDB and Yellow Books, it is the Employer's decision alone ("at the sole discretion of the Employer") as to whether the Engineer should issue a Taking-Over Certificate under Sub-Clause 10.2 [*Taking Over of Parts of the Works*] for a part of the Works. The Contractor has no right to apply for a Taking-Over Certificate for a part of the Works that has not been defined in the Contract as a Section.

5.166 On the issue of a Taking-Over Certificate for a part of the Works:

- the Contractor's liability for delay damages is reduced in respect of the remainder of the Section (if appropriate) in which the part was included and the remainder of the Works;[103] and
- the responsibility for the care of that part of the Works transfers to the Employer.[104]

5.167 From the *FIDIC Guide*,[105] it would seem that the draftsmen intended that the part of the Works for which a Taking-Over Certificate is issued in question will have been completed to the extent required under Sub-Clause 10.1. However, unlike under Sub-Clause 10.1, there are no preconditions for the issue of a Taking-Over Certificate under Sub-Clause 10.2.

5.168 Indeed, notwithstanding the apparent intention of the draftsmen, there is nothing in the wording of Sub-Clause 10.2 which expressly prevents a Taking-Over Certificate

103. Sub-Clause 10.2.
104. Sub-Clause 17.2.
105. The *FIDIC Guide* states "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*", and that "No mention is made of extension of the time for Completion for the Works or any Section, *because it has been completed* . . . " (emphasis added), (p. 192).

being issued when the part of the Works has not been completed. The extent of the Contractor's obligations to complete any outstanding work is not specified, however, in relation to that part of the Works that would otherwise be required for it to be in accordance with the Contract. For this reason, the use of this power to issue a Taking-Over Certificate should be avoided in relation to parts of the Works that are incomplete.

5.169 In any event, Sub-Clause 10.2 provides expressly that the Contractor is required, *after* the issue of a Taking-Over Certificate, to then carry out any outstanding Tests on Completion as soon as practicable before the expiry of the relevant Defects Notification Period. It is therefore implicit that the Tests on Completion on the part of the Works for which a Taking-Over Certificate has been issued under that Sub-Clause 10.2 are not a condition precedent to the issue of a Taking-Over Certificate under that Sub-Clause. The operation of this Sub-Clause may be problematic in practice because the testing regime in the Contract will not have been drafted on the assumption that the part of the Works has been taken over.

5.170 Use of a part of the Works before a Taking-Over Certificate is issued. If the Employer does use part of the Works before a Taking-Over Certificate has been issued under Sub-Clause 10.2 (other than as a temporary measure which is either specified in the Contract or agreed by both Parties), he will be in breach of the Contract. In these circumstances, under Sub-Clause 10.2(a), the part of the work which is used is deemed to have been taken over from the date that such use commenced. Responsibility for the care of that part of the Works also transfers to the Employer on this date.[106] Furthermore, until a Taking-Over Certificate has been issued, such use by the Employer is likely to fall within Sub-Clause 17.3(f) and thus the Employer will bear the risk of loss or damage to the Works, Goods or Contractor's Documents due to this use and will also indemnify the Contractor against all claims, damages, losses and expenses in respect of this use, to the extent that these matters are not insurable on commercially reasonable terms.[107]

5.171 If a part of the Works is deemed to have been taken over under Sub-Clause 10.2, the Contractor may also request the Engineer to issue a Taking-Over Certificate for that part. See paragraphs 5.165–5.169 above, as to the consequences following the issue of a Taking-Over Certificate under Sub-Clause 10.2.

5.172 Contractor's remedies following taking-over and/or use by the Employer of a part of the Works. If the Employer takes over or uses a part of the Works (other than as a temporary measure agreed by the Parties), whether or not a Taking-Over Certificate has been issued for that part under Sub-Clause 10.2, under the same Sub-Clause the Contractor is entitled, after giving notice to the Engineer, to payment of any Cost incurred as a result, plus reasonable profit (or, in the MDB, profit). This entitlement is subject to Sub-Clause 20.1 [*Contractor's Claims*]. Such Cost might, for example, include the cost of adopting less efficient working practices due to restrictions of access caused by the Employer's use of the part of the Works.

5.173 In addition, although not stated in Sub-Clause 10.2, it is likely that the Contractor will also be entitled to an extension of time under Sub-Clause 8.4(e) to the extent that the

106. Sub-Clause 10.2(b). This is further confirmed in Sub-Clause 17.2.

107. Sub-Clauses 17.4 and 17.1. See Chapter 7, paras. 7.16–7.18. The allocation to the Employer of the risk of loss or damage to the Works under Sub-Clause 17.3(f) in this case appears to be duplicative as the risk of this loss will have already been transferred under Sub-Clauses 10.2(b) and 17.2. The indemnity of the Employer's risks is, of course, additional.

Employer's taking-over or use of the part of the Works delayed completion of a Section or the Works.

Taking-over following interference with Tests on Completion

5.174 In addition to the provisions of the Sub-Clauses 10.1 and 10.2 in the Red, MDB and Yellow Books, a Taking-Over Certificate may also be issued for the Works or a Section under Sub-Clause 10.3 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. In these circumstances, the Works (or Section) are deemed to have been taken over and the Engineer is required to issue a Taking-Over Certificate in respect of the Works (or Section).[108]

5.175 Sub-Clause 10.3 of the Silver Book does not provide for a Taking-Over Certificate to be issued in this situation.

Commissioning Certificates: Gold Book

Generally

5.176 In view of the Contractor's continuing obligations under the Gold Book to provide the Operation Service, the Works are not taken over by the Employer on completion of the Design-Build. Instead, the completion of the Design-Build is marked by the issue of the Commissioning Certificate.

5.177 Under Sub-Clause 1.1.8, "Commissioning Certificate" is defined as "the certificate issued by the Employer's Representative to the Contractor under Sub-Clause 11.7 [*Commissioning Certificate*] marking the end of the Design-Build Period under Sub-Clause 9.12 [*Completion of Design-Build*] and the commencement of the Operation Service Period."

5.178 However, notwithstanding the reference in this definition to Sub-Clause 11.7, there are two Sub-Clauses in the Gold Book which govern the issue of Commissioning Certificates:

- Sub-Clause 11.5 in relation to completion of the Works and Sections; and
- Sub-Clause 11.7 in relation to completion of the Contractor's Design-Build obligations.

5.179 As discussed in paras. 5.119–5.124 above, the authors have taken the approach that these two Sub-Clauses are complementary and must be read together such that it is intended that only a single Commissioning Certificate will be issued in respect of the Design-Build/Works.

5.180 In addition, Sub-Clause 11.6 gives the Contractor the right to request the Employer's Representative to issue a Section Commissioning Certificate, which, despite its name, relates not to Sections but to any part of the Permanent Works.

5.181 The Commissioning Certificate issued under Sub-Clause 11.5/11.7 has a dual purpose. It: (i) certifies completion of the Design-Build/Works, and (ii) marks the commencement of the Operation Service Period. In addition, as with the Taking-Over Certificate in the other Books, various rights, liabilities and obligations of the Parties are related

108. See further Chapter 3, paras. 3.385 *et seq.* as to the other consequences following interference with Tests on Completion under Sub-Clause 10.3.

either to the date stated in the Commissioning Certificate or the date on which the Commissioning Certificate is issued. The most important of these is likely to be the Contractor's liability to pay delay damages under Sub-Clause 9.6. A summary of consequences connected with the Commissioning Certificate is set out in the Table 5.4 below.

Table 5.4: Summary of consequences that follow the issue of a Commissioning Certificate under the Gold Book

Consequences of Commissioning Certificate	Sub-Clause
Contractor is responsible for the care of the Works and Goods from the Commencement Date until the Commissioning Certificate for the whole of the Works has been issued pursuant to Sub-Clause 11.7. The Contractor is also responsible for the care of any part of the Permanent Works for which a Section Commissioning Certificate has been issued.	17.5
Liability for delay damages ceases on the date stated in the Commissioning Certificate for the Section or the Works (Sub-Clause 9.6) or, in case of parts of the Works, from the date stated in the Sectional Completion Certificate is reduced in respect of remainder of the Works and affected Section (Sub-Clause 11.6).	9.6/11.6
Commissioning Certificate marks end of the Design-Build Period under Sub-Clause 9.12 and the commencement of the Operation Service Period.	1.1.30/1.1.58
Operation Service to commence from date stated in the Commissioning Certificate issued under Sub-Clause 11.7, unless otherwise stated in the Employer's Requirement or unless the Design-Build of the Works or any Section has been completed in accordance with Sub-Clause 9.12.	10.2/9.12
Operation Licence automatically comes into full force and effect upon the issue of the Commissioning Certificate upon completion of the Design-Build under Sub-Clause 9.12.	1.7
When Commissioning Certificate has been issued, the first half of the Retention Money is to be certified by the Employer's Representative. If a Section Commissioning Certificate has been issued for a Section, the relevant percentage of the first half of the Retention Money is to be certified.	14.10
Upon the issue of the Commissioning Certificate, the Contractor is required to clear the Site.	4.23
Insurance cover for the Works required until the date of issue of the Commissioning Certificate. Fire extended cover insurance to come into force on the date stated in the Commissioning Certificate.	19.2/19.3

Consequences of Commissioning Certificate	Sub-Clause
Employer's Representative's power to initiate Variations ceases on the issue of the Commissioning Certificate.	13.1
Any outstanding repayment due in respect of the advance payment becomes immediately due and payable by the Contractor.	14.2
Restriction lifted on minimum amount that may be certified in an Interim Payment Certificate on the issue of the Commissioning Certificate.	14.7
Appointment of DAB expires upon the issue of the Commissioning Certificate under Sub-Clause 9.12 or 28 days after the DAB has given its decision to a Dispute under Sub-Clause 20.6, whichever is the later.	20.3
DAB Operation Service Period is to be jointly agreed and appointed by the Parties at the time of issue of the Commissioning Certificate.	20.10
Retention Period commences from the date stated in the Commissioning Certificate.	1.1.66

Issue of a Commissioning Certificate

5.182 The procedure that applies to the issue of a Commissioning Certificate for the Design-Build/Works is set out in Sub-Clause 11.5 [*Completion of the Works and Sections*].[109] This is almost identical to the procedure that applies for the issue of a Taking-Over Certificate under Sub-Clause 10.1 in the other Books. For a commentary on this procedure, therefore, see paras. 5.145–5.159 above. It should be noted that the standard that is applied as to whether Design-Build/Works have been completed under Sub-Clause 11.5 and 11.7, respectively, is different. Under Sub-Clause 11.7, the Design-Build must have been completed "in the opinion of the Employer's Representative", whereas, under Sub-Clause 11.5, completion of the Works is not left to the discretion of the Employer's Representative but is stated in absolute terms. As to what is required to have been completed for these purposes, see paras. 5.119–5.131 above.

5.183 There is however one significant difference between Sub-Clause 11.5 in the Gold Book and Sub-Clause 10.1 in the other Books. Under Sub-Clause 11.5, the Employer's Representative is required to list, in the Commissioning Certificate, any minor outstanding work and defects which are to be remedied. Care should be exercised by the Employer's Representative when drawing up this list because, on the issue of a Commissioning Certificate under this Sub-Clause, "the Works shall be deemed by the Employer to be completed". Consequently, if any items are inadvertently omitted from the list, the Employer may lose his right to insist that they be completed. This position is reinforced by

109. As stated above, the authors have approached the issue of the Commissioning Certificate in relation to the Design-Build/Works on the basis that Sub-Clauses 11.5 and 11.7 are complementary. In any event, the issue of the Commissioning Certificate under Sub-Clause 11.7 is "subject to the provisions of Sub-Clause 11.5" and thus, it is suggested, the procedure set out in Sub-Clause 11.5 applies.

Sub-Clause 11.7, which provides that the Commissioning Certificate constitutes acceptance of the Works.

Commissioning of parts of the Works

5.184 Sub-Clause 11.6 [*Commissioning of Parts of the Works*] provides that "The Employer's Representative may, at the request of the Contractor, issue a Section Commissioning Certificate for any part of the Permanent Works". In turn, Section Commissioning Certificate is defined, under Sub-Clause 1.1.71, as "a certificate issued under Sub-Clause 11.7". This reference to Sub-Clause 11.7 rather than Sub-Clause 11.6 is curious.[110]

5.185 If a Section Commissioning Certificate is issued for a part of the Works, the Contractor's liability for delay damages in relation to the remainder of the Works (or Section) is to be reduced. It is suggested that, if the Contractor requests a Section Commissioning Certificate to be issued, the Employer's Representative has the discretion to decide whether to issue one.

ACCELERATION AND THE EXPEDITION OF PROGRESS

Generally

5.186 'Acceleration' is not a term of art but, in the context of construction contracts, can broadly be understood to describe actions taken by a contractor in order to complete a certain scope of work in a shorter time than would otherwise have been anticipated or expected if these actions were not taken. Three of the most common usages of acceleration relate to measures taken by the contractor to:

(a) complete the works earlier than required by the contract;
(b) overcome delays to completion for which the contractor would otherwise be entitled to an extension of time; and/or
(c) overcome delays to completion for which the contractor is not entitled to an extension of time.[111]

5.187 In many instances, the increased costs involved in adopting these accelerative measures can be significant and therefore the contractor will usually be reluctant to adopt them. However, beyond these generalisations, where there has been acceleration the issues relating to the rights of the parties can be complicated, both factually and legally. The legal situation is often complex because construction contracts generally (as is the case in the FIDIC forms) only expressly provide that the contractor can be instructed by the contract administrator to accelerate in limited circumstances (usually falling within category (c) above). Thus, where the contractor is instructed by the contract administrator (or otherwise purportedly required) to accelerate in other circumstances (e.g. those falling within (a) and

110. Note that a Section Commissioning Certificate is not intended to apply to a Section of the Works. If the Sections are defined in the Contract, a Commissioning Certificate is to be issued for each Section. The use of the terminology "Section Completion Certificate" is, therefore, misleading.

111. Or indeed to cover a combination of these three situations.

(b) above), the legal nature and consequences are less straightforward and are to be determined on the particular circumstances under the principles of the governing law.

Acceleration to achieve earlier completion

5.188 Under all the Books apart from the MDB, neither the contract administrator nor the Employer has the right or power to insist, whether by instruction or otherwise, that the Contractor accelerate in situations (a) or (b) above. In both these situations, in the absence of provisions expressly allowing for such an instruction, the effect of this would be, on generally accepted contractual principles, to require the Contractor to do something outside of the scope of the Contract,[112] and thus something which he can validly refuse to do.

5.189 Although, under Sub-Clause 13.1(f) in the Red Book (and MDB), the Engineer may instruct, as a Variation, a change to the sequence or timing of the execution of the Works, it is contented that this does not give the Engineer the power to instruct the Contractor to accelerate to complete the Works or a Section before the Time for Completion.[113] This provision refers to a change in the sequence and timing of the 'execution of the Works', as opposed to the 'completion of the Works'. The execution of the Works is a more transient concept than completion. Indeed, both 'execution' and 'completion' are used throughout the FIDIC forms in different contexts, suggesting that they are intended to relate to different components of the Contractor's obligations. In particular, the Contractor's obligation with respect to the Time for Completion is stated to be to complete the Works.[114] In addition, there is an overriding principle that, in respect of the Works, the Engineer may only issue instructions which are necessary for the execution of the Works and the remedying of any defects, both in accordance with the Contract.[115] An earlier completion for the convenience of the Employer does not fall within this category.[116] Such a change to the Contractor's obligations would therefore generally be accepted to require an amendment to the Contract, as opposed to a Variation under the Contract, and the Engineer does not have such authority.[117]

5.190 The Parties can of course agree to an amendment to the Contract, which, depending on the governing law, may take effect through a collateral agreement or an amendment to the Contract itself. This would require the agreement of the Employer and the Contractor on both the requirement to accelerate and the Contractor's entitlement to compensation. On the other hand, if the Engineer (R/Y/M) or Employer's Representative (G) requests the Contractor to accelerate and the Contractor agrees, the Contract will

112. That is not only to complete the Works before the Time for Completion but also to perform the Works in a manner which was not anticipated at the time that the Contract was entered into. In respect of situations falling within category (b) above, this of course assumes that the Contractor has claimed for an extension of time. If he has, the contract administrator should extend the Time for Completion by the extent to which completion is or will be delayed, with the net result that any requirement on the part of the Contractor to overcome the delays would amount to a requirement to complete before the Time for Completion. See Chapter 8, paras. 8.236 *et seq.* as to extensions of time.

113. Indeed, the *FIDIC Guide* confirms that this was the intention of the draftsmen (p. 218).

114. Sub-Clause 8.2 (R/M/Y/S); Sub-Clause 9.2 (G)

115. Sub-Clause 3.3 (R/M).

116. Max W. Abrahamson, *Engineering Law and the ICE Contract* (4th Edn, 1979, Elsevier Applied Science Publishers), p. 176.

117. Sub-Clause 3.1 (R/M).

remain unchanged because the Engineer or Employer's Representative does not have the authority to amend the Contract.[118]

5.191 The FIDIC forms all, however, permit the Contractor to put forward a proposal under the value engineering provisions in Sub-Clause 13.2 to 'accelerate completion' for the approval of the contract administrator.[119] This proposal must include, amongst other matters, both the Contractor's proposals for both compensation or payment and modifications to the Time for Completion. If the contract administrator accepts the proposal, it is suggested that this would not alter the Time for Completion or the delay damages provisions because such a proposal would again require an amendment to the Contract.

5.192 In practice, there will usually be little benefit to the Contractor to accelerate completion of the Works before the expiry of the Time for Completion. However, the situation is more complicated where the Contractor, when in delay, considers that he is entitled to an extension of time but, for various reasons, the contract administrator has not granted this extension. This is considered in paras. 5.194–5.200 below.

5.193 MDB. In the final paragraph of Sub-Clause 8.6 [*Rate of Progress*] in the MDB, the Engineer is impliedly given the power to instruct acceleration measures to reduce delays resulting from causes for which the Contractor is entitled to an extension of time under Sub-Clause 8.4. Under this paragraph, the Contractor is entitled to recover from the Employer additional costs incurred in implementing "revised methods including accelerative measures, instructed by the Engineer to reduce delays from causes listed in Sub-Clause 8.4", but "without generating . . . any other additional payment benefit to the Contractor." It is suggested that this latter phrase is intended to mean that the Contractor is not entitled to cover any element of profit on these costs. The Contractor's entitlement under this Sub-Clause will be subject to Sub-Clause 20.1 [*Contractor's Claims*].

Instruction to expedite progress to complete within Time for Completion

5.194 Under Sub-Clause 8.6 (9.5 (G)) [*Rate of Progress*], the contract administrator has the power "at any time"[120] to instruct the Contractor to accelerate so that he completes the Works or Section(s) or, in the Gold Book, the Design-Build of the Works or Section(s), within the relevant Time for Completion when, other than as a result of a cause for which the Contractor is entitled to an extension of time, if:

(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 submitted under Sub-Clause 8.3.

5.195 This power is therefore conditional upon the existence of certain circumstances. In all the Books apart from the Gold Book, the existence of these circumstances is stated in absolute terms. In the Gold Book, however, the application of this provision is stated to be dependent on the Employer's Representative's opinion that they exist.

5.196 The instruction to accelerate is effected through an instruction to the Contractor to submit a revised programme and supporting report describing the revised methods he

118. Sub-Clause 3.1 (R/M/Y/G).
119. See Chapter 3, paras. 3.335–3.337.
120. In the context of this Sub-Clause, it is suggested that this must logically be interpreted to mean "at any time prior to the Time for Completion".

proposes to adopt to "expedite progress and to complete within the Time for Completion".[121] The Contractor is then required to adopt these revised methods at his cost unless the contract administrator notifies otherwise. In turn, the Employer is entitled to recover from the Contractor any additional costs incurred due to the adoption of these revised methods subject to Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*] in addition to any delay damages under Sub-Clause 8.7 (9.6 (G)). Although this Sub-Clause expressly recognises that these revised methods may involve increases in the working hours and in the resources required, under Sub-Clause 6.5, the contract administrator's consent is nevertheless required for an increase in working hours outside of those stated in the relevant contract document.

5.197 There is a notable difference between the grounds for an instruction to accelerate set out in sub-paragraphs (a) and (b) of Sub-Clause 8.6 (9.5 (G)). The Contractor can avoid the possibility of receiving an instruction giving under sub-paragraph (b) if he keeps updating his programme under Sub-Clause 8.3 [*Programme*]. In addition, it is suggested that the words "expedite progress and complete within the Time for Completion" must be read together. Consequently, if the contract administrator gives an instruction under this Sub-Clause where the Contractor has simply fallen behind the current programme submitted under Sub-Clause 8.3 (other than due to a cause for which he is entitled to an extension of time) but is still able to complete the Works or Section(s) within the Time for Completion,[122] the Contractor will not need to adopt any revised methods to "expedite progress and complete within the Time for Completion". Instead, it is suggested, he is required only to submit a revised programme, which shows the Works or Section(s) being completed within the Time for Completion, but which is updated to reflect the Contractor's actual progress.

5.198 The purpose behind this provision is straightforward: it is intended to give the Employer, through the contract administrator, the choice as to whether to require the Contractor to complete within the Time for Completion or whether to recover delay damages for any delay to completion for which the Contractor bears the risk. In this way, the provision seeks to restrict the freedom of the Contractor to make what is usually a commercial decision as to whether to incur the costs of accelerating or to incur delay damages.[123]

5.199 Difficulties may arise in circumstances where the contract administrator gives an instruction under Sub-Clause 8.6 (9.5 (G)) when there is a dispute between the Employer and the Contractor as to whether the Contractor is entitled to an extension of time under Sub-Clause 8.4 (9.3 (G)). The validity of the contract administrator's instruction will depend on the outcome of this dispute. In these circumstances:

- if the Contractor refuses to comply with the instruction ('gambling' that he is correct that it is not a valid instruction) but the instruction is found by a DAB or arbitral tribunal to be valid, he may face the risk of termination by the Employer; or
- if he decides to accelerate as a result of a purported instruction under Sub-Clause 8.6 (9.5 (G)) (or indeed an instruction by the Employer), the Contractor runs the risk that this work is outside the scope of the Contract and he is therefore not entitled to

121. Sub-Clause 8.6 (R/M/Y/S); Sub-Clause 9.5 (G).

122. For example, where the Contractor's progress on items of work not on the critical path has fallen behind the current programme.

123. Edward Corbett, *FIDIC 4th—A Practical Legal Guide* (1991, Sweet & Maxwell), p. 264.

recover the costs incurred under the Contract. A practical approach would be for the Contractor to inform the contract administrator that he will accelerate but deny that the purported instruction was a valid instruction under Sub-Clause 8.6 (9.5 (G)) and instead reserve his rights to claim costs. At the same time, he should contact the Employer directly to inform the Employer that he will be seeking the costs involved in the acceleration from the Employer. Although this may not in itself ensure that the Contractor will be entitled to payment, it will nevertheless provide him with some protection.[124]

5.200 In reality, instructions to accelerate given under these circumstances are rarely (if ever) accompanied by a clear agreement between the Contractor and the Employer as to the Contractor's entitlement to recover costs. To recover costs from the Employer, the Contractor will have to either establish a variation to the Contract based on the words or conduct of the Parties, a collateral contract, or look to the governing law for an alternative basis for compensation, such as on restitutionary or equitable principles that exist in certain jurisdictions.[125] Given the significant costs that might be incurred by the Contractor in accelerating, this can result in lengthy and legally complex disputes, particularly where the Contractor cannot point to a clear instruction to accelerate but considers that, from the conduct of the Employer, it had no option but to accelerate.

124. The Contractor's position is potentially more difficult in the Gold Book because the test is whether the relevant circumstances existed "in the opinion of the Employer's Representative". The Employer may seek to argue that the Employer's Representative was entitled to instruct the Contractor to accelerate in circumstances where the Employer's Representative, in his opinion, considered that he was entitled to issue an instruction, even though it was subsequently determined that the Contractor was entitled to an extension of time.

125. Corbett, *op. cit.*, n. 123, p. 265.

CHAPTER SIX

CONTRACT ADMINISTRATION AND CLAIMS

INTRODUCTION

6.1 The FIDIC forms, like many modern standard forms in construction and engineering, are not only concerned with the rights and obligations of the Employer and the Contractor. The Conditions of course set these out, but also contain detailed rules and procedures for the administration of the Contract and the management of the project.

6.2 The Red, MDB, Yellow and Gold Books all provide for the appointment of a third party, i.e., not a Party to the Contract, who is entrusted with performing a central role in the administration of the Contract. In the Red, MDB and Yellow Books, this third-party contract administrator is called the Engineer; in the Gold Book, the Employer's Representative. Under the Silver Book, contract administration is the Employer's responsibility, although there is provision for the appointment of an Employer's Representative to discharge duties on the Employer's behalf.

6.3 The contract administration rules and procedures set out in the Contract are not, however, separate from the provisions setting out the Parties' rights and obligations. On the contrary, the rights and obligations of the Parties are often intimately connected with the procedures prescribed and dependent on whether or not the procedures have been followed correctly. This is especially important when considering the entitlement of either the Contractor or the Employer to make a claim under the Contract or on some other basis in connection with the Contract. For example, the Contractor's entitlement to an extension of time under Sub-Clause 8.4 (9.3 (G)), needs to be considered in conjunction with the provisions set out in Sub-Clause 20.1 which regulate the submission and determination of claims by the Contractor.

6.4 If the contract administration provisions of the FIDIC forms were to be characterised by one word, the word would be 'communication'. While failure to observe notice requirements or other mandatory procedures may have consequences in terms of rights, as indicated above, it is not the primary purpose of those requirements to deprive the Parties of their entitlements through the artificial creation of procedural hurdles. The purpose of most of the contract administration provisions in the FIDIC forms is to ensure that all parties concerned, above all the Contractor and the Employer (whether or not via the Engineer or the Employer's Representative), are fully informed as to what is happening in the course of the work, both in terms of progress and in terms of any problems which occur, so that they are not unfairly disadvantaged. For example, under Sub-Clause 20.1 in the Red Book, where the Engineer is required to respond within 42 days to a claim, an approved claim requires no explanation but disapproval must be accompanied by "detailed comments".[1] This imposes a burden on the Engineer, but it does so for the purpose of providing necessary information to the Contractor to assist the latter in deciding on future

1. A similar effect is achieved by different means under the Gold Book, where the Employer's Representative under Sub-Clause 3.5 gives Notice to both Parties of any determination "with supporting particulars".

action. This could include whether to pursue the claim further through the Contract's dispute resolution machinery. It could include abandoning or modifying future claims. It could also include financial planning based on the anticipated response to future claims.

THE CONTRACT ADMINISTRATOR

Generally

6.5 Central to the contract administration process is the person identified as being responsible for the operation of the Contract. Here there is a fundamental difference between the Red, MDB, Yellow and Gold Books on the one hand and the Silver Book on the other. Under the Red, MDB, Yellow and Gold Books, a third party (i.e., not one of the Parties to the Contract) is given this crucial and far-reaching role in making the contract work.

6.6 The provisions relating generally to the administration of the Contract, including the appointment and duties of the contract administrator in all the Books apart from the Silver Book, are found primarily in Clause 3 [*The Engineer* (R/M/Y) / *Employer's Representative* (G)].

6.7 In the Red, MDB and Yellow Books, following a long heritage of engineering contracts in the common law tradition inherited by FIDIC from the ICE forms on which the early editions were based, the contract administrator is a third party called the "Engineer". The role of the Engineer is one of the most controversial and yet characteristic features of these contracts. One of the sources of the controversy surrounded the Engineer's role as the pre-arbitral decider of disputes between the Parties. This has now been removed and replaced by the Dispute Adjudication Board (or Dispute Board (M)), yet another still remains. See Chapter 9, paragraphs 9.9 to 9.14 in relation to the introduction of Dispute Adjudication Boards in the FIDIC forms. See also paragraph 6.79 below. This concerns the reconciliation of the concept of the Engineer acting as agent of the Employer, while at the same time being the decision-maker in respect of certain matters which traditionally[2] have required him to act impartially. This is known as the 'duality of the role' of the Engineer and is discussed in more detail in this chapter at paragraphs 6.60 *et seq*. below.

6.8 Under the Gold Book, the contract administrator is the "Employer's Representative". Despite this difference in terminology, as Christopher Wade, the former chairman of the FIDIC Contracts Committee says,[3] the Employer's Representative's role under the Gold Book is "very similar to the [role] assigned to [the Engineer] in the other FIDIC Books", except that his duties extend beyond completion of the Works to monitoring the Contractor during the Operation Service Period. This may be intended to be reassuring to contractors concerned about the choice of a title so obviously connected to the Employer. However, simply reproducing the role of the Engineer under another name perpetuates the difficulties associated with the dual role, i.e., of employer's agent and decision-maker. As Landsberry has commented, "the issues associated with the duality of the engineer's role

2. At least under standard form contracts with a common law origin, e.g., the previous editions of the Red and Yellow Books and the ICE forms.

3. Christopher Wade, "FIDIC introduces the DBO Form of Contract—the new Gold Book for Design Build and Operate projects" [2008] 23(1) ICLR 14 at 20.

remain largely unresolved. Despite having ostensibly eliminated the engineer, the Gold Book suffers from essentially the same problem . . . ".[4]

6.9 In contrast, in the Silver Book, the Employer is responsible for the administration of the Contract. Although he "may appoint an Employer's Representative to act on his behalf under the Contract",[5] the position of the Employer's Representative under this Book is significantly different from that under the Gold Book, despite the common title.

Appointment of the Engineer or Employer's Representative (Gold Book)

6.10 The Engineer, in the Red, MDB and Yellow Books, and the Employer's Representative, in the Gold Book, is appointed by the Employer. This appointment arises through a contractual agreement with the Employer under which the Engineer/Employer's Representative is paid either a salary or consultancy fees to carry out services for the Employer. The appointee, however, is not a party to the Contract to which the FIDIC Conditions apply[6] and his appointment takes effect, as between the Parties for the purposes of the Contract, through the naming of the Engineer/Employer's Representative under the Contract.

Appointment of the Engineer: Red, MDB and Yellow Books

6.11 The Engineer is defined in the Red, MDB and Yellow Books[7] as "the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender [Contract Data (M)], or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4".[8] The appointment of the Engineer is an express obligation of the Employer: Sub-Clause 3.1 [*Engineer's Duties and Authority*] provides that the Employer "*shall* appoint the Engineer . . . " (emphasis added).

6.12 The issue as to the identity of the Engineer is considered below in paragraphs 6.19–6.25.

6.13 No time limit is given in these Books within which the initial appointment of the Engineer must be made. However, they anticipate that the appointment will have been made by the date on which the Contract is entered into by the Parties, given the reference to the appointee being named in the Appendix to Tender (R/Y) or the Contract Data (M). In addition, the Engineer must in practice be appointed at this time given that his involvement commences soon after the award of the Contract.[9]

6.14 In many instances the tender documents will include the Appendix to Tender (R/Y) or the Contract Data (M) in a completed form and thus it is contemplated that the Engineer may have been identified by the Employer at the pre-tender stage. Given the

4. Samantha Landsberry, "FIDIC Design Build Operate—Glitter or Gold?" [2008] 25(2) ICLR 156 at 169.
5. Sub-Clause 3.1 (S).
6. This is also recognised by the fact that the Engineer/Employer's Representative (G) is not included in the definition of a "Party" set out in Sub-Clause 1.1.2.1 (1.1.59 (G)).
7. Sub-Clause 1.1.2.4.
8. Sub-Clause 3.4 deals with replacement of the Engineer. See paras. 6.26–6.32 below.
9. This involvement relates to the consent of the Contractor's Representative (unless named in the Contract) (Sub-Clause 4.3), the issuing of an Interim Payment Certificate for the advance payment (Sub-Clause 14.2) and notifying the Contractor of the Commencement Date (Sub-Clause 8.1).

importance of the Engineer's role, it is most desirable from the tenderers' point of view that tenderers should know who will be administering the Contract; first, that there is an appointment and second, the identity of the appointee. Glover and Hughes,[10] referring to the expectation that the Engineer will have been named at tender stage, suggest that "if he has not, then the prudent Contractor must ask legitimate questions about the nature of the project. The reputation and technical ability of the Engineer will be key to the success of any project".

6.15 In recognition of the importance of the role of the Engineer on the dynamics of the Contract, the *FIDIC Guide*[11] advises that:

"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".

6.16 The relevance of the first of these matters should be obvious. The latter two relate to the standards to be expected from the Engineer and any constraints on him in performing his role as set out in the Contract. They allude to the terms of the consultancy appointment (or equivalent) by which the Engineer may be appointed, which will directly affect the Engineer's ability to fulfil his duties. The ability to take account of these matters is, of course, dependent on the information being available to the tenderers, which is not guaranteed.

6.17 The duration of the Engineer's appointment is also not specified in the FIDIC forms but they expressly contemplate that it will continue until the issue of the Final Payment Certificate. Sub-Clause 14.11 of these Books requires the Engineer's involvement in receiving the Contractor's application[12] and Sub-Clause 14.13 obliges the Engineer to issue the Final Payment Certificate. This may require the Employer to extend the appointment of the Engineer if the completion of the Works has been delayed or the Defects Notification Period has been extended.

Appointment of the Employer's Representative (Gold Book)

6.18 The provisions of the Gold Book for the appointment of the Employer's Representative are similar to those, discussed above, which feature the Engineer. Sub-Clause 3.1 of the Gold Book, however, requires that the "Employer shall appoint the Employer's Representative prior to the signing of the Contract". This therefore fixes the latest time for appointment expressly in a way not done in the Red, MDB and Yellow Books. As with the Red, MDB and Yellow Books, the Employer's Representative is involved in the issue of the final payment certificate certifying the amounts due to the Contractor on completion of his obligations under the Contract, which in the Gold Book is the Final Payment Certificate

10. Jeremy Glover & Simon Hughes, *Understanding the New FIDIC Red Book* (2006, Sweet & Maxwell), para. 3–007 at p. 57.

11. FIDIC, *The FIDIC Contracts Guide* (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils) ("*FIDIC Guide*"), p. 82.

12. Including the resolution of any dispute on it under Sub-Clauses 20.4 and 20.5.

Operation Service issued in accordance with Sub-Clause 14.15. Thus the duration of the Employer's Representative's appointment should continue until the issue of this certificate. This therefore means that the Employer's Representative may be appointed for over 20 years.

Who can be the Engineer or Employer's Representative (Gold Book)?

6.19 When it comes to the appointment of the Engineer or Employer's Representative (G) under a FIDIC (or similar) contract, the issues involved are by no means straightforward; they can become fraught with uncertainty, at least in the perceptions of those involved.

6.20 The Red, MDB and Yellow Books do not prescribe any particular restrictions on who may be appointed as the Engineer. The position is the same under the Gold Book, except that this Book expressly states that the Employer's Representative "shall be suitably qualified and experienced".[13]

6.21 The Engineer or Employer's Representative may be a firm of independent consulting engineers[14] or an individual.[15] The advantage of a firm (or other legal body) being appointed is that it may be able to call upon a greater pool of expertise than an individual. Equally, an internationally recognised and reputed firm of consulting engineers may instil the Contractor with more confidence than an unknown individual. On the other hand, an Engineer or Employer's Representative, if a firm, can sometimes seem anonymous and subject to inconsistency in approach and quality if its duties are performed by more than one person.[16] Consequently, if a firm is appointed, it is a common (and convenient) practice for a senior individual in that firm to be designated as being responsible for carrying out the function of the Engineer or Employer's Representative on behalf of the firm. This provides an identifiable point of contact in a body corporate to whom the Contractor should direct his communications. In any event, it is advisable for the Contractor to be satisfied that the individual signing as the Engineer or Employer's Representative has due authorisation from the firm, for example by requiring a power of attorney if necessary.

6.22 Although the FIDIC forms set out in great detail the duties of the Engineer/ Employer's Representative, the appointment of such a firm or individual and the legal basis of the presence of the third party on the project is in a separate agreement between the Engineer or Employer's Representative and the Employer. Often, this other contract will be a consultancy agreement, sometimes known as conditions of engagement or conditions of appointment. The FIDIC Client/Consultant Model Services Agreement (the 'White Book') is an example of such an agreement; many professional bodies produce standard form consultancy agreements for use by their members. It is the terms of this agreement and not the terms of the Contract that will govern the obligations of the Engineer or Employer's Representative to the Employer. This is particularly important in relation to any

13. Sub-Clause 3.1 (G).
14. *FIDIC Guide*, p. 48. The word "independent" here is understood to mean independent from the Employer.
15. Sub-Clause 1.1 provides that "words indicating persons . . . include corporations and other legal entities, except where the context requires otherwise".
16. Rohan Shorland, "Role of Engineer and settlement of disputes under FIDIC Conditions of Contract for Works of Civil Engineering Construction" Paper to 2nd International Bar Association Arbitration Day, Dusseldorf 12–13 Nov 1998, published in (1999) 65(2) Arbitration 92 at 96.

constraints that there may be on his authority to perform the duties required of him under the Contract.

6.23 In practice, the Engineer/Employer's Representative may be appointed by the Employer for a whole range of services in respect of the project. This may be under the same agreement by which he is appointed as the contract administrator or separately. Most obviously, under the Red Book and MDB, the Engineer may have been engaged as the designer of the structure, building or facility which is to be constructed or installed. Bunni observes[17] that it is "recommended and highly desirable that the employer appoint the engineer from the beginning of the project so that he would be the person responsible for carrying out the pre-contract duties of design", but there is no such contractual requirement and indeed the Engineer may be wholly unconnected with and unknown to the designer. The Engineer/Employer's Representative may also have advised on the procurement methods and the preparation of tender documents, often in conjunction with lawyers and financiers appointed by the client. In addition, the Engineer/Employer's Representative may have been involved and may remain involved in technical and financial aspects of the projects, such as cost accounting and cost control. None of these are necessarily related to any contract administration role.

6.24 Engineers also work as employees for organisations which procure construction or engineering projects. This is especially true of government departments, of state and quasi-public entities, of utilities, of municipalities and of major corporations. They have engineering departments, staffed by engineers. Whether their in-house engineers alone are used or whether consultants are retained as well are likely to be primarily matters of capacity and practicality. Importantly, there is nothing on the face of these Books which prevents the Engineer or Employer's Representative being a member of the Employer's organisation.[18]

6.25 While the Red, MDB and Yellow Books stop short of requiring a particular level of qualification for appointment as Engineer, the staff of the Engineer or Employer's Representative are required to "include suitably qualified engineers and other professionals who are competent" to carry out the duties assigned to the Engineer or Employer's Representative under the Contract.[19] In the (many) countries where practice as an engineer is controlled by statute, the use of the words "suitably qualified engineer" in conjunction with "other professionals" would be very likely to be construed to mean a Professional Engineer, Registered Engineer or Chartered Engineer. In Singapore, for example, the Professional Engineers Act 1991[20] provides that no person shall engage in professional engineering work or use "verbally or otherwise" the words professional engineer unless the person is a registered professional engineer under the legislation. In Malaysia, under the 2002 revision of the Registration of Engineers Act 1967,[21] "No person shall employ a person, sole

17. Referring to the 4th Edition of the Red Book but the point is valid more generally (Nael G. Bunni, *The FIDIC Forms of Contract* (3rd Edn, 2005, Blackwell Publishing), p. 210).

18. Nevertheless, the appointment of an employee of the Employer to perform the contract administration role under the FIDIC forms must be considered in light of the duties of the contract administrator to act fairly when performing certain functions. Under some jurisdictions, this duty to act fairly may be incompatible with the employee's duty to the Employer and, in any event, may influence the Contractor's perceptions as to the way in which the Contract will be administered. See paras. 6.60 *et seq.* below.

19. Sub-Clause 3.1.

20. 1992 Revision s. 10.

21. s. 24A.

proprietorship, partnership or body corporate other than a Registered Engineer or an Engineering consultancy practice to perform professional engineering services". This may lead to the somewhat anomalous result under these Books that the Engineer/Employer's Representative, if an individual, need not be an engineer of any kind, whereas the "staff" may have to be professionally qualified engineers.

Replacement of the Engineer or Employer's Representative (Gold Book)

6.26 The Red, MDB, Yellow and Gold Books all provide for the replacement by the Employer of the Engineer or Employer's Representative (G): by definition,[22] the Engineer/Employer's Representative includes such "other person appointed from time to time by the Employer and notified under Sub-Clause 3.4". The right of the Employer to replace the Engineer/Employer's Representative is governed by Sub-Clause 3.4 [*Replacement of the Engineer* [*Employer's Representative* (G)]] which contains the procedure to be followed, as well as certain safeguards for the Contractor.

6.27 Before considering the provisions of Sub-Clause 3.4, it is useful to consider the rationale behind the Employer's right to appoint a replacement under the FIDIC forms. For simplicity, the following refers only to the Engineer under the Red Book but applies equally to the MDB, Yellow and Gold Books. As will be seen later in this chapter, the Engineer plays a pivotal role in the administration of the Contract, with many of the Parties' rights and obligations dependent on his continued involvement. Consequently, if the Engineer dies (if he is an individual) or ceases to act (for whatever reason) and no replacement is appointed, the operation of the Contract as intended at the time that it was entered into will not be possible. The Contract may even become unworkable. Under the 4th Edition of the Red Book[23] there was no right of the Employer to replace the Engineer, and thus the Contractor's approval was required before any other person could be appointed. Similarly, the 3rd Edition of the Yellow Book[24] expressly prohibited the replacement of the Engineer without the consent of the Contractor. However, the requirement of the Contractor's approval gave rise to the possibility that no agreement could be reached.

6.28 The issue of replacement of the Engineer is not restricted to the situation where the Engineer is incapacitated. As noted in the *FIDIC Guide*,[25] employers generally want to be able to replace the Engineer without any restriction. Contractors, on the other hand, "may not want the Employer to be able to replace the Engineer, at least not without good reason".[26] For example, the Contractor may be content with the performance of the incumbent Engineer and have developed a good working relationship with him. The Contractor may also be concerned that the unilateral replacement by the Employer reflected dissatisfaction on the part of the Employer with the perceived fairness of the Engineer in making determinations. Perhaps more significantly, the Contractor will often draw certain assumptions from the identity of the Engineer as stated in the Appendix to Tender

22. Sub-Clause 1.1.2.4 (R/M/Y); Sub-Clause 1.1.35 (G).
23. See discussion in Edward Corbett, *FIDIC 4th—A Practical Legal Guide* (1991, Sweet & Maxwell), p. 40.
24. Sub-Clause 2.8.
25. *FIDIC Guide*, p. 87.
26. *Ibid.*

(Contract Data (M)) when preparing his tender. For example, the Contractor may have priced the tender differently if the Engineer was stated to be an internationally recognised independent consulting firm than if he is identified as a junior employee of the Employer.[27] In these circumstances, the unilateral right of the Employer to replace the independent consulting firm with an employee part way through the project could, in practice, significantly influence the operation of the Contract to the detriment of the Contractor. Taking these factors into account, the provisions for the replacement of the Engineer or Employer's Representative are described by the *FIDIC Guide*[28] as "a fair and reasonable compromise between the conflicting desires of the Parties".

6.29 In the Red and Yellow Books, by Sub-Clause 3.4, the Employer is first required to give the Contractor not less than 42 days' notice before the intended date of the replacement of the "name, address and relevant experience of the intended replacement Engineer". In the MDB, the period of notice is reduced to 21 days. As usual, this notice must comply with the required formalities set out in Sub-Clause 1.3, for example it must be in writing.

6.30 Under the Red and Yellow Books,[29] the Contractor then has a right of objection, in that 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". Again, the Contractor's notice must comply with the requirement of Sub-Clause 1.3 and the supporting particulars should set out the grounds for the Contractor's objection. What would amount to a 'reasonable objection' will depend on the circumstances of the specific Contract but, as stated in the *FIDIC Guide*,[30] is likely to include "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". Taking the example above, the Contractor is likely to have a reasonable objection if the Employer proposes to replace an Engineer who is an internationally recognised independent consulting firm with a junior employee of the Employer.

6.31 Notably, the position of the Contractor is significantly weakened in the MDB. Under Sub-Clause 3.4 of this Book, "if the Contractor considers the intended replacement Engineer to be unsuitable, he has the right to raise objection against him". However, the Employer is only required to "give full and fair consideration to this objection". This falls far short of the prohibition in the Red and Yellow Books against appointing the intended replacement if the Contractor raises "reasonable objection". It would seem to provide the Employer with an unfettered, unilateral right to replace the Engineer so long as the Employer has given "full and fair consideration" to the objection, whether or not it is reasonable. It is understood that such a unilateral right of replacement without the approval of the Contractor was a requirement of the Participating Banks involved in the drafting of the MDB.[31]

27. Corbett, *op. cit.*, n. 23, p. 40.
28. *FIDIC Guide*, p. 87.
29. Sub-Clause 3.4.
30. *FIDIC Guide*, p. 87.
31. Peter Boswell, "FIDIC MDB Harmonised Construction Contract March 2006 version—Changes to FIDIC Construction Contract General Conditions, 1st Edition, 1999", 2008 (www1.fidic.org/resources/contracts/mdb/cons_mdb_changes_8apr08.pdf).

6.32 The provisions under Sub-Clause 3.4 of the Gold Book are identical to the replacement provisions in the Red and Yellow Books, with the obvious exception of substitution of "Employer's Representative" for "Engineer" and "Notice" for "notice".

Authority of the Engineer or Employer's Representative (Gold Book)

6.33 The scope of the contract administrator's authority to act is an important matter for the Contractor. This is because, as stated above, the contract administrator in the Red, MDB, Yellow and Gold Books is not a Party to the Contract. Therefore, the scope of his authority under the Contract, and not under the terms of engagement with the Employer, will determine the extent to which he can bind the Parties.

6.34 The contract administrator's authority under the Contract is set out in Sub-Clause 3.1. The starting point is that this Sub-Clause provides that the contract administrator "may exercise the authority attributable to the [contract administrator] as specified in or necessarily to be implied from the Contract". This is a general confirmation that the contract administrator has the necessary authority to perform his functions under the Contract. This general position is, however, subject to certain qualifications and clarifications. Firstly, it is expressly stated that the contract administrator has no authority to amend the Contract. Secondly, by Sub-Clause 3.1(b), the contract administrator "has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract" except as otherwise stated in the Conditions. The *FIDIC Guide*[32] advises that the main exception in this respect is the contract administrator's "authority to instruct Variations, because they may include omission of any work"[33] (see Sub-Clause 13.1). Thirdly, Sub-Clause 3.1(c) makes it clear, in essence, that no action of the contract administrator will have the effect of relieving the Contractor of his responsibilities under the Contract, again except as otherwise stated in the Conditions.

Constraints to authority

6.35 Notwithstanding the general principle that the contract administrator has the necessary authority to perform his functions under the Contract, the Red, MDB, Yellow and Gold Books all contemplate that the contract administrator's authority to exercise certain functions may be subject to obtaining the Employer's prior approval. Only the MDB includes in the General Conditions a list of actions by the Engineer for which the Employer's prior specific approval is required.

6.36 Red, Yellow and Gold Books. Sub-Clause 3.1 of the Red and Yellow Books provides that "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 *FIDIC Guide*[34] advises that "When deciding which constraints to list in

32. *FIDIC Guide*, p. 82.

33. It will be noted that Sub-Clause 13.1 does not expressly state that the contractor administrator has authority to relieve the Contractor of his duties and responsibilities in this respect. Instead, it is implicit in his authority to instruct Variations involving the omission of work. This would clearly suggest that the words "except as otherwise stated in these Conditions" should be read as "except as otherwise stated, either expressly or impliedly, in these Conditions".

34. *FIDIC Guide*, p. 82.

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". The Employer's approval must not be unreasonably withheld or delayed.[35] In addition, Sub-Clause 3.1 further provides that "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". Consequently, if the Engineer acts in relation to a matter for which the Employer's approval is stated to be required, the Contractor is not required to enquire whether the Engineer has, in fact, obtained the required approval. The words "for the purposes of the Contract" recognise that, if the Engineer does act without the required authority of the Employer, such action may nevertheless be in breach of his consultancy appointment (or other terms of engagement).

6.37 Apart from any requirements that are stated in the Particular Conditions, under Sub-Clause 3.1, the Employer "undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor". Therefore, it is important that any constraints that may be placed on the Engineer's authority under the terms of his engagement with the Employer are also expressly stated in the Particular Conditions. If there are further constraints which are not set out in the Particular Conditions, the Employer will be in breach of this undertaking. Equally, it would also be a breach of the undertaking if the Employer, during the course of the Contract, instructs the Engineer not to make a determination at all in circumstances where his specific approval is not required under the Particular Conditions. Furthermore, if the Employer refuses to give approval in cases where his approval is required, this may have the result that the Engineer may be unable, for example, to make a fair determination under Sub-Clause 3.5.

6.38 Sub-Clause 3.1 of the Gold Book contains identical[36] provisions, except that there is no equivalent to: "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". Nevertheless, in consequence of the Employer's undertaking "not to impose *further* constraints on the Employer's Representative's authority, except as agreed with the Contractor" (emphasis added), the Employer may not include restrictions on the Employer's Representative's authority without the agreement of the Contractor (which may, of course, be set out in the Particular Conditions).

6.39 MDB. The provisions in the MDB largely replicate those in the Red Book, except for two significant changes. First, the MDB includes in the General Conditions a list of specific actions of the Engineer for which the Employer's prior approval is required:

"The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions:

(a) Sub-Clause 4.12: Agreeing or determining an extension of time and/or additional cost.
(b) Sub-Clause 13.1: Instructing a Variation, except:

 (i) in an emergency situation as determined by the Engineer, or
 (ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.

35. Sub-Clause 1.3.
36. Subject to replacing "Engineer" with "Employer's Representative".

(c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub-Clause 13.1 or 13.2.
(d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable currencies.

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer."

6.40 The most controversial element in this provision is the inclusion in the list of the Engineer's determination of the Contractor's entitlement to an extension of time and/or payment of Cost as a result of encountering Unforeseeable physical conditions under Sub-Clause 4.12.

6.41 Second, the MDB removes the Employer's undertaking "not to impose further constraints on the Engineer's authority", and replaces it with an obligation only to "promptly inform the Contractor of any change to the authority attributed to the Engineer". This gives the Employer a very broad, unilateral power to demand, for example, that all or any determinations or other decisions of the Engineer are referred to him for his prior approval.

Appointment of assistants and delegation of contract administration

6.42 Whilst the Engineer (R/M/Y) and Employer's Representative (G) are referred to throughout the Conditions in the singular,[37] and whilst in theory a FIDIC Contract could be administered by one person, the reality is quite different. The size and complexity of most projects executed under the FIDIC forms would invariably render this near impossible in practice. Indeed, as stated above, it is clear that these Books contemplate that contract administration will be typically undertaken by a team in that Sub-Clause 3.1 refers to the "staff" of this appointee. In addition, there is express provision in Sub-Clause 3.2 [*Delegation by the Engineer* [*Employer's Representative* (G)]] for the deployment of a team under the auspices of the contract administrator and for the delegation of certain duties and authority to assistants.

6.43 Sub-Clause 3.2 gives the Engineer/Employer's Representative the power from time to time to "assign duties and delegate authority to assistants" and also to "revoke such assignment or delegation". Importantly, the authority to make determinations under Sub-Clause 3.5 cannot be delegated under the Red, MDB, Yellow and Gold Books, except by agreement of both Parties.

6.44 Two categories of 'assistant' are mentioned in Sub-Clause 3.2 of the Red, MDB and Yellow Books, namely "a resident engineer" and/or "independent inspectors appointed to inspect and/or test items of Plant and/or Materials". Under the Gold Book there is no reference to resident engineers and the role of the "independent inspectors" is changed to

37. Under Sub-Clause 1.1 "Words indicating persons or parties include corporations and other legal entities".

distinguish them from the Auditing Body.[38] The assistants' role is extended under the Gold Book to include workmanship and monitoring "the provision of the Operation Service". Under the Red, MDB, Yellow and Gold Books, these "assistants" could include members of the Engineer or Employer's Representative's "staff" referred to in Sub-Clause 3.1, but they need not be employees.

6.45 The Books make demands as to competence and qualification of the 'assistants' appointed under Sub-Clause 3.2 and their selection should in all cases be undertaken with care. This is so whether or not they will be recipients of formally delegated powers or are undertaking duties to assist the Engineer/Employer's Representative. There is a common provision in Sub-Clause 3.2 that "Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority". They also need to be "fluent in the language for communications" as defined under the Contract[39] and which is specified in the relevant Contract Document.[40]

6.46 The 'assistants', whether employees of the Engineer/Employer's Representative or independent consultants, have greater significance than this general description might suggest. This is because the Engineer/Employer's Representative has power to "assign duties and delegate authority" to them, and their decisions and actions whether "approval, check, certificate, consent, examination, inspection, instruction, notice,[41] proposal, request, test or similar act . . . shall have the same effect as though the act" had been done by the Engineer or Employer's Representative.[42]

6.47 Some protections are included for the benefit of the Contractor, beyond the requirements of suitable qualification and competence mentioned above. Assignment of duties and delegation (and revocation) of authority have to be in writing and only take effect when both Parties have received copies. The Contractor also has an opportunity to "question any determination or instruction" by referring it to the Engineer/Employer's Representative who must "promptly" confirm, reverse or vary it. Finally, as noted above, the authority of the Engineer/Employer's Representative to make a determination under Sub-Clause 3.5 cannot be delegated "unless otherwise agreed by both Parties".

The Employer as contract administrator: Silver Book

6.48 Under the Silver Book, the Employer, and not a third party, performs the role of the contract administrator. The Employer may however, under Sub-Clause 3.1, "appoint an Employer's Representative to act on his behalf under the Contract". The Employer's Representative may be an employee of the Employer or a third-party consultant. The Employer is under no obligation to appoint an Employer's Representative, and thus the Contractor has no entitlement to see one appointed; it is a power or discretion in the hands of the Employer.

38. Defined under Sub-Clause 1.1.4 as the "independent and impartial body appointed to conduct the Independent Compliance Audit in accordance with Sub-Clause 10.3".

39. Sub-Clause 1.4.

40. Appendix to Tender (R/Y); Contract Data (M/G).

41. "Notice" (G).

42. Sub-Clause 3.2. Note, however, that Sub-Clause 3.2(a) makes it clear that a failure by an assistant to give disapproval does not prejudice the rights of the Engineer/Employer's Representative.

6.49 The Employer may replace the Employer's Representative at any time, the only obligation being to inform the Contractor of the "name, address, duties and authority" of the replacement and the date of appointment. Note that the Contractor is only entitled to 14 days' notice of the replacement and has no right of objection. Indeed, the Employer has full power to replace the Employer's Representative. Equally, during the course of the Works, the Employer may decide to dispense with the Employer's Representative.

6.50 The Employer's Representative in the Silver Book has no existence independent of the Employer. When he acts, "unless and until the Employer notifies the Contractor otherwise", the Employer's Representative acts as the Employer and is "deemed to have the full authority of the Employer under the Contract, except in respect of Clause 15 [*Termination by Employer*]."

6.51 It may therefore be observed in passing that it is perhaps unfortunate that the same title has been given to the contract administrator under the Gold Book as is given to this person under the Silver Book, as their roles are so different.[43]

6.52 The Employer and the Employer's Representative (if any) may at any time assign duties and delegate authority to assistants. The provisions in the Silver Book in relation to this assignment of duties and delegation of authority are found in Sub-Clauses 3.2 [*Other Employer's Personnel*] and 3.3 [*Delegated Persons*] and are similar to those in Sub-Clause 3.2 of the other Books. However, there is no prohibition in the Silver Book against the delegation of authority to make determinations under Sub-Clause 3.5 [*Determinations*].

The contract administrator's role: Red, MDB, Yellow and Gold Books

6.53 As noted above, the Red, MDB, Yellow and Gold Books follow a long-established practice adopted in construction contracts with origins in Anglo-Saxon jurisdictions of utilising a third party (i.e., a person or entity that is not a party to the contract) appointed by the employer to administer the contract. This third-party contract administrator, the Engineer (R/M/Y) or Employer's Representative (G), plays a major role in the implementation and operation of the Contract under the respective forms. Few aspects of contract administration in general, and under the FIDIC contracts in particular, attract so much earnest and often heated debate as does the nature of this contract administrator's role.

6.54 Although Sub-Clause 3.1 is entitled "Engineer's Duties and Authority" (R/M/Y) or "Employer's Representative's Duties and Authority" (G), this Sub-Clause only contains general provisions relating to the contract administrator's role and does not define the particular scope of this role. The precise scope of the role is instead defined by the reference in the Books to actions or duties of the Engineer/Employer's Representative. It is therefore necessary to review all the provisions of these Books to obtain the full picture as to the role of the Engineer/Employer's Representative.

6.55 It is relatively easy to establish when the Engineer or Employer's Representative is carrying out duties specified in the Contract (by the use of the word 'shall'). It is however

43. Whereas Clause 3 of the Gold Book is entitled "The Employer's Representative" in the same way as the Red, MDB and Yellow Books include a Clause 3 entitled "The Engineer", Clause 3 of the Silver Book is entitled "The Employer's Administration". This gives the correct emphasis but highlights the possible confusion for those unfamiliar with the different versions of the "Employer's Representative" that are present in the FIDIC forms.

less certain when he is to be considered to be "exercising authority" and when duties or authority are implied by the Contract. In the authors' view, such exercise of authority encompasses all instances where the Engineer or Employer's Representative is required or empowered to make a decision, which includes the exercise of discretion.

6.56 The Engineer/Employer's Representative carries out many and various functions which, in general terms, can be said to fall into one or more of the following categories:

(a) administration and management;
(b) supervision;
(c) the giving of instructions and instructing or approving a Variation;
(d) valuation and certification; and
(e) determination of claims, including the Contractor's claims for additional payment and extensions of time.

6.57 In carrying out this role, through his employment by the Employer, the Engineer/Employer's Representative acts as the Employer's agent for the purpose of procuring the completed Works in an economical and efficient manner.[44] This is confirmed by Sub-Clause 3.1(a), which provides that "whenever carrying out duties or exercising authority, specified in or implied by the Contract, the [Engineer/Employer's Representative] shall be deemed to act for the Employer" (except as otherwise stated in the Conditions).[45]

6.58 At this point, it is necessary to recognise that not all the powers of the Engineer or Employer's Representative strictly relate to contract administration. Some represent the exercise of a right of the Employer on his behalf. For example, the instruction of a Variation and the notification of Employer's claims represent simply the contract administrator's exercise of a right of the Employer on the Employer's behalf. These represent a more direct and conventional agency-type role in that the Engineer/Employer's Representative acts wholly for the benefit of the Employer, his client.

6.59 On the other hand, many of the other functions of the contract administrator, for example, in certifying payments due to the Contractor or in determining an entitlement to an extension of time, require the contract administrator to exercise judgement as to the amounts due and the Contractor's entitlement, respectively. It is the contract administrator's duty when exercising this judgement that is the subject of the debate referred to above and this centres on the concept of duality of the contract administrator's role that exists in common law jurisdictions.

Duality of contract administrator's role

6.60 To understand the position under the Red, MDB, Yellow and Gold Books as to the duties of the contract administrator when exercising judgement, it is useful first to consider the position at common law, given the Anglo-Saxon origins of the FIDIC forms; to then consider the background to the relevant provisions in the current FIDIC forms by tracing

44. Stephen Furst and Vivian Ramsey (ed.), *Keating on Construction Contracts* (8th Edn, 2006, Sweet & Maxwell) ("*Keating*"), p. 415, para. 13–012.

45. It should also be noted that, despite the inclusion of the words "except as otherwise stated in these Conditions", nowhere in the FIDIC Books do they expressly state that the Engineer/Employer's Representative is not acting for the Employer when carrying out his duties and exercising authority.

their development through the previous forms; and finally to consider the position under the present forms.

Position at common law

6.61 In the common law jurisdictions, the conventional position under traditional construction contracts[46] is generally understood to be that, when performing his duties of contract administration (as opposed to when he is considered to be acting wholly for the benefit of the employer), the contract administrator is required to act "fairly and professionally in applying the terms of the construction contract".[47] This is notwithstanding the fact that the contract administrator acts as the employer's agent when performing these duties. A classic exposition of this principle is found in the English case of *Sutcliffe* v. *Thackrah*[48] where Lord Reid in the House of Lords noted that:

> "In many matters [the contract administrator][49] is bound to act on his client's instructions, whether he agrees with them or not; but in many other matters requiring professional skill he must form and act on his own opinion . . . The building owner and the contractor make their contract on the understanding that in all such matters the [contract administrator] will act in a fair and unbiased manner".[50]

6.62 Lord Reid further added[51] that, where a decision has to be made by the contract administrator on the amount of money due to the contractor, whether the contractor is entitled to extra time or whether work is defective, he is required to "reach such decisions fairly, holding the balance between his client and the contractor". In the same case, Lord Morris said[52] of the contract administrator that his "function involves that he will act impartially and fairly".

6.63 More recently, in *Costain* v. *Bechtel*,[53] Jackson J operated a kind of presumption in favour of the duty to act fairly towards both parties. In construing a construction management agreement, he declared that he was "unable to find anything which militates against the existence of a duty to act impartially in matters of assessment and certification". In other words, there would be such a duty unless there was express provision negating it.

6.64 The courts in other common law jurisdictions have given similar judgments. As the New Zealand Court of Appeal put it in *Canterbury Pipe Lines Ltd* v. *Christchurch Draining Board*,[54] the contract administrator must "act fairly and impartially". The Supreme Court of Victoria (Australia) in *Kane Constructions Pty Ltd* v. *Sopov*[55] said that "a superintendent would act 'honestly and fairly' when that individual is not dishonest, is just and impartial and conducts him or herself in a reasonable manner".[56]

46. Which was replicated throughout much of the English-speaking world well before FIDIC adopted it from the ICE form (see Chapter 1, paras. 1.15–1.28).
47. *Keating*, *op. cit.*, n. 44, para. 13–012 at p. 415.
48. [1974] AC 727.
49. An architect under the old RIBA (now JCT) contract.
50. *Supra*, n. 48 at 737A.
51. *Ibid.*, at 737D.
52. *Ibid.*, at 751C.
53. [2005] EWHC 1018 (TCC); [2005] TCLR 6; [2005] CILL 2239.
54. [1981] 16 BLR 76, NZCA (at 98).
55. [2005] VSC 237.
56. *Ibid.*, at para. 617.

6.65 This duty on the part of the contract administrator to act fairly and impartially, however, has been severely criticised, particularly by some lawyers who question whether such a duty presents a conflict of interest for the contract administrator in acting as agent of the employer. The debate was further fuelled by the fact that, in line with the decision in *Sutcliffe* v. *Thackrah*, (as will be seen below) FIDIC included in the 4th Edition of the Red Book and the 3rd Edition of the Yellow Book an express duty on the part of the Engineer to act impartially when performing certain of his functions.

6.66 As Christopher Wade, Chairman of the FIDIC Contracts Committee from 1999–2006, put it:[57]

> "The Anglo-Saxon concept of the independent, trustworthy, almost 'venerable' engineer, guiding the project and deciding on right and wrong has never been understood or accepted in many countries, for example, many civil law countries, and there the direct two-party system of employer-contractor has always been the norm. The 'Engineer' concept has also often been ridiculed by lawyers and others who cannot understand how someone paid by one party can be fair to the other party."

6.67 The different approach in civil law jurisdictions to construction contracts, when compared with a contract with a contract administrator as envisaged in construction contracts with their roots in the common law, can also be seen from the results of a study in 2006 by the European Society of Construction Law (ESCL)[58] in which respondents from eight jurisdictions[59] were asked the specific question:

> "If a traditional engineering or construction contract gives the engineer (or architect or project manager) the contract administration role, with duties of fairness as between client/purchaser and contractors, what is the effect (if any) of the client/purchaser appointing a junior employee of its organisation as the engineer/architect/project manager?"[60]

6.68 The Austrian response[61] was especially revealing: "In Austria, we do not know the typical position of an Engineer (as under FIDIC) as a more or less neutral actor". The German view[62] was that the contract administrator "will never take on the role of an intermediary or of a wholly independent person". The Dutch response[63] was that "These functionaries are under Dutch law considered to be representatives of the owner. So the duty of 'fairness' as between employer and contractor does not apply beyond the requirements of 'good faith'".

6.69 Rohan Shorland,[64] an international engineer, in an article expressing forthright views over the role of the Engineer, cited criticisms of the Engineer's dichotomous role in the 1996 University of Reading Study,[65] where respondents rated it amongst the worst features[66] of the 4th Edition of the Red Book: "it supposes an impartial Engineer, in spite

57. Christopher Wade, "The Silver Book: the Reality", [2001] 18(3) ICLR 497 at 500.

58. Anthony Lavers, "Ethics in Construction Law—European Society of Construction Law study: responses from eight member countries", [2007] 24(3) ICLR 435.

59. Austria, England and Wales, France, Germany, Greece, The Netherlands, Sweden and Switzerland.

60. The Respondents were Presidents of the respective Societies of Construction Law or experts nominated by them.

61. From Dr Alfons Huber.

62. Professor Wolfgang Heiermann (translated by Chantal-Aimée Doerries QC).

63. Given by the late Koos Rozemond.

64. Shorland, *op. cit.*, n. 16.

65. Will Hughes, "EIC/FIDIC Questionnaire Survey: The use of the FIDIC Red Book: Final Report", June 1996, Department of Construction Management and Engineering University of Reading (www1.fidic.org/resources/contracts/EIC-FIDIC-Final.pdf).

66. But also, interestingly, among the best features as well.

of the Engineer being paid by the client"; "the notion that the Engineer is independent: he is paid and chosen by the Employer".[67] Shorland also spoke of the "fiction of the Engineer being independent": "It is a complete fiction, for example, to say that the Engineer under government contracts in the United Kingdom can possibly act independently of the Employer".[68] He also referred to the situation where the Engineer is a staff member of the Employer's organisation: "It is also easy to see that most Engineers (if only for career advancement reasons) would have greater difficulty in remaining neutral when determining disputes in the first step of the resolution procedure".[69]

6.70 Whilst the criticism frequently comes from contractors, as John Bowcock, the then Chairman of the FIDIC Contracts Committee, observed in 1998 in relation to the duty of impartiality of the contract administrator:

" . . . there has always been the view from some employers that the system was unfair. Particularly in certain developing countries there has been a concern that, with the consulting engineer and the contractor often both coming from the developed world, there is a risk that the employer would not be treated fairly".[70]

6.71 Some debate in the common law jurisdictions, has also centred on the use of the word "independent" in relation to the contract administrator. In *Scheldebouw BV* v. *St James Homes (Grosvenor Dock) Ltd*[71] Jackson J observed that "Generally the decision-maker is not, and cannot be regarded as, independent of the employer". It is difficult to reconcile this with statements like that of Macfarlan J in *Perini Corporation* v. *Commonwealth of Australia*[72] that the contract administrator's duty "when acting as certifier was to act independently" or of Megarry J in the English High Court in *London Borough of Hounslow* v. *Twickenham Garden Developments Ltd*[73] that "It is the position of independence and skill that affords the parties the proper safeguards". The answer to this apparent inconsistency is however not hard to find. Megarry J in the same case referred to the exercise of the skilled professional judgement of the contract administrator: "he must throughout retain his independence in exercising that judgement". As Jackson J concluded in the *Scheldebouw* case,[74] the fact that the contract administrator "is not independent is perfectly consistent with the proposition that he is required to act in an independent manner in certain situations". So the contractor administrator is not necessarily expected to be independent of the Employer, even in common law jurisdictions, but in making determinations, he is expected to be able to think independently and form a view independent of the Employer's preference.

6.72 In addition, Lord Morris[75] in *Sutcliffe* v. *Thackrah* saw no conflict between acting for the employer and being fair to the contractor; it was to be expected of the contract

67. Shorland, *op. cit.*, n. 16, at 95.
68. *Ibid.*, at 92.
69. *Ibid.*, at 96. See also Chapter 9, paras. 9.5–9.14 in relation to the Engineer as pre-arbitral decision-maker. See also para. 6.79 below.
70. John Bowcock, "The Four New Forms of Contract—The Engineer, Claims and the Dispute Adjudication Board", paper presented at the FIDIC New Contracts Launch Seminar Series (Sep. to Dec. 1998) (http://www1.fidic.org/resources/contracts/launch/bowcock2.html).
71. [2006] BLR 124.
72. (1980) 12 BLR 82 at 85.
73. [1971] 1 Ch 233.
74. *Supra*, n. 71 at para. 30.
75. *Supra*, n. 48, at 740H–741A.

administrator: "Being employed by and paid by the owner he unquestionably has in diverse ways to look after the interests of the owner. *In doing so he must be fair and he must be honest.* He is not employed by the owner to be unfair to the contractor" (emphasis added).

History behind the current FIDIC provisions

6.73 In considering the history behind the provisions of the current FIDIC forms in relation to the contract administrator's role as decision-maker, a useful starting point is the 4th Edition of the Red Book, published in 1987. In this Edition, for the first time,[76] an express duty of impartiality on the part of the Engineer was introduced: when exercising his discretion in certain specified circumstances, including the giving of decisions, expressing approval and determining value, the Engineer is required to "exercise such discretion impartially within the terms of the Contract and having regard to all the circumstances".[77] Similar provisions can be found in the 3rd Edition of the Yellow Book.[78] The Guide to the 4th Edition of the Red Book[79] describes these provisions as stipulating "what was treated in previous conditions as a professional obligation of the Engineer". However, the stated scope of application of this express duty of impartiality was potentially cast too widely, such that it included actions of the Engineer which did not traditionally involve a duty of impartiality. It is not necessary here to consider the drafting of these previous editions further for the purpose of this discussion.[80] Suffice it to say that the provisions of the 4th Edition of the Red Book led one commentator, Edward Corbett,[81] to observe that it creates doubt over the dichotomy of the Engineer's role and that "the presumed intention of the draftsmen has, very arguably, not been achieved".

6.74 With the publication of the Orange Book in 1995, it would seem that FIDIC's position had undergone a significant shift on the requirement of impartiality. It should be noted that the Orange Book adopted the title of 'Employer's Representative' for the contract administrator but, despite this different title, the role of the Employer's Representative is essentially analogous to the role of the Engineer under the then current editions of the Red and Yellow Books. However, unlike these editions of the Red and Yellow Books, no reference is made in the Orange Book to a duty of impartiality on the part of the Employer's Representative. Instead, in place of the express duty of impartiality found in the other Books at this time, the Orange Book required the Employer's Representative to determine certain matters "fairly, reasonably and in accordance with the Contract".

6.75 More specifically, Sub-Clause 3.5 of the Orange Book (which represents the precursor to Sub-Clause 3.5 of the current Red, MDB, Yellow and Gold Books) provides:

"When the Employer's Representative is required to determine value, Cost or extension of time, he shall consult with the Contractor in an endeavour to reach agreement. If agreement is not reached,

76. There was no such express duty in the previous editions of the Red Book or the 5th Edition of the ICE form, on which the Red Book was largely based.

77. Sub-Clause 2.6.

78. Sub-Clause 2.4.

79. FIDIC, *Guide to the Use of FIDIC Conditions of Contract for Works of Civil Engineering Construction Fourth Edition* (1989, Fédération Internationale des Ingénieurs-Conseils), p. 48.

80. See discussion in Corbett, *FIDIC 4th—A Practical Legal Guide op. cit.*, n. 23, on pp. 8–9 and pp. 64–64.

81. *Ibid.*, p. 8.

the Employer's Representative shall determine the matter *fairly, reasonably and in accordance with the Contract*" (emphasis added).

6.76 In this way, it could be said that the Orange Book nevertheless preserved, albeit in a reduced form, the duality in the contract administrator's role, at least in relation to the matters falling within Sub-Clause 3.5. It did so by replacing the duty of impartiality with an express duty to determine these matters "fairly, reasonably and in accordance with the Contract". However, the scope of this duty under Sub-Clause 3.5 in the Orange Book was much reduced from the duty of impartiality in the 4th Edition of the Red Book and 3rd Edition of the Yellow Book. Value, Cost and extensions of time are matters which involve the exercise of discretion by the Employer's Representative and, at common law, would ordinarily require him to determine them fairly and/or impartially. There are, however, other matters not mentioned in Sub-Clause 3.5, such as in deciding whether the work is defective or the Works have been completed, which also involve an exercise of discretion and, at common law, would require fairness and/or impartiality on the part of the Employer's Representative.

6.77 At this juncture, it is also interesting to note that, not only had any express duty of impartiality been omitted from the Orange Book, but the Guide to the Orange Book states:[82]

"The Employer's Representative *is not required to act impartially* in the role commonly understood as that of 'the Engineer', although fairness is stipulated in Sub-Clause 3.5" (emphasis added).

6.78 Peter Booen, the principal drafter of the current Red and Yellow Books, has explained[83] the removal of the express duty of impartiality in these Books found in their previous editions on the basis "of the problems caused when such a statement proves false". However, given the similarities between the concepts of fairness and impartiality (as discussed below), it is suggested that these problems remain, albeit in a slightly different guise.

6.79 It should also be noted that the contract administrator's role under all the FIDIC forms as a decision-maker generally is much reduced compared to the role of the Engineer under the 4th Edition of the Red Book. The dominant reason for this change in role is the introduction of the Dispute Adjudication Board (DAB).[84] DABs are independent, third-party tribunals. Whereas, under the 4th Edition of the Red Book it was the Engineer who gave a pre-arbitral decision on any dispute arising "in connection with, or arising out of, the Contract or the execution of the Works"[85] and notified by either Party, under the current FIDIC forms the DAB now has the task of making such decisions. The reason for this change was because, under the 4th Edition of the Red Book, the situation would often arise where the Engineer would make a determination and then, upon one Party's dispute of the determination, be required to make a decision as to the validity of his own determination. The same doubts as those discussed above were also expressed as to whether the Engineer could act impartially in this role. With the introduction of the DAB, an Engineer may still

82. FIDIC, *Guide to the use of FIDIC Conditions of Contract for Design-Build and Turnkey* (1st Edn, 1996, Fédération Internationale des Ingénieurs-Conseils), p. 36.
83. P. L. Booen, "The Three Major New FIDIC Books", [2000] 17(1) ICLR 25 at 30.
84. Or the Dispute Board (M).
85. Sub-Clause 67.1.

make a determination, but upon dispute of the determination the matter is to be referred to the DAB.[86]

Position under the Red, MDB, Yellow and Gold Books

6.80 Duty to make fair determinations. The Red, MDB, Yellow and Gold Books do not contain any express requirement for the Engineer/Employer's Representative to act impartially. Instead, this duty of impartiality has been replaced by an express requirement of the Engineer/Employer's Representative to make 'fair' determinations in respect of certain matters. As noted above, these Books have expressly preserved, at least to some extent, the duality of his role as traditionally found in construction contracts under common law jurisdictions.

6.81 This duty of fairness is primarily found in Sub-Clause 3.5 [*Determinations*], which is drafted in similar terms to Sub-Clause 3.5 of the Orange Book and, in the Red, MDB and Yellow Book provides:

"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*" (emphasis added).

6.82 Sub-Clause 3.5 in the Gold Book is identical, apart from the replacement of "Engineer" with "Employer's Representative" and the omission of "3.5".

6.83 The specific provisions that require the Engineer/Employer's Representative to proceed in accordance with Sub-Clause 3.5 are set out in Table 6.1 below and the operation of this Sub-Clause is discussed below in paragraphs 6.119 *et seq.* In general, it can be said that Sub-Clause 3.5 applies whenever the Engineer/Employer's Representative is required to determine matters of value, Cost and extensions of time (as with the Orange Book).[87] As will be seen from Table 6.1, however, its application, is not restricted to these matters only.

6.84 The most important matters that invoke Sub-Clause 3.5, at least so far as the Contractor is concerned, are probably the following:

- the Contractor's entitlement to additional payment (Sub-Clause 20.1 and other various Sub-Clauses);
- the Contractor's entitlement to an extension of time (Sub-Clause 20.1 and other various Sub-Clauses, most notably Sub-Clause 8.4 (9.3 (G)));
- valuation of work (R/M) (Sub-Clause 12.3);
- valuation of Variations (Sub-Clause 13.3 (with reference to Sub-Clause 12.3 in the Red and MDB Books));
- whether and (if so) to what extent any physical conditions encountered by the Contractor were Unforeseeable (Sub-Clause 4.12); and

86. See Chapter 9, paras. 9.15 *et seq.*

87. It will be noted that the scope of the application of Sub-Clause 3.5 is not described in the general terms used in the Orange Book, i.e., "When the Employer's Representative is required to determine value, Cost or extension of time . . . " (Sub-Clause 3.5), but instead its provisions apply where the Conditions provide.

- the Employer's entitlement to an extension to the Defects Notification Period (not Gold Book) (Sub-Clauses 11.3 and 2.5).

6.85 In addition to the matters to which Sub-Clause 3.5 applies, the Engineer/Employer's Representative is also under an express duty to make fair determinations in respect of amounts due to the Contractor as included in payment certificates. This duty is found in Sub-Clause 14.6 (14.7 (G)) under which the Engineer/Employer's Representative is required to issue to the Employer an Interim Payment Certificate which states "the amount which the [Engineer/Employer's Representative] *fairly determines* to be due" (emphasis added). A similar duty of fairness is found in Sub-Clause 14.13 in the Red, MDB and Yellow Books in respect of the issue of the Final Payment Certificate in a situation where the Contractor has not applied for such a Payment Certificate in accordance with Sub-Clause 14.11.

6.86 The *FIDIC Guide*[88] states that the "Engineer does not represent the Employer for all purposes" but "he is deemed to act for the Employer as stated in sub-paragraph (a) [of Sub-Clause 3.1]". It then notes 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". The *Guide* goes on to suggest that, if the Engineer is "an independent consulting engineer who is to act impartially", this could be achieved by inserting the words "The Engineer shall act impartially when making these determinations" in the Particular Conditions at the end of the first paragraph of Sub-Clause 3.5. This guidance is repeated[89] in relation to determinations under Sub-Clause 3.5: "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* . . . " (emphasis added).

6.87 It is therefore apparent that, absent an express duty of impartiality, in FIDIC's view the duty of fairness does not include impartiality but does include acting "in a professional manner". However, the distinction to be made between 'fairness' and 'impartiality' is not easy, even for native English-speakers with a grounding in the common law. The Oxford English Dictionary defines "fair" as "just, unbiased, equitable; in accordance with the rules" and "impartial" as "treating all sides in a dispute etc. equally; unprejudiced, fair". As a result, the concepts of fairness and impartiality are closely related.

6.88 Nonetheless, in the major common law jurisdictions, it can be stated as a general proposition that what is required of a contract administrator in a traditional engineering (or construction) contract in making determinations may indeed include impartiality; the word 'fairness' in this context has several connotations and impartiality is one of them. Therefore, notwithstanding the guidance found in the *FIDIC Guide*, and while this may not apply for all jurisdictions, it is suggested that the express duty of fairness in making determinations under the Red, MDB, Yellow and Gold Books would involve acting impartially as between Contractor and Employer when a common law jurisdiction governs the Contract.

6.89 As discussed above, Sub-Clause 3.1(a) provides that the Engineer (or Employer's Representative (G)) shall be deemed to act for the Employer whenever carrying out duties or exercising authority. On this basis, it might be argued that, when making any determination under the Contract, the Engineer at all times acts in the interests of the Employer and

88. *FIDIC Guide*, p. 82.
89. *Ibid*., p. 89.

thus in any issue between Employer and Contractor the Engineer would always take the Employer's side. It is, however, suggested that Sub-Clause 3.1(a) is unlikely to have this effect. Because the Engineer is not a Party to the Contract, the deeming provision in Sub-Clause 3.1(a) can be explained as being nothing more than providing the legal basis and nature, as between the Employer and the Contractor, of the Engineer's role under the Contract. The Engineer is deemed to act as the Employer's agent in the sense that he is appointed by the Employer to carry out certain functions on the Employer's behalf. Many of these functions concern the operation of the Contract agreed between the Parties, some of which the Parties have agreed require the Engineer to make a fair determination. This is entirely consistent with the traditional understanding at common law of the contract administrator's role[90] which has, as has been seen above, provided the basis for the role of the contract administrator under the FIDIC forms.

6.90 The conceptual and practical difficulties involved in the duality of the contract administrator's role are potentially significant. It requires the contract administrator to change his mind-set and behaviour at different times within administration of the same Contract. It also does not avoid the fact that the contract administrator may be placed in situations where he has a conflict of interest, for example, when required to determine fairly the value of a Variation after having previously advised the Employer of the likely cost implications.

6.91 Although the application of the dual role of the contract administrator as envisaged by the FIDIC forms is established and accepted in common law jurisdictions, it must be noted that its acceptance is not universal and may give rise to difficulties, particularly if it is anticipated that the Engineer or Employer's Representative may be an employee of the Employer. In the 2006 ESCL study[91] referred to above, both the French[92] and Swedish[93] respondents took the view that the employee's position would be untenable. The French response was that:

> "We can't imagine a construction contract between . . . the client and a prime contractor giving the administration role of the contract to a third party who comes from [the client's] organisation . . . we're wondering how the fairness obligations could be respected in that case since the administration of the contract is given to a person from the same organisation as the contracting authority."

6.92 Constraints on authority. As discussed above, under Sub-Clause 3.1 of the Red, MDB and Yellow Books, the circumstances in which the Engineer is required to obtain the approval of the Employer before exercising a specified authority must be stated in the Particular Conditions. Moreover, in these Books and the Gold Book, the Employer undertakes not to impose further constraints on the Engineer's/Employer's Representative's authority except as agreed with the Contractor (or, in the MDB, unless the Employer has promptly informed the Contractor of a change in authority).

6.93 On balance, it is submitted that the existence alone of a requirement to obtain the Employer's approval should not be seen as destroying the ability of the contract administrator to make determinations fairly. This would be so even where the "specific approval

90. See, for example, *Sutcliffe* v. *Thackrah, supra*, n. 48.
91. Lavers, *op. cit.*, n. 58.
92. Professor Hughes Perinet-Marquet.
93. Per Ossmer and Olof Johnson.

of the Employer" is required before granting an extension of time or additional Cost under Sub-Clause 4.12 in the MDB.

6.94 If, however, the Employer were to instruct the Engineer/Employer's Representative to withhold a determination or to instruct the Engineer/Employer's Representative as to the determination that he must make, this is likely to be a breach of the Employer's undertaking in Sub-Clause 3.1 not to place any further constraints on the authority of the Engineer/Employer's Representative (unless such a constraint has been agreed by the Contractor or, in the MDB, the Contractor has been informed of it).[94]

6.95 In the common law jurisdictions, influence by the Employer on the contract administrator when making a determination creates the possibility of invalidating the determination of the contract administrator. In *Hickman* v. *Roberts*[95] the contract administrator had proposed to the employers that he should issue a payment certificate in the contractors' favour, but was told that the client would not pay and that he should delay and reduce the certificate. He wrote to the contractors advising them to meet the employers, "because in the face of their instructions to me I cannot issue a certificate whatever my own private opinion in the matter". Fletcher Moulton LJ in the Court of Appeal said that the contract administrator "had been acting in the interests of one of the parties and by their direction. That taints the whole of his acts and makes them invalid" (as quoted by Lord Loreburn in the House of Lords).

6.96 In the Australian case of *Kane Constructions* v. *Sopov*[96] the contractor's allegation was the willingness of the contract administrator to discuss with the employer "the prospect of finding items of deduction against the builder under the contract price", without notifying the builder. The New South Wales Court of Appeal described the "undesirably close relationship" between employer and contract administrator. The case is also of value for the "set of indicia of interference" by the employer with the contract administrator (superintendent is the Australian term):

"when the superintendent allows judgment to be influenced, when the superintendent is in a position whereby the certificate is deprived of value, when the superintendent acts in the interests of one of the parties and by their direction, when the position is misconceived and the superintendent acts as mediator, when there is not sufficient firmness in order to decide questions based on his or her own opinion, where judgment and conduct are controlled by the principal and where the superintendent considers the absence of the principal to be necessary, has ceased to be a free agent and does not give full disclosure of every communication between the superintendent and the principal . . . In relation to the principal, interference will arise where there is an attempt to lead the superintendent astray in the interests of the principal and where there is correspondence and communication of an improper character between the principal and the superintendent. In relation to the contractor, interference will arise where the contractor has no knowledge of the interfering conduct so as to prevent the builder raising the point."

6.97 Neither of these decisions affects the propriety of the Engineer/Employer's Representative's being required to obtain the approval of the Employer when exercising certain authority under the Contract as contemplated by Sub-Clause 3.1. However, they do caution the Employer, if approval is required in respect of a determination under Sub-Clause 3.5, not to interfere in the *exercise* by Engineer/Employer's Representative of his authority to make a fair determination.

94. See paras. 6.33–6.41 above.
95. [1913] AC 229 at 231.
96. *Supra*, n. 55.

Other determinations, decisions and exercises of judgement

6.98 So far this section has been concerned only with the contract administrator's role where he is expressly required to "fairly determine" certain matters. There are, however, many other circumstances where the contract administrator is under a duty or empowered to make a determination or decision where there is no express requirement of fairness. The duties prescribed for the Engineer/Employer's Representative under these Clauses are very disparate in the way they are described. Some use the word "determine"[97] and others do not. Indeed, there are many provisions in which the entitlement or obligation of one of the Parties is stated to be dependent upon a condition being fulfilled, for example work remaining to be executed, as if this is inevitably and incontrovertibly a fact. The reality is otherwise: this objective language conceals the need for the Engineer/Employer's Representative to make a decision on the issue.

6.99 The range of ways in which these determinations or decisions which are not expressly required to be made fairly arise can be seen from these Red/Yellow Book examples:

Sub-Clause

7.5 *Rejection*. The Engineer has to make a qualitative assessment as to whether any Plant, Materials or workmanship is defective or not in accordance with the Contract on the basis of results of an examination, inspection etc. before he rejects the Plant, Materials or workmanship.

7.6 *Remedial Work*. The Engineer has to decide whether any work is not in accordance with the Contract before instructing the Contractor to remove and re-execute this work. Similarly, in respect of the other circumstances in which the Engineer can instruct the Contractor under this Sub-Clause, the Engineer will have to decide whether any Plant or Materials is not in accordance with the Contract and whether any work is urgently required for the safety of the Works.

8.5 *Delays Caused by Authorities*. The Engineer implicitly (for he is not mentioned) has to consider whether the Contractor has "diligently" followed procedures and whether causation is established for the purposes of establishing whether the Contractor is entitled to an extension of time.

8.6 *Rate of Progress*. The Engineer is required to decide whether the Contractor's progress is too slow or whether progress has fallen behind the current programme before issuing an instruction under this Sub-Clause.

10.1 *Taking Over of the Works and Sections*. The Engineer is required to decide whether the Works have been completed in accordance with the Contract before issuing a Taking-Over Certificate.

97. For example, Sub-Clause 5.1 (Y/G); Sub-Clause 19.6 (18.5 (G)). A particular anomaly appears in Sub-Clause 12.3 (R/M) which refers to measurements "agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2", since there is no express provision for determinations to be made under those Sub-Clauses. Sub-Clause 13.8 (R/M/Y) is also unusual in that the word "determine" is used for a contract administration function which is not essentially a determination in the sense of making a decision often between differing points of view. Under Sub-Clause 13.8, the Engineer is to "determine a provisional index for the issue of Interim Payment Certificates".

11.2 *Cost of Remedying Defects.* The Engineer is required to decide whether the cause of the defect is attributable to a cause for which the Contractor is not responsible in order to decide whether the provisions of Sub-Clause 13.3 apply.
11.9 *Performance Certificate.* The Engineer is required to decide whether the Contractor has completed his obligations under the Contract.
14.6 *Issue of Interim Payment Certificates.* When considering whether any sums should be withheld in an Interim Payment Certificate under sub-paragraphs (a) or (b), the Engineer is required to decide whether "any thing supplied or work done by the Contractor is not in accordance with the Contract" and "if the Contractor was or is failing to perform any work or obligation in accordance with the Contract".
14.9 *Payment of Retention Money.* The Engineer has to decide, when certifying the release of Retention Money, whether any work remains to be executed under Clause 11.
19.6 *Optional Termination Payment and Release.* The Engineer is required to "determine the value of the work done" upon optional termination. By Sub-Clause 16.4(b), the Engineer is under a similar duty in the event of termination by the Contractor under Sub-Clause 16.2.

6.100 In making many of these decisions under the common law, there would be a duty of impartiality on the part of the Engineer.

6.101 It might however be argued that, by virtue of Sub-Clause 3.1(a), when the Engineer is exercising discretion in relation to such decisions or determinations, the Contractor could expect nothing by way of protection where there is no express requirement of fairness. It is certainly doubtful whether this is a complete statement of the position under the common law jurisdictions. Jackson J stated in *Costain* v. *Bechtel*[98] "I quite accept that in discharging many of its functions under the contract, the project manager acts solely in the interests of the employer. This is the case, for example, when the project manager is deciding which of two alternative quotations to accept". It was accepted too that, following Lord Salmon[99] in *Sutcliffe* v. *Thackrah*, in the issue of certificates the contract administrator "must act fairly and impartially between employer and contractor". But the judge (considering the NEC2)[100] had been referred to "residual areas of discretion". Determinations not covered by Sub-Clause 3.5 under the FIDIC contracts would be analogous to "residual areas of discretion". Of these, Jackson J said "When the project manager comes to exercise his discretion in those residual areas, I do not understand how it can be said that the principles stated in *Sutcliffe* do not apply. It would be a most unusual basis for any building contract to postulate that every doubt shall be resolved in favour of the employer and every discretion shall be exercised against the contractor".

The Employer in contract administration: Silver Book

6.102 The Silver Book, of course, stands on its own in terms of contract administration. Contract administration in this Book is undertaken by the Employer (or by the Employer's Representative on the Employer's behalf). In adopting this approach, FIDIC followed the

98. *Supra*, n. 53.
99. *Supra*, n. 48 at 759C.
100. The New Engineering Contract 2nd Edition.

approach that had been chosen in other standard forms of EPC contract.[101] It was, in the authors' experience, also reflective of the usual practice in bespoke EPC contracts.

6.103 The omission of the Engineer and the assumption of the contract administrator's role by the Employer is one of the most controversial aspects of the Silver Book from a FIDIC perspective, but not necessarily in the wider world of EPC contracting. Critics of the Silver Book[102] have focused on the power deployed by the Employer as a result of contract administration being delivered into his hands. Even Christopher Wade, former chairman of the FIDIC Contracts Committee has accepted[103] that "contractors have also been heard to say that they regret that the independent 'Engineer' has been removed in the Silver Book".

6.104 Leaving aside FIDIC's policy behind installing the Employer as contract administrator in the Silver Book, it is considered sufficient to say here that there should be no objection in principle, nor in law, to the administration of a contract by a Party. In this respect, it is interesting to note that in the only modern English construction case where the Employer was the certifier, *Balfour Beatty Civil Engineering Ltd* v. *Docklands Light Railway Ltd*,[104] the Court of Appeal, as Jackson J describes it in the *Scheldebouw* case,[105] "clearly had misgivings about the contract but gave effect to its express terms".

6.105 In the Silver Book, FIDIC has invested in the Employer, not only many of the powers of the Engineer, but also some of the obligations. In particular, Sub-Clause 3.5 [*Determinations*] of the Silver Book, which is drafted in similar terms to those found in the other Books, requires the Employer to "make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances", if no agreement has been reached between the Parties. The express duty of fairness in making determinations is therefore preserved by this Sub-Clause and through other Sub-Clauses which import it, such as Sub-Clauses 2.5 and 20.1 in respect of claims by the Employer and the Contractor, respectively. This raises the question as to whether the duty of the Employer to make fair determinations is meaningful, such that it offers any protection to the Contractor.

6.106 In the *Scheldebouw* case, it was argued by counsel for the contractor that it is impossible for the employer himself to act fairly as contract administrator (as stated above, this was not in relation to a FIDIC contract). This argument, putting the problem of this model at its highest, was rejected by the court, although the point was acknowledged:

> "Whilst I reject Mr Hughes' submission that the employer is incapable of performing this task, I do consider that this task is more difficult for the employer than it is for a professional agent who is retained by the employer. Furthermore, this task is more difficult for the employer as an entity than it is for a specific individual who is employed by the employer. A senior and professional person within an organisation can conscientiously put his employer's interests on one side and make an independent decision. . . . It is more difficult for the organisation itself to make a decision which is contrary to its own interests".

101. See, for example, the Engineering Advancement Association of Japan, ENAA Model Form International Contract for Power Plant Construction, 1996.

102. See, for a particularly trenchant example AH Gaede Jr, "The Silver Book: An unfortunate shift from FIDIC's tradition of being evenhanded and of focusing on the best interests of the project", [2000] 17(4) ICLR 477.

103. Wade, *op. cit.*, n. 57.

104. [1996] 78 BLR 42.

105. See above, n. 71.

6.107 Whilst different jurisdictions may take different stances as to the 'fairness' required and what it typically means, it is hard to disagree with this common-sense interpretation. It is *possible* for the Employer to discharge a duty of fairness to the Contractor in making determinations and other contract administration decisions, but it is more *difficult*. It should also be noted that certain jurisdictions, in which an express obligation to make a 'fair determination' is unusual, may nevertheless impose a duty of good faith on the Employer, and thus may lead to a similar result by different means.

6.108 Moreover, significant protection is provided to the Contractor in Sub-Clause 3.5 of the Silver Book itself, in a provision not found in any of the other Books. Under the second paragraph of Sub-Clause 3.5, the Contractor may give notice to the Employer of his dissatisfaction with a determination by the Employer under that Sub-Clause within 14 days of receiving the determination, and, having given such notice, is not required to give effect to the determination. Instead, if the Employer wishes the determination to be binding on the Contractor, the Employer must refer the matter to the DAB under Sub-Clause 20.4 for a decision.

Instructions

6.109 Under Sub-Clause 3.3 (3.4 (S)), the contract administrator is given a general power to issue instructions to the Contractor, and the Contractor is expressly required to comply with these instructions. Such instructions may also be given by an assistant of the contract administrator, including the Employer's Representative and his assistants under the Silver Book, so long as that assistant has been properly delegated the authority to issue that instruction in accordance with this Sub-Clause and Sub-Clause 3.2 (3.1 and 3.2 (S)). When exercising the power to issue instructions under Sub-Clause 3.3, the contract administrator in all the Books apart from the Silver Book is acting in a direct agency role on behalf of the Employer.

6.110 The scope of this general power to issue instructions differs as between the Red, MDB, Yellow and Gold Books on the one hand, and the Silver Book on the other. In addition, each Book grants several additional specific powers to the contract administrator to issue instructions in relation to certain matters.

Red, MDB, Yellow and Gold Books

6.111 Under Sub-Clause 3.3 [*Instructions of the Engineer* [*Employer's Representative* (G)]] of the Red, MDB, Yellow and Gold Books, the Engineer/Employer's Representative may issue, at any time, instructions to the Contractor "which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract". Therefore, while there is no limit on when an instruction can be given, the scope of the instructions that may be given is restricted.

6.112 For the instruction to fall within this Sub-Clause, it must first relate to "the execution of the Works and the remedying of any defect, all in accordance with the Contract". Secondly, it must also be "necessary", as opposed to, for example, desirable or preferable from the point of view of the contract administrator or the Employer. By way of example, under Sub-Clause 4.1 of all the Books, the Contractor is responsible for the adequacy, stability and safety of all methods of construction. Consequently, the contract

administrator is not empowered to interfere with the Contractor's choice of methods of construction and impose his preference by issuing an instruction where such an instruction is not "necessary for the execution of the Works".

6.113 Despite these restrictions, Sub-Clause 3.3 also recognises that an instruction of the contract administrator, although given under that Sub-Clause, may be a change to the Works and constitute a Variation. In such case, Sub-Clause 3.3 expressly confirms that Clause 13, which governs Variations, will apply to such an instruction.

6.114 Note that, in the Gold Book, the power of the Employer's Representative to issue instructions to the Contractor is limited to the execution of the Works and the remedying of any defects. Consequently, the Employer's Representative has no general authority to issue instructions in respect of the Contractor's obligation to operate the facility during the Operation Service Period.

6.115 If an instruction is issued by an assistant of the Engineer/Employer's Representative and the Contractor questions it, as stated above, the Contractor may refer the matter to the Engineer/Employer's Representative for confirmation under Sub-Clause 3.2.

Silver Book

6.116 The general power of the Employer to issue instructions, set out in Sub-Clause 3.4 [*Instructions*], is phrased differently in the Silver Book. This Sub-Clause provides that the Employer may issue instructions to the Contractor "which may be necessary for the Contractor to perform his obligations under the Contract". As with the other Books, Sub-Clause 3.4 recognises that an instruction may be a Variation, in which case Clause 13 [*Variations and Adjustments*] is to apply.

Formalities

6.117 In the Yellow, Silver and Gold Books, instructions must be given in writing. In addition, in the Gold Book only, the provisions of Sub-Clause 1.3 will apply and thus it must be identified as an instruction, include reference to the Clause under which it is issued and delivered in accordance with the requirements of Sub-Clause 1.3.[106]

6.118 On the other hand, in the Red Book and MDB, instructions must be given in writing "wherever practicable". If the Engineer or a delegated assistant gives an oral instruction, Sub-Clause 3.3 [*Instructions of the Engineer*] further provides that the Contractor may (but is not obliged to) confirm the oral instruction in writing, which confirmation will then "constitute the written instruction of the Engineer or delegated assistant" unless the Engineer or delegated assistant issues a written rejection of the confirmation or issues a written instruction within two days of receiving the Contractor's instruction.

Sub-Clause 3.5

6.119 There are over 20 Sub-Clauses in each of the FIDIC forms which require the contract administrator to proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine a matter. These Sub-Clauses are set out in Table 6.1, below. The

106. In the Red, MDB, Yellow and Silver Books, Sub-Clause 1.3 applies to "approvals, certificates, consents, determinations, notices and requests" (and in the MDB, to discharges) but not to instructions. See paras. 6.148–6.151 below.

majority of these Sub-Clauses require the contract administrator to determine (in the absence of agreement between the Parties) entitlements of the Parties to recover cost and, in the case of the Contractor, extensions of time. In this respect, probably the most significant of these are Sub-Clauses 20.1 and 2.5 (20.2 (G)) which more generally govern claims by the Contractor and Employer, respectively, and which both require the contract administrator to proceed in accordance with Sub-Clause 3.5. It should nevertheless be noted that it is not only matters of cost and time which require the application of Sub-Clause 3.5. For example, under Sub-Clause 4.12 of all the Books apart from the Silver Book, the contract administrator is required to proceed in accordance with Sub-Clause 3.5 to agree or determine whether and, if so, to what extent the "physical conditions were Unforeseeable".

6.120 As between the Books, the application of the provisions of Sub-Clause 3.5 is similar but not identical. There are relatively few differences as between the Red/MDB and Yellow Books. These differences primarily reflect the different allocation of responsibility for the major design element under these Books; the differences in the Gold Book, while more numerous, mostly relate to changes in the ordering and numbering of the equivalent Clauses; the differences in the Silver Book are due to the different allocation of risk and responsibility under that Book when compared to the Yellow Book.

Table 6.1: Clauses requiring determinations under Sub-Clause 3.5

	Red/MDB	Yellow	Silver	Gold
1.9	Delayed Drawings or Instructions	Errors in the Employer's Requirements		
2.1	Right of Access to the Site	Right of Access to the Site	Right of Access to the Site	Right of Access to the Site
2.5	Employer's Claims	Employer's Claims	Employer's Claims	20.2 Employer's Claims
4.7	Setting Out	Setting Out		Setting Out
4.12	Unforeseeable Physical Conditions	Unforeseeable Physical Conditions		Unforeseeable Physical Conditions
4.19	Electricity, Water and Gas	Electricity, Water and Gas	Electricity, Water and Gas	
4.20	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials
4.24	Fossils	Fossils	Fossils	Fossils
7.4	Testing	Testing	Testing	Testing

	Red/MDB	Yellow	Silver	Gold
8.4	*Extension of Time for Completion*	*Extension of Time for Completion*	*Extension of Time for Completion*	*9.3 Extension of Time for Completion of Design-Build*
8.9	Consequences of Suspension	Consequences of Suspension	Consequences of Suspension	9.8 Consequences of Suspension
9.4	Failure to Pass Tests on Completion	Failure to Pass Tests on Completion	Failure to Pass Tests on Completion	11.11 Failure to Pass Tests Prior to Contract Completion
10.2	Taking Over of Parts of the Works	Taking Over of Parts of the Works		11.6 Commiss-ioning of Parts of the Works
10.3	Interference with Tests on Completion	Interference with Tests on Completion	Interference with Tests on Completion	
11.4	Failure to Remedy Defects	Failure to Remedy Defects	Failure to Remedy Defects	12.3 Failure to Remedy Defects
11.8	Contractor to Search	Contractor to Search	Contractor to Search	12.6 Contractor to Search
12.2		Delayed Tests	Delayed Tests	
12.3	Evaluation			
12.4	Omissions	Failure to Pass Tests After Completion	Failure to Pass Tests After Completion	
13.2	Value Engineering			
13.3		Variation Procedure	Variation Procedure	Variation Procedure
13.7	Adjustments for Changes in Legislation	Adjustments for Changes in Legislation	Adjustments for Changes in Legislation	13.6 Adjustments for Changes in Legislation
14.4	Schedule of Payments	Schedule of Payments	Schedule of Payments	Schedule of Payments

	Red/MDB	Yellow	Silver	Gold
15.3	Valuation at Date of Termination	Valuation at Date of Termination	Valuation at Date of Termination	Valuation at Date of Termination for Contractor's Default
15.4	*Payment after Termination*	*Payment after Termination*	*Payment after Termination*	*Payment after Termination for Contractor's Default*
				15.6 Valuation at Date of Termination for Employer's Convenience
16.1	Contractor's Entitlement to Suspend Work	Contractor's Entitlement to Suspend Work	Contractor's Entitlement to Suspend Work	Contractor's Entitlement to Suspend Work
17.4	Consequences of Employer's Risks	Consequences of Employer's Risks	Consequences of Employer's Risks	17.6 Consequences of Employer's Risks of Damage
18.1	*General Requirements for Insurances*	*General Requirements for Insurances*	*General Requirements for Insurances*	
18.2	*Insurance for Works and Contractor's Equipment*	*Insurance for Works and Contractor's Equipment*	*Insurance for Works and Contractor's Equipment*	
19.4	Consequences of Force Majeure	Consequences of Force Majeure	Consequences of Force Majeure	18.4 Consequences of an Exceptional Event
20.1	Contractor's Claims	Contractor's Claims	Contractor's Claims	Contractor's Claims

Notes:
Text in italics identifies an indirect application of Sub-Clause 3.5

Procedure

6.121 The first paragraph of Sub-Clause 3.5 contains the primary operative provision on determinations. This paragraph in the Red, MDB and Yellow Book states:

"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".

6.122 This paragraph is almost identical in the Silver and Gold Books: in the Silver Book, the words "the Engineer" are replaced by "the Employer" and "each Party" by "the Contractor"; in the Gold Book, the references to "the Engineer" are simply replaced by "the Employer's Representative".

6.123 A two-stage process is therefore envisaged by Sub-Clause 3.5:

6.124 Consultation in an endeavour to achieve agreement. The contract administrator is first required to consult with the Contractor and the Employer[107] "in an endeavour to reach agreement". Although it is not expressly stated, it is suggested that the agreement envisaged is the agreement of both Parties, i.e., the Contractor and the Employer, and not between, for example, the Engineer and the Contractor alone.[108] Only if no agreement is achieved is the contract administrator then required to make a determination. The rationale behind this duty to consult is obvious. It is far preferable for matters to be decided consensually between the Parties than for them to be taken out of their hands.

6.125 Sub-Clause 3.5 does not contain any guidance or requirements as to how the contract administrator should carry out this duty of consultation, nor does it impose any express time limit on this process (except in the MDB).[109] The *FIDIC Guide*[110] emphasises that the consultation process should not be unlimited and that the contract administrator is to make a determination if "the agreement of both Parties cannot be reached within a reasonable time". This approach is consistent with the requirement under Sub-Clause 1.3 that determinations shall not be unreasonably delayed. In the MDB, the Engineer is required to give notice to both Parties of each agreement or determination under Sub-Clause 3.5 "within 28 days from the receipt of the corresponding claim or request except when otherwise specified".

6.126 The duty on the contract administrator, it is suggested, is not a particularly high one.[111] It seems likely that the minimum of what is required from the contract administrator is some demonstrable action which seeks to engage both Parties on the matter in question and which prompts them to consider the possibility of agreement. The steps that are required will differ depending on the particular factual situation and the matter in question. There is also no duty on the Parties to reach an agreement; this is not surprising in circumstances where the Contract is governed by a common law jurisdiction, since in such

107. In the Silver Book, given that the Employer is the contract administrator, he is only required to consult with the Contractor.

108. Indeed, this is confirmed as being the intention behind this provision in the *FIDIC Guide*, which states "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)". (p. 89)

109. Note also that Sub-Clause 20.1 in the MDB and Gold Book also requires the Engineer/Employer's Representative to proceed in accordance with Sub-Clause 3.5 within 28 days of receiving a claim from the Contractor.

110. *FIDIC Guide*, p. 89.

111. The duty to consult under the current FIDIC forms should be contrasted with the duty of the Engineer of "due consultation" with the Employer and the Contractor under various provisions in the 4th Edition of the Red Book. The inclusion of the word "due" created uncertainty as the extent of the Engineer's duty to consult. Corbett, *op. cit.*, n. 23, pp. 10–11.

jurisdictions obligations of this type are generally unenforceable as 'an agreement to agree'.[112]

6.127 The contract administrator's duty to consult with the Parties should not be viewed simply as a precursor to a determination being made by the contract administrator. This express duty provides a useful reminder to the Parties that agreement is the most desirable way of resolving potentially contentious matters.

6.128 If agreement is reached between the Parties, it must be recorded in writing.[113]

6.129 Determination. If no agreement is achieved between the Parties, the contract administrator is then required to proceed to make a determination. Although self-evident from its wording, Sub-Clause 3.5 not only requires this determination to be fair but also "in accordance with the Contract". In making this determination, the contract administrator must also take "due regard of all relevant circumstances". The determination under Sub-Clause 3.5 must not be unreasonably withheld or delayed.[114] In addition, as stated above, in the MDB, the Engineer is required to give notice to the Parties of each agreement or determination under Sub-Clause 3.5 "within 28 days from the receipt of the corresponding claim or request except when otherwise specified".

6.130 In all the Books, the contract administrator is required to give notice[115] of the agreement or determination, with supporting particulars. This notice[116] must comply with the required formalities set out in Sub-Clause 1.3: it must be in writing and delivered in accordance with that Sub-Clause.

6.131 There is no express sanction in Sub-Clause 3.5 if the contract administrator unduly delays or fails to make a determination. As to whether this may give rise to a dispute which may be referred to the DAB for a decision, see Chapter 9, paragraphs 9.109–9.133.

Giving effect

6.132 The final paragraph of Sub-Clause 3.5 provides that each Party is to give effect to each agreement or determination. In the Red, MDB, Yellow and Gold Books, the Parties are required to give effect to any determination "unless and until revised" under Clause 20 [*Claims, Disputes and Arbitration*].

6.133 By contrast, in the Silver Book, the Parties are required to give effect to the agreement or determination "unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it". Once a notice of dissatisfaction is given under the Silver Book, the obligation to give effect to any determination is suspended pending dispute resolution. After receipt of the notice of dissatisfaction, either Party may then refer the dispute to the DAB in accordance with Sub-Clause 20.4.

Failure to consult

6.134 In the authors' experience, non-compliance (or alleged non-compliance) with the duty to consult is unfortunately common. A failure to consult would clearly be a failure by

112. See, for example, the English case of *Courtney and Fairbairn Ltd* v. *Tolaini Brothers (Hotels) Ltd* [1975] 1 WLR 297; [1975] 1 All ER 716.
113. Sub-Clause 1.2.
114. Sub-Clause 1.3.
115. "Notice" (G).
116. "Notice" (G).

the contract administrator to comply with his duties under the Contract. On this basis, it might be argued that, in all the Books apart from the Silver Book, a failure to consult with the Parties prior to making a determination would invalidate that determination. This is because the contract administrator is only to proceed to make the determination if agreement is not achieved, which implicitly assumes that there must first have been consultation in an endeavour to reach that agreement.

6.135 It is suggested that the provisions of Sub-Clause 3.5 must be read within the context of the Conditions as whole, including the provisions for referring disputes to a DAB for a decision. When considered within the overall scheme of the FIDIC forms, the preferred interpretation, in the authors' view, is that a fair determination made by the contract administrator under Sub-Clause 3.5 without consultation with each Party is intended to be binding on the Parties. The underlying purpose of Sub-Clause 3.5 is to produce a decision on certain matters to which this Sub-Clause is expressly stated to apply. Sub-Clause 3.5 should not therefore be used to invalidate decisions on the basis that the contract administrator failed to consult with the Parties in advance.

Inadequate performance by the contract administrator

6.136 Under the FIDIC forms, a number of specific consequences can follow from failures or omissions to act by the contract administrator. In certain cases, if the contract administrator fails to act in the manner required, consequences in favour of the Contractor are deemed to follow. For example:

- Under Sub-Clause 10.1 [*Taking Over of the Works and Sections*] in the Red, MDB, Yellow and Silver Books and under Sub-Clause 11.5 [*Completion of the Works and Sections*] in the Gold Book, if the contract administrator fails to respond to the Contractor's application for a Taking-Over Certificate (Commissioning Certificate (G)) within the required 28-day period and the Works (or Section) are substantially in accordance with the Contract, the Taking-Over Certificate (Commissioning Certificate (G)) is *deemed* to have been issued on the last day of that period.
- Under sub-paragraph (a)(iii) of Sub-Clause 5.2 [*Contractor's Documents*] in the Yellow and Gold Books, if the contract administrator does not give notice[117] that a Contractor's Document submitted under that Sub-Clause for approval does not comply with the Contract within the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, the contract administrator is *deemed* to have approved the Contractor's Document.

6.137 More generally, Sub-Clause 3.1 of all the Books apart from the Silver Book obliges the Employer to appoint the Engineer/Employer's Representative "who shall carry out the duties assigned to him in the Contract" and whose staff "shall include suitably qualified engineers and other professionals who are competent to carry out these duties". Consequently, if the Employer in these Books has appointed an Engineer/Employer's Representative who does not act at all to administer the Contract or whose staff are not suitably qualified and competent, he is likely to be in breach of the Contract.

117. "Notice" (G).

6.138 If the contract administrator causes loss to the Employer in failing to perform his duties under the Contract, the Employer may have a direct right of action for professional negligence/malpractice against him. The basis of the action would be breach, not of the Contract to which the contract administrator is not a party, but of the contract between Employer and contract administrator, typically in the form of conditions of engagement or a consultancy agreement. Such actions have been brought in a number of common law jurisdictions, often for negligent over-certification. In principle, it ought to be possible to correct such errors in subsequent certificates, but this would not apply with a Final Payment Certificate and would be meaningless if the Contractor has become insolvent. Prior to *Sutcliffe* v. *Thackrah*[118] in 1977, such an action had not been possible under English law since contract administrators were treated as enjoying quasi-arbitral immunity (although this had been overcome in South Africa as long ago as 1956).[119] Since 1977, employers have in a number of cases successfully sued their engineers or architects for negligent over-certification or other negligence in contract administration, and this is true in many of the common law jurisdictions. The employer would need to show that the contract administrator has failed in its functions under the main contract and in doing so had breached its duty of professional skill under its contract with the employer.

6.139 Attempts have also been made by contractors to bring claims directly against the contract administrators, most notably for negligent under-certification. Whether a contractor has a cause of action directly against the contract administrator is not a matter of contract and varies considerably between jurisdictions. The case of *Pacific Associates* v. *Baxter*[120] is widely regarded as excluding such a possibility in English law. The contractors in that case, working on a dredging project in Dubai under 2nd Edition of the FIDIC Conditions, sued the engineers administering the contract for allegedly negligent under-certification. The English Court of Appeal held that no duty of care was owed by the engineers to the contractors. This has been followed in Hong Kong in *Leon Engineering and Construction Co Ltd* v. *Ka Duk Investment Co Ltd*[121] although in Canada, in *Edgeworth Construction Ltd* v. *ND Lea and Associates Ltd*,[122] the court held that in principle a contractor might rely upon the negligence of a consultant which occasioned loss.

6.140 If the contract administrator makes a false statement or communication on which another foreseeably relies, this may be enough to create a right of action for negligent misstatement in some jurisdictions. For example, in the New Zealand case of *Day* v. *Ost*,[123] an architect was held liable to a sub-contractor who, anxious about delayed payments, sought and obtained an assurance as to the employer's solvency, which was seriously incorrect. In the Malaysian case of *Chin Sin Motor Works Sdn Bhd* v. *Arosa Development Sdn Bhd*[124] the contract administrator's certificates were relied upon by the lenders to the purchasers of a building who successfully sued the certifier when they turned out to be negligently overstated.

118. *Supra*, n. 48.
119. *Hoffman* v. *Meyer* [1956] 2 SALR 752.
120. [1990] 1 QB 993; (1989) 44 BLR 33.
121. (1990) 47 BLR 139.
122. (1994) 66 BLR 56.
123. [1973] 2 NZLR 385.
124. [1992] 1 MLJ.

6.141 While these decisions show that it is possible in some jurisdictions for a contract administrator to incur liability to a third party, as opposed to the employer, all were dependent on particular facts and the jurisdiction.

COMMUNICATION AND REPORTING

Generally

6.142 Throughout the process of contract administration under the FIDIC forms, the key theme is 'communication'. Effective communication between the parties involved is essential for a successful project. It enables the parties to be aware of matters that they ought to be aware of so that relevant decisions can be made concerning the management of the project at the most appropriate time. It is also not simply a matter of good practice and has many practical benefits, for example, in creating a paper trail of records for subsequent reference, including during dispute resolution. This is particularly important, given the increase in use of email, for example.

6.143 To promote and regulate communication, the FIDIC forms, therefore, contain procedures and rules that apply to the principal types of communication under the Contract. These procedures and rules are primarily set out in Sub-Clauses 1.3 and 1.4 but are also found throughout the Conditions.

Language for communications

6.144 Sub-Clause 1.4 provides that the language for communications is to be that stated in the relevant contract document[125] and if no language is stated there:

- In the Red, Yellow and Silver Books, the language for communications "shall be the language in which the Contract (or most of it) is written";
- In the MDB and Gold Books, the language for communications "shall be the ruling language of the Contract".[126]

6.145 The FIDIC forms then contain several references expressly requiring certain personnel to be fluent in the language for communications and certain documents to be written in the language for communications. It is nevertheless implicit that the use of the language for communications, as governed by Sub-Clause 1.4, is intended to extend beyond these express provisions, for example, to include the language of correspondence.

Formalities for communications

6.146 Sub-Clause 1.3 [*Communications*] of all the Books sets out the general provisions which govern communications under the Conditions. The purpose of this Sub-Clause is to ensure that the communications as expressly required by the Books take place under a regime which is transparent, consistent, reasonably convenient and capable of providing

125. Appendix to Tender (R/Y); Particular Conditions (S); Contract Data (M/G).
126. For ruling language, see Chapter 2, paras. 2.136–2.139.

information/evidence for subsequent reference. In this respect, the giving or issuing of notices plays a particularly important role in administration of the FIDIC forms.

6.147 The provisions of Sub-Clause 1.3 are essentially identical in the Red, MDB, Yellow and Silver Books.[127] The Gold Book also largely replicates these provisions but includes differences as to the scope of their application and additional requirements as to the formalities of the relevant communications.

6.148 Red, MDB, Yellow and Silver Books. In the Red, MDB, Yellow and Silver Books, the provisions of Sub-Clause 1.3 are stated to apply whenever the Conditions provide for the "giving or issuing of approvals, certificates, consents, determinations, notices and requests". The MDB adds discharges[128] to this list. Unlike the Gold Book, Sub-Clause 1.3 does not apply to instructions given by the contract administrator (or his delegated assistants). Such instructions are instead governed by Sub-Clause 3.3 (3.4 (S)).[129]

6.149 Sub-Clause 1.3 prescribes the methods to be used throughout for the types of communication stated. These communications must be "in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission" as stated in the relevant contract document.[130] Therefore, if the Parties wish to take advantage of the use of facsimile (or fax) or email for the purpose of formal communications under the Contract, these should be specified in the relevant contract document.

6.150 The communications identified in Sub-Clause 1.3 must also be delivered, sent or transmitted to the address specified in the relevant contract document[131] unless the recipient has given notice[132] of another address or if the communication in question is an approval or consent to which special rules apply.[133] In practice, the address specified in the relevant contract document will often not be the address, for example, of the Contractor's representatives who are performing the day-to-day activities of the Contractor on the Site, but the address of the Contractor's principal place of business. Similarly, for example, the day-to-day role of the Engineer under the Red Book will often be carried out by a resident engineer (and his assistants) to whom certain authority has been delegated under Sub-Clause 3.2. In these situations, there are obvious practical disadvantages in requiring all formal communications under the Conditions to be sent to the principal place of business of the Contractor or the Engineer, which may be in a different country.[134] Consequently, it may be appropriate for the administration of the project for the Parties to give notice or agree otherwise that certain communications must be sent to the local addresses of the Contractor's representatives and the resident engineer.

127. The Silver Book unsurprisingly omits the provision, discussed below, relating to the copying of notices between the Parties and Engineer and to the copying of certificates. The MDB contains one minor addition, in that "discharges" are included in the list of communications to which Sub-Clause 1.3 applies.

128. Discharges are referred to in the MDB in Sub-Clauses 14.12 and 14.13.

129. Under Sub-Clause 3.3 (3.4 (S)) instructions must be given in writing but, in the Red Book and MDB, only "whenever practicable".

130. Appendix to Tender (R/Y) Particular Conditions (S) or Contract Data (M/G).

131. Appendix to Tender (R/Y) Particular Conditions (S) or Contract Data (M/G).

132. "Notice" (G).

133. Sub-Clause 1.3(b)(ii) (R/M/Y/S); Sub-Clause 1.3(d)(ii) (G).

134. Corbett, *op. cit.*, n. 23, p. 458.

6.151 Unlike the Gold Book, there is no general requirement in the other Books for the communications given under the Conditions to state the Clause under which it is given. Indeed, only Sub-Clause 20.4 of these Books includes such a requirement in relation to the referral to the DAB, the DAB's decision and notice of dissatisfaction given in respect of a DAB's decision. Therefore, although not strictly required, it is nevertheless suggested that it is always preferable for the relevant Sub-Clause to be identified in order to provide certainty as to the intended status of the communication. Indeed, a failure to identify the Sub-Clause, and even the nature of the communication, may lead to arguments as to whether a particular procedural requirement has been met. For example, the Engineer in the Red Book, in concluding under Sub-Clause 20.1 that insufficient particulars of a Contractor's claim had been received to make a decision on an application for an extension of time, might not identify whether the communication to this effect was an approval, a determination under Sub-Clause 3.5 or an indication that further particulars were required under Sub-Clause 20.1. This could cause consequent uncertainty in ascertaining whether a dispute has crystallised and its nature for purposes of reference to the DAB and/or to arbitration.

6.152 Gold Book. The Gold Book takes a less restrictive approach than the other Books as to the scope of Sub-Clause 1.3. In the Gold Book, this Sub-Clause essentially applies whenever the Conditions provide for the giving or issuing of *any* communication. It nevertheless sets out an ostensibly non-exhaustive list of "other communications", which is the same as the lists in the other Books but with the addition of instructions.[135] It also should be noted here that the Gold Book makes "Notice" a defined term and has introduced a distinction between Notices and other forms of communication.[136]

6.153 In addition to the formalities required under Sub-Clause 1.3 in the other Books, as discussed above, this Sub-Clause in the Gold Book introduces new, additional requirements as to the contents of communications under sub-paragraphs (a) and (b):

- the Notice or other communication must be identified as a Notice or the type of communication, e.g., that it is a certificate; and
- the Notice or other communication must identify the Clause of the Contract under which it is issued.

"Written" and "in writing"

6.154 It is convenient to mention here that, under Sub-Clause 1.2(d), "written" or "in writing" is defined as "hand-written, type-written, printed or electronically made, and resulting in a permanent record". This is a very wide definition. It covers what would be traditionally considered to be in writing, namely hand-written, typed or printed notes. It also covers notes that are "electronically made" and "resulting in a permanent record". This definition may therefore extend to emails, whether or not a copy is retained by the sender or recipient, and electronic documents, including word-processing documents and spreadsheets, whether or not they have been printed.

135. For specific comment on the application of the provisions of Sub-Clause 1.3 to instructions given by the Employer's Representative under the Gold Book, see para. 6.117 above. In the other Books, the formalities required for instructions is governed by Sub-Clause 3.3 (3.4 (S)): they must be given in writing but, in the Red Book and MDB, only "whenever practicable".

136. There are special provisions for Notices under the Gold Book.

The requirements for matters to be "written" or "in writing" are found in the following Sub-Clauses, which are broadly common to all the Books:

Sub-Clause	
1.2(c)	Agreements to be recorded "in writing"
1.3(a) (1.3(c) (G))	Approvals, certificates, consents, determinations, notices and requests or, in the Gold Book, Notices and other communications, must be "in writing"
3.2	Assignment, delegation or revocation of authority to contract administrator's assistants to be "in writing" (not Silver Book)
3.3 (3.4 (S))	Instructions to be given "in writing"[137]
5.4(b)	Contractor to satisfy contract administrator "in writing" that reasonably entitled to withhold or refuse payments from nominated Subcontractors (Red Book and MDB)
13.2	Contractor to submit a "written proposal" for value engineering purposes
13.3	Contractor's response to contract administrator's request for a proposal in relation to a Variation to be "in writing"
14.12 (14.14 (G))	Contractor to submit a "written discharge" (not MDB)
20.4 (20.6 (G))	Referral to the DAB[138] to be "in writing" for its decision

6.155 In addition, the MDB and Gold Book specify other matters that must be "written" or "in writing". In the MDB, these are found in the following:

- Sub-Clause 3.1: any act by the Engineer in response to a Contractor's request must be notified "in writing" within 28 days of receipt;
- Sub-Clause 5.2: Employer's agreement to indemnify the Contractor in relation to nominated Subcontractors to be "in writing".

6.156 And in the Gold Book:

- Sub-Clause 5.2(d): the Contractor is to provide a "written explanation" to the Employer's Representative of the need for any modification to any design or document previously submitted for approval;
- Sub-Clause 9.11: the Employer's Representative is to make a "written record" of all making good required by the Contractor after a period of suspension to progress of the Works;

137. "wherever practicable" (R/M).
138. "DB" (M).

- Sub-Clause 10.2: the Contractor is to provide a "written explanation" to the Employer's Representative of the need for any modification to documents previously submitted for approval if the Contractor wishes to modify a document;
- Sub-Clause 10.6(c): the Employer's Representative is to make a "written record" of all making good required by the Contractor after a period of suspension to progress of the Operation Service;
- Sub-Clause 13.1: the Employer or Employer's Representative must give the Contractor "written details" if the Employer or Employer's Representative wish to instruct a Variation during the Operation Service Period;
- Sub-Clause 14.11: the Contractor is required to submit a "written undertaking" as to the nature of Final Statement Design-Build;
- Sub-Clause 20.5: Any joint referral to the DAB for assistance and/or informal discussions must be "in writing".

6.157 Note that, in the Gold Book, the requirement for a matter to be "in writing" or "written" is also found in Sub-Clauses 1.10, 1.13, 3.3, 6.6, 8.6, 10.2, 10.7(a) and 13.6. These, however, all relate to communications which are governed by Sub-Clause 1.3, and thus must be in writing in accordance with that Sub-Clause. The repetition of the requirement for them to be in writing nevertheless provides useful clarification.

"Agreement"

6.158 Key provisions relating to agreements are tucked away in Sub-Clause 1.2 which is headed "Interpretation". This Sub-Clause provides that the provisions in the Contract including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, "except where the context requires otherwise". Note that it is not necessary for the agreement to be in writing, but merely for it to be "recorded" in writing.

Failure to comply with required formalities

6.159 As stated in the *FIDIC Guide*:[139]

> "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".

6.160 In this respect, in many jurisdictions, the courts may not enforce the strict requirements for formalities if the party to which the communication is to be transmitted is, by its conduct, deemed to have waived its rights to enforce the required formalities, for example, by acknowledging that a right or entitlement of a party has arisen, even though the requirement formalities for that communication have not been complied with. In addition, in common law jurisdictions, the courts may consider a communication to be effective, notwithstanding a failure to comply with the required formalities, if the substance of the

139. *FIDIC Guide*, pp. 59–60.

message has nevertheless been communicated. This will depend on the particular facts and governing law.

Notices

6.161 As stated above, the requirements of Sub-Clause 1.3 apply to notices, or "Notices" under the Gold Book, which are given or issued as provided for by the Conditions.

6.162 From a review of any of the Books, it will be apparent that there are a significant number of such references to the "giving or receiving of notice", or "Notice" in the Gold Book, by one of the parties (i.e., the Contractor, Employer or contract administrator) to or from another party. These notice provisions concern the communication of events, matters or circumstances to other parties, the knowledge of which is necessary for the effective management of the project in terms of time, cost, contractual arrangements or programming. Compliance with the notice provisions is not just a matter of good contract administration practice. As is common in standard form construction contracts, under the FIDIC forms the communication of the relevant events, matters or circumstances in many instances also triggers or gives rise to additional entitlements of the parties. Furthermore, certain provisions place the parties under a duty to give notice. The most obvious example of this is the requirement for the Contractor to give notice[140] in the first paragraph of Sub-Clause 20.1 [*Contractor's Claims*].

6.163 However, the FIDIC forms, generally, are not consistent in the way they express the duties and powers of the parties (including the contract administrator) to inform others of an event, matter or circumstance. This raises a potential uncertainty as to the operation of these provisions, and in particular as to whether the requirements of Sub-Clause 1.3 apply to all these provisions.

6.164 The provisions that include the word 'notice' variously refer to the giving or receiving of notice, which is the act of informing a party of an event or circumstance, and 'a notice' in the sense of a physical document. It is nevertheless suggested that the requirements set out in Sub-Clause 1.3 apply to both these uses of the word "notice".

6.165 In addition to references to giving notice or a notice, there is almost an equal number of provisions which refer to a party 'notifying' or 'being notified' of some event or circumstance. The use of these different terms would seem to raise a presumption that 'giving notice' is not intended to be the same as 'notifying'. Given that Sub-Clause 1.3 only expressly applies to the 'giving or issuing of notices', it could thus be argued that the provisions of this Sub-Clause do not cover 'notification'.

6.166 Some guidance may be found in the definition[141] of "Commencement Date" and in Sub-Clause 8.1. "Commencement Date" is defined in all the Books as the date "notified" under Sub-Clause 8.1. Under Sub-Clause 8.1,[142] the contract administrator "notifies" the Contractor by giving "not less than 7 days' notice of the Commencement Date". This would therefore suggest that the references to 'giving notice' and 'notifying'

140. "Notice" (G).
141. Sub-Clause 1.1.3.2 (R/M/Y/S); Sub-Clause 1.1.6 (G).
142. Except in the MDB, where the express reference to the giving of notice by the Engineer has been replaced by an instruction to commence.

(and all their related derivates) are used interchangeably in the FIDIC forms.[143] Nevertheless, given that 'give notice' and 'notify' are both used where only one would have been sufficient, this issue is not beyond doubt. A prudent course of action is to ensure all communications under the Contract which could be governed by Sub-Clause 1.3 actually comply with it, so that any 'notification' complies with the formalities required for giving or issuing notice.

6.167 The Gold Book has introduced "Notice" as a defined term, which, under Sub-Clause 1.1.53, is defined as "a written communication identified as a Notice and issued in accordance with the provisions of Sub-Clause 1.3". This defined term seems to have been introduced in an attempt to address various uncertainties and ambiguities in the other Books surrounding the notice provisions. However, it is suggested that the position is not beyond doubt even in this Book. This is because the Gold Book has retained the references to 'notifying'. The issues relating to the definition of "Commencement Date"[144] and Sub-Clause 8.1 discussed above in relation to the other Books also remain.[145] Furthermore, despite the definition of 'Notice' to mean a physical document, the Gold Book has largely followed the wording of the Yellow Book and thus many of the provisions require or empower the parties to 'give Notice', in the sense of informing that party of an event, circumstance or matters. 'Notice', as defined, is obviously inconsistent with its use in the phrase 'give Notice' but this conflict can be overcome by invoking the "except where the context requires otherwise" exception in Sub-Clause 1.1 to the application of defined terms.

6.168 As discussed above, whether non-compliance with the requirements of Sub-Clause 1.3 will automatically invalidate the effect of the notice[146] will depend on the governing law and the subsequent conduct of the parties.[147] Nevertheless, given that many contractual entitlements of the Parties are expressed as being conditional upon notice[148] being given, it is always advisable to ensure that the notice provisions are strictly complied with to avoid uncertainty.

6.169 Copies of notices (Notices (G)). In all the Books apart from the Silver Book, the final paragraph of Sub-Clause 1.3 contains a regime for the copying of notices (Notices (G)). In the Red, MDB and Yellow Books, this provides that "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". The net effect of this is that the Contractor and Engineer have all notices, either originals or copies, whereas the Employer receives notices only from the Contractor to the Employer, from the Engineer to the Employer and from the Engineer to the Contractor, but not notices from the Contractor to the Engineer. The provision of the Gold Book is of similar effect but with the reference to the Engineer replaced with the Employer's Representative.

143. See also Sub-Clauses 1.1.2.4 and 3.4 in the Red, MDB and Yellow Books.

144. Sub-Clause 1.1.6.

145. In fact, the Gold Book has introduced at least one other similar situation. Sub-Clause 18.5 refers to "an Exceptional Event of which Notice has been given" and then later refers to "the same notified Exceptional Event".

146. "Notice" (G).

147. See Mauro Rubino-Sammartano, "FIDIC's Clause 20.1—a civil law view", (2009) 4(1) CLInt 14.

148. "Notice" (G).

Communications must not be unreasonably withheld or delayed

6.170 The final paragraph of Sub-Clause 1.3 of the Red, MDB, Yellow and Silver Books provides that "Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed". There are two separate elements to this prohibition: these communications (i) must not be unreasonably withheld and (ii) must not be unreasonably delayed. The second element places a duty on the Parties and the contract administrator as to when any approval, certificate, consent or determination must be given. However, the requirement that approvals, certificates, consents and determinations must not be unreasonably withheld is, it is suggested, more fundamental and governs the decision-making process itself. As a result, the substantive decision as to whether to withhold approval, consent, a certificate or determination is subject to the test of reasonableness, which will depend on the particular facts. Nevertheless, it is likely to prevent a person from withholding any of these matters on the basis of preference alone, without considering its merits.

6.171 A similar requirement is found in the final paragraph of Sub-Clause 1.3 of the Gold Book, but which is stated to apply to "Notices and other communications". The reference to "other communications", therefore extends the application of this requirement to include instructions and requests.

Records and reporting requirements

6.172 Each project will invariably have its own reporting requirements and protocols for the exchange of correspondence, regular meeting and for record keeping. However, the FIDIC forms also place various obligations on the Parties in this respect, including those found in the following Sub-Clauses:

- Sub-Clause 4.21 [*Progress Reports*];
- Sub-Clause 6.7 [*Health and Safety*];
- Sub-Clause 6.10 [*Records of Contractor's Personnel and Equipment*];
- Sub-Clause 8.3 [*Programme*] (or, in the Gold Book, Sub-Clause 8.4 [*Advance Warning*]);
- Sub-Clause 20.1 [*Contractor's claims*].

CLAIMS

Generally

6.173 The construction of a major project involves significant risks for both parties. This is a result of both the technical nature of the work and the duration over which the work is carried out. These risks include such matters as the operation of external forces beyond the parties' control, ground conditions being significantly different from those anticipated and changes in applicable laws. The project requirements will very often also be refined during the course of the work. Ultimately, projects are designed, constructed and managed by human individuals and thus need to take into account that decision-making involves an element of subjectivity and that individuals are inherently unpredictable, change their mind and make mistakes.

6.174 A major role of any construction contract is to allocate or apportion these risks to either or both parties. This involves conferring rights on one party, to the extent that risks are borne by the other party, and corresponding liabilities on that other party. These rights and liabilities arise both under the express terms of the contract and under the governing law. The FIDIC forms are no exception. They seek to allocate risk and provide an orderly mechanism for the advancement and determination of claims between the Parties. As the *FIDIC Guide* observes:[149]

> "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."

6.175 The FIDIC forms, in Sub-Clauses 20.1 and 2.5, or, in the Gold Book, Sub-Clauses 20.1 and 20.2, set out the procedures for claims by the Contractor and the Employer, respectively. As will be seen, they have wide-reaching scope as to the claims that are to be dealt with under their provisions.

6.176 Before the publication of the Red, Yellow and Silver Books in 1999, the FIDIC contracts included general provisions for dealing with claims for additional payment by the Contractor[150] and then separate provisions for claims for an extension of time.[151] The current FIDIC forms now harmonise these procedures such that only one procedure, set out in Sub-Clause 20.1, applies to the Contractor's claims for both extensions of time and additional payment.

6.177 A further development in the new FIDIC forms is the introduction of a similar (but, in key ways, different) procedure for claims by the Employer. This procedure is set out in Sub-Clause 2.5, or Sub-Clause 20.2 in the Gold Book. Moreover, this Sub-Clause not only sets out the procedure for the Employer's claims but is also intended to regulate the Employer's right to withhold payment or to set off from certified amounts. There was no similar provision in the previous FIDIC contracts. As a result, the Employer under those forms could, subject to the existence of a right of set-off under the governing law, unilaterally withhold payment, and also extend the Defects Notification Period, without first informing the Contractor.

6.178 In the procedures that apply to claims under Sub-Clauses 20.1 and 2.5 (20.2 (G)), whether they are claims by the Contractor or by the Employer, the contract administrator (the Employer in the Silver Book) plays an important role in the management and determination of the claims.

6.179 A fundamental difference between the procedures that apply to the claims by the respective Parties is the strict notice obligation on the part of the Contractor found in Sub-Clause 20.1, requiring him to give notice[152] to the contract administrator within 28 days of

149. *FIDIC Guide*, pp. 88–89.

150. Clause 53 of the 4th Edition of the Red Book; Sub-Clause 34.1 of the 3rd Edition of the Yellow Book; Sub-Clause 20.1 of the Orange Book.

151. Clause 44 of the 4th Edition of the Red Book; Sub-Clause 26.1 of the 3rd Edition of the Yellow Book; Sub-Clause 8.3 of the Orange Book.

152. "Notice" (G).

becoming aware, or of when he should have become aware, of the event or circumstance giving rise to a claim. If the Contractor fails to comply with this notice provision, it is intended that he forfeits his right to that claim. On the other hand, in all the Books apart from the MDB, the Employer or contract administrator is only required to give a similar notice[153] "as soon as practicable". There is also no sanction in any of the Books if the Employer (or contract administrator) fails to comply with this requirement. The EIC considers that this unequal treatment of the Parties "demonstrates . . . the unfair balance between the obligations carried by the Employer and the Contractor".[154] The EIC further considers that "The penalty for [the Contractor's] failure to comply with a purely technical requirement to give notice of a claim is unduly harsh", particularly when it would also apply to when the event or circumstance giving rise to the claim is caused by the Employer, for example, under suspension under Sub-Clause 8.9 (9.8 (G)).[155]

6.180 The approach adopted by the FIDIC Task Group, when drafting the FIDIC forms, however, has been explained as follows:[156]

"After much reflection, the conclusion of the FIDIC drafting committee was that *there must be a notice of claim within 28 days for there to be a valid claim* so that all involved are aware that there is an event or circumstance where extra payment or time may be due to the contractor. Twenty-eight days appeared to them to be a reasonable period. International contractors tend to be fairly large companies, or consortia companies, that employ a staff that is experienced in claims and therefore is fully capable of recognising a claim situation when it arises. Consequently, if the contractor indeed has a bona fide claim, there would seem to be no good reason why an experienced Contractor should not be required, under pain of forfeiture, to give a notice of claim within 28 days (or four weeks) of the event or circumstance giving rise to the claim" [emphasis in original].

6.181 In addition, it seems that the FIDIC Task Group were influenced by the fact that, in their view, contractors are usually in a better position to, and more pro-active in, identifying matters to claim than the personnel of the Employer.[157] This is reflected in the explanation provided in the *FIDIC Guide*[158] as to the absence of a strict time limit for claims by the Employer:

"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".

Contractor's claims: Sub-Clause 20.1

6.182 Sub-Clause 20.1 sets out the detailed procedure that must be followed in respect of the Contractor's claims to which it applies. This Sub-Clause is similar in all the Books and is one of the longest Sub-Clauses in the General Conditions.

153. "Notice" (G).
154. EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for Construction* (2002, European International Contractors), p. 20.
155. *Ibid.*, p.19.
156. Christopher R. Seppälä, "Contractor's Claims under the FIDIC Contracts for Major Works", (2005) 21(4) Const LJ 278 at 287.
157. Christopher Wade, Chairman of the FIDIC Contracts Committee 1999 to 2006, "Claims of the Employer", a presentation given at the ICC-FIDIC Conference in Cairo in 2005, www1.fidic.org/resources/contracts/wade_emp_claims_2005.pdf).
158. *FIDIC Guide*, p. 80.

6.183 The most noticeable differences in its contents, as between the Books, are found in the Gold Book, whose draftsmen took the opportunity to break up the provisions into four sub-paragraphs, thus providing additional clarity as to its intended operation. In addition, the Gold Book introduced three innovations not found in the Red, Yellow and Silver Books. First, the DAB is given the authority to overrule the time limits that operate as a time bar against the Contractor under the procedure if "in all the circumstances, it is fair and reasonable that the late submission be accepted". Second, a deadline is placed on the Employer's Representative to proceed in accordance with Sub-Clause 3.5 to agree or determine the Contractor's entitlement and if the Employer's Representative fails to comply with this duty, either Party may refer the matter to the DAB. Third, by Sub-Clause 20.6 either Party is required to give Notice of its dissatisfaction within 28 days after the Employer's Representative has made a determination under Sub-Clause 3.5 on the Contractor's entitlement if that Party wishes to refer the matter to the DAB, which that Party must also then do within a further 28-day period.

Scope of application of Sub-Clause 20.1

6.184 The scope of application of Sub-Clause 20.1 is important primarily for two reasons:

(i) because of the potentially severe consequences to the Contractor that follow if he fails to comply with the notice provisions of this Sub-Clause; and
(ii) its application will determine whether the Contractor (and the contract administrator) must comply with the procedure set out in this Sub-Clause, including the submission of a fully detailed claim by the Contractor and response from the contract administrator, for the purpose of establishing the Contractor's entitlement to payment or an extension of time.

6.185 From the opening words of Sub-Clause 20.1, it is apparent that this Sub-Clause is intended to apply if the Contractor considers himself entitled to "any extension of the Time for Completion [of Design-Build (G)] and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract".

Express reference to Sub-Clause 20.1

6.186 The most obvious situations where Sub-Clause 20.1 applies are in those Sub-Clauses which expressly state that the Contractor is entitled to an extension of time and/or payment of Cost (and in some cases profit) "subject to Sub-Clause 20.1". The majority of these Sub-Clauses adopt the same standard wording, which is also common to all the Books.[159] As an example of this standard wording, Sub-Clause 2.1 in the Red Book, which governs the Employer's obligation to give the Contractor right of access to, and possession of the Site within a specified time, provides:

159. The specific wording in each of the Books contains minor changes, principally to take account of the identity of the contract administrator in the particular Book and, in the Gold Book, the different terminology and Clause headings used. However, the primary operative provisions are common to all the Books.

"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 [*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."

6.187 It should, however, be noted that, in respect of the standard wording, Sub-Clause 4.12 of the MDB contains an anomaly, and states the Contractor's entitlement under this Sub-Clause is "subject to notice under Sub-Clause 20.1" and not "subject to Sub-Clause 20.1". It is clear that Sub-Clause 20.1 as a whole will nevertheless apply.

'Any extension of the Time for Completion'

6.188 The Contractor's entitlement to an extension of time under the FIDIC forms is governed by Sub-Clause 8.4 (9.3 (G)), which itself is expressly subject to Sub-Clause 20.1. Therefore, Sub-Clause 20.1 will apply whether the entitlement to an extension of time is specifically identified in another Sub-Clause in addition to Sub-Clause 8.4 (9.3 (G)), or whether it is referenced only within Sub-Clause 8.4 (9.3 (G)).

'Additional payment under any Clause of these Conditions'

6.189 The precise scope of the expression 'any additional payment under any Clause of these Conditions' is more difficult in relation to the remainder of the provisions which do not include any express reference to Sub-Clause 20.1. This is because the words 'additional payment' are ambiguous and prompt the question: additional to what? When read within the overall scheme of the FIDIC forms, it seems clear that Sub-Clause 20.1 is not intended to apply to every circumstance which could, on one reading, be construed as giving the Contractor an entitlement to 'additional payment'. For example, under the Red Book, if the Contractor considers that the Engineer has under-certified the amount due in response to the Contractor's Statement at completion submitted under Sub-Clause 14.10, the Contractor could be described as considering that he is entitled to "additional payment". However, it is suggested that the appropriate mechanism for the Contractor to challenge the amount certified by the Engineer is not under Sub-Clause 20.1 but by a referral of a dispute to the DAB under Sub-Clause 20.4. If, in this situation, the Contractor was required first to submit a claim under Sub-Clause 20.1, this would, in effect, be a return to the position under the 4th Edition of the Red Book, with the Engineer being required to make a decision on a dispute in relation to a matter on which he has already expressed his opinion as to the Contractor's entitlement.

6.190 Particular uncertainty as to the scope of Sub-Clause 20.1 arises because many of the provisions which expressly or implicitly entitle the Contractor to payment place a positive duty on the contract administrator to proceed in accordance with Sub-Clause 3.5 to determine the Contractor's entitlement, but do not also refer to Sub-Clause 20.1. On account of the lack of reference to Sub-Clause 20.1 in these provisions, it is unclear whether

it was intended that the onus is on the contract administrator to proceed in accordance with Sub-Clause 3.5 or that Sub-Clause 20.1, including both the notice obligations on the Contractor and the procedure, nevertheless applies in these circumstances.

6.191 The provisions which expressly require the contract administrator to proceed in accordance with Sub-Clause 3.5 to agree or determine matters relating to the Contractor's entitlement to payment but which do not expressly refer to Sub-Clause 20.1 are set out below:

Sub-Clause		
10.6(b)/(c)	Delays and Interruptions during the Operation Service	(G)
11.8/12.6 (G)	Contractor to Search	(All)
11.11	Failure to Pass Tests Prior to Contract Completion	(G)
12.3	Evaluation	(R/M)
12.4	Omissions	(R/M)
13.2	Value Engineering	(R/M)
13.3	Variation Procedure[160]	(All)
15.3	Valuation at Date of Termination [for Contractor's Default (G)]	(All)

6.192 The *FIDIC Guide* does not resolve whether Sub-Clause 20.1 is intended to apply to these matters. As part of its commentary on Sub-Clause 3.5, the *Guide*, at pages 90 to 93, contains a table, which is described as listing "the provisions relevant to" Sub-Clause 3.5 in the Red and Yellow Books but is headed "Sub-Clauses relating to Claims under [the Red and Yellow Books]". The commentary on Sub-Clause 20.1 in the *Guide*[161] then refers to this table as listing the "Sub-Clauses which are most relevant to claims" but nevertheless does not include any definitive advice as to the Sub-Clauses to which Sub-Clause 20.1 is intended to apply. This table relates only to the Red and Yellow Books and includes the provisions identified above requiring the contract administrator to proceed in accordance with Sub-Clause 3.5 in those Books, but also refers to Sub-Clause 14.8, which governs the Contractor's entitlement to financing charges due to delayed payment by the Employer, and Sub-Clause 17.1 in relation to the Employer's obligation to indemnify the Contractor against certain claims, losses and damages.

6.193 It would appear that this table in the *FIDIC Guide* has then been interpreted by certain commentators as identifying the scope of application of Sub-Clause 20.1 in respect of the Contractor's entitlement to additional payment.[162] However, it is suggested that the list cannot be afforded such a status. For example, the Contractor's entitlement to financing charges under Sub-Clause 14.8 (14.9 (G)) is expressly stated not to be subject to formal notice (Notice) or certification and thus, it is suggested, Sub-Clause 20.1 does not apply. In addition, it may be queried whether the Contractor's entitlement under the indemnities in Sub-Clause 17.1 (17.10 (G)) properly falls to be considered to be an entitlement to "additional payment under any Clause of the Conditions", although, in any event, it

160. Note that there are also other matters which fall with the scope of Sub-Clause 13.3, by virtue of various Sub-Clauses providing that these matters shall be valued as a Variation or that Sub-Clause 13.3 shall apply, e.g. Sub-Clauses 3.1 (last paragraph) (M), 4.6, 11.2 (12.2 (G)).

161. *FIDIC Guide*, p. 299.

162. See, for example, Seppälä, *op. cit.*, n. 156; Wade, *op. cit.*, n. 157.

probably falls within the scope of the words "or otherwise" in the opening sentence of Sub-Clause 20.1.

6.194 On the other hand, the Contractor's entitlements to payment under the following provisions are drafted in almost identical terms to those that are expressly subject to Sub-Clause 20.1 but curiously do not refer expressly to Sub-Clause 20.1:

- Sub-Clause 11.8 (12.6 (G)) in relation to the Contractor's entitlement to payment for the Cost of searches;
- Sub-Clauses 10.6(b) and (c) (Gold Book) in relation to the Contractor's entitlement to compensation of any cost and losses incurred due to delays, interruptions or suspension of the Operation Service due to a cause for which the Employer is responsible; and
- Sub-Clause 11.11 (Gold Book) in relation to the Contractor's entitlement to additional Cost due to unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor after the issue of the Contract Completion Certificate for the purposes of carrying out adjustments and modifications.

6.195 Consequently, notwithstanding the absence of reference to Sub-Clause 20.1, the similarity of these provisions with the other provisions that do refer to Sub-Clause 20.1 may provide a compelling argument that Sub-Clause 20.1 should nevertheless apply.

6.196 The issue which is most likely to arise in practice in relation to the Sub-Clauses requiring the contract administrator to proceed in accordance with Sub-Clause 3.5, but which contain no reference to Sub-Clause 20.1, is whether the valuation of Variations under Sub-Clause 13.3 is subject to Sub-Clause 20.1. It could be argued that Sub-Clause 20.1 is applicable because the valuation of a Variation under Sub-Clause 13.3 will lead to an 'additional payment'. However, the authors query whether this position is correct and whether it is not more appropriate for the Contractor's entitlement to *payment* for Variations to be construed as being addressed in accordance with, and during the ordinary course of, the interim payment mechanism under Sub-Clause 14.6 (14.7 (G)). In this way, any amounts due to the Contractor in respect of Variations could be viewed as not being "additional payment" within the terms of Sub-Clause 20.1. Indeed, it is noticeable that, in Sub-Clause 14.1 of the Gold Book which describes the Contract Price, the Contractor's entitlement to payment of any adjustments to the Contract Price "as provided for under Clause 13 [*Variations and Adjustments*]" is included as a separate entitlement to any adjustments "arising as a result of claims under Clause 20 [*Claims, Disputes and Arbitration*]".

6.197 It is, however, clear that if the Contractor wishes to claim an extension of time in consequence of a Variation, the claim for the extension of time is subject to Sub-Clause 20.1 for the reasons set out above.

6.198 In the situation where there is a dispute as to whether an instruction constitutes a Variation, it is suggested that the appropriate course is for the dispute to be referred directly to the DAB under Sub-Clause 20.4 (20.6 (G)), since there appears to be little to be gained in referring the disputed instruction issued by the contract administrator back to him for a determination under Sub-Clauses 20.1 and 3.5. Indeed, such a scenario could otherwise, in effect, be considered again to amount to retaining the Engineer's decision under Sub-Clause 67.1 of the 4th Edition of the Red Book in which the Engineer was

required to make a decision on a dispute in relation to a matter on which he has already expressed his opinion.

'Additional payment otherwise in connection with the Contract'

6.199 The expression 'additional payment otherwise in connection with the Contract' is generally understood to be intended to cover monetary claims based in law and not where there is an express entitlement under the Contract.

6.200 As examples of such claims, Seppälä[163] identifies a claim for misrepresentation where "the employer had, under the governing law, 'misrepresented' the conditions at site" and claims based on the legal doctrines of *sujétions imprévision* or *fait du prince*, where the Contract is an administrative contract and governed by the law of a civil law country such as France or many of the countries of the Middle East. It would also seem to be intended to include claims for breach of contract and common law claims in tort (negligence, nuisance, trespass etc.).

Outline of procedure for claims under Sub-Clause 20.1

6.201 The procedure set out in Sub-Clause 20.1 that applies to the Contractor's claims is broadly similar in all the Books. It commences following the occurrence of an event or circumstance which entitles the Contractor to "any extension of the Time for Completion[164] and/or any additional payment" under any Sub-Clause in the Conditions "or otherwise in connection with the Contract". The procedure then involves the following steps:

- The Contractor is required to give notice to the contract administrator, describing the event or circumstance giving rise to the claim, "as soon as practicable" and in any event "not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance".
- The Contractor is required to keep "such contemporary records as may be necessary to substantiate any claim". The contract administrator is entitled to monitor the record-keeping, inspect the records and may instruct the Contractor to keep further contemporary records.
- Within 42 days[165] after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, it is required to send to the contract administrator "a fully detailed claim", which is to include supporting particulars.
- Within 42 days[166] after receiving the fully detailed claim from the Contractor, the contract administrator is required to respond. The nature of this response differs between the Books. In the Red, MDB, Yellow and Silver Books, the contract administrator is required to respond with approval or disapproval. In the Gold Book, there is no reference to approval or disapproval and instead the Employer's Representative

163. *Op. cit.*, n. 156, at 284.
164. "extension of the Time for Completion of Design-Build" (G).
165. Or within another period proposed by the Contractor and approved by the contract administrator.
166. Or within another period proposed by the contract administrator and approved by the Contractor or, in the Gold Book, agreed between the Employer's Representative and the Contractor.

is required to proceed in accordance with Sub-Clause 3.5 within the 42-day period (see next step below).

- Each Payment Certificate, or interim payment in the Silver Book, is to include "such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract".
- The contract administrator is required to proceed in accordance with Sub-Clause 3.5 to agree or determine:

  (i) "the extension (if any) of the Time for Completion [of Design-Build (G)] . . . in accordance with Sub-Clause 8.4 (9.3 (G))", and/or
  (ii) "the additional payment (if any) to which the Contractor is entitled under the Contract".

6.202 Further procedures are set out which specifically apply if the event or circumstance giving rise to the claim has a continuing effect.

6.203 Sub-Clause 20.1 also confirms (except in the Gold Book) that the Contractor is additionally required to "submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance".

6.204 Failure to comply. This Sub-Clause also sets out the consequences if the Contractor fails to comply with the required procedure. The most significant consequences follow a failure to give notice of the event or circumstance giving rise to the claim within the required time and, in the Gold Book, also if the Contractor fails to provide the "contractual or other basis of the claim" within the required period.[167] In these circumstances, the Employer is stated to have no liability for the claim. In respect of any other failure by the Contractor to comply with Sub-Clause 20.1 "or any other Sub-Clause which may apply to a claim", the consequences are less severe: "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".

Notice

6.205 Provisions requiring the contractor to give prompt and timely notice of a claim to the contract administrator or employer are common in construction contracts and serve a valuable purpose. As Jackson J stated, in the English case of *Multiplex Constructions (UK) Ltd* v. *Honeywell Control Systems Ltd (No. 2)*,[168] "such notice enables matters to be investigated while they are still current. Furthermore, such notice sometimes gives the employer[169] the opportunity to withdraw instructions when the financial consequences become apparent". Investigations include ensuring that proper records are kept. Potential claims being notified at an early stage necessarily means that they may be resolved earlier.

167. In the Gold Book, the Contractor is expressly required to include the contractual or other basis of the claim in the fully detailed claim or else risks forfeiting his rights to the claim. See paras. 6.248–6.254 below.

168. [2007] EWHC 447 TCC (at [103]); [2007] BLR 195.

169. Or, in the Red, MDB and Yellow Books, the Engineer and, in the Gold Book, the Employer's Representative.

6.206 As indicated above, all the Books contain a strict notice provision which is found in the first paragraph of Sub-Clause 20.1 (20.1(a) (G)). This paragraph in the Red, MDB and Yellow Book provides:

"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".

6.207 The Silver and Gold Books contain identical provisions, except that the reference to the Engineer is replaced by the Employer and the Employer's Representative, respectively.

Contents and formalities of notice

6.208 The Contractor is required to give notice[170] "describing the event or circumstance giving rise to the claim". Therefore, this is only required to be a bare notice.[171] It is not necessary at this stage to provide details of the amount of additional payment or period of extension of time claimed, nor, strictly, the basis for the claim. Nevertheless, it is advisable for the notice to set out that it is given under Sub-Clause 20.1 to avoid any uncertainty. Indeed, a reference to Sub-Clause 20.1 is a requirement in the Gold Book, which also, under Sub-Clause 1.3, requires that it must be identified as a Notice.

6.209 The notice[172] must be given to the contract administrator and must comply with the formalities that apply to the giving of notices, or Notices in the Gold Book, under Sub-Clause 1.3. In addition, once notice has been given, the Contractor is required to include it in the list of notices[173] in the progress reports in accordance with Sub-Clause 4.21(f).

Timing of notice

6.210 Under Sub-Clause 20.1 (20.1(a) (G)), notice[174] must be given "as soon as practicable" but this is subject to a maximum time limit of not later than 28 days after the Contractor "became aware, or should have become aware, of the event or circumstance" giving rise to the claim.

6.211 Given the potentially significant consequences to the Contractor if he fails to comply with these notice provisions discussed below, it is important to ensure that the period in which notice must be given is established by the Contractor correctly.

6.212 Event or circumstance giving rise to the claim. It is suggested that, on the wording of the first paragraph of Sub-Clause 20.1 (20.1(a) (G)), the Contractor's obligation to give notice arises when the relevant circumstances *exist* that entitle him to the additional payment or extension of time and not before. Or, in other words, the Contractor is not

170. "Notice" (G).

171. Christopher R. Seppälä, "FIDIC's New Standard Forms of Contract—*Force Majeure*, Claims, Disputes and other Clauses", [2000] ICLR 235 at 247.

172. "Notice" (G).

173. "Notices" (G).

174. "Notice" (G).

required to give notice when a situation occurs which *will* or even *might*, at a future point in time, give rise to such an entitlement.

6.213 Difficulties may arise in situations where the underlying cause of the claim has occurred but no time or cost consequences are incurred by the Contractor until after 28 days from the date on which the Contractor ought to have known that the underlying cause had occurred. Sub-Clause 20.1 should not be read in isolation but should be read together with the operative provision which creates the Contractor's entitlement. On the standard wording found throughout the FIDIC forms that expressly refers to Sub-Clause 20.1 (see, for example, Sub-Clause 2.1 in the Red Book as set out above), the Contractor is stated to be entitled to an extension of time or additional payment *if* he suffers delay or incurs Cost.

6.214 The authors therefore consider that the phrase 'event or circumstance' in Sub-Clause 20.1 should be construed to include the suffering of delay and/or incurring of Cost.[175] If this is not the case, the Contractor would be barred from making a claim in circumstances where no time or cost consequences occur within 28 days from the date on which the Contractor ought to have known of the matter which potentially gives rise to the Contractor's entitlement. The authors consider that it is unlikely that this was the intention behind Sub-Clause 20.1.[176] Of course, in practice, the incurring of Cost or suffering of delay are likely to occur at the same time or shortly after the occurrence of the underlying cause. It should also be noted that 'Cost' is defined as "all expenditure reasonably incurred *(or to be incurred)* by the Contractor . . . "[177] (emphasis added). Consequently, it is suggested that the obligation to give notice[178] will be triggered from the point that the Contractor is aware (or ought to be aware) that he will incur Cost, even if he has not yet incurred such Cost.

6.215 In this context, it should be noted that the notice under Sub-Clause 20.1 is not intended to serve as an early warning of a potential future problem. Such a notice is provided for in Sub-Clause 8.3 [*Programme*] (8.4 (G) [*Advance Warning*]), which, in the Red Book, provides:

"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*]."

6.216 Awareness. The 28-day period for giving notice[179] runs, not from the actual occurrence of the event or circumstance giving rise to the claim, but from when the Contractor "became aware, or should have become aware, of the event or circumstance".

175. See also Max W. Abrahamson, *Engineering Law and the I.C.E. Contracts* (4th Edn, 1979, Elsevier Applied Science Publishers), p. 74 for the same conclusion in relation to similar wording in the 5th Edition of the ICE form.

176. Note that in Sub-Clause 13.7 (13.6 (G)), the Contractor's entitlement is stated to arise if the Contractor "suffers (or will suffer) delay and/or incurs (or will incur) additional Cost" as a result of a change in the Laws of the Country. It is suggested that, in this case, the "event or circumstance" giving rise to the claim is the change in Law and the point at which the Contractor becomes aware, or ought to have been aware, that he will suffer delay and/or incur Cost.

177. Sub-Clause 1.1.4.3 (R/M/Y); 1.1.4.2 (S); 1.1.23 (G).

178. "Notice" (G).

179. "Notice" (G).

The expression "became aware" requires actual knowledge and is thus dependent on verifiable facts. If this was the only standard to apply, the Contractor could give notice weeks or months after the occurrence of the event or circumstance if he only then realised or had been advised of his entitlement to claim. Such a situation is, however, precluded by including the words "should have become aware", which import an objective standard.

6.217 Whilst the inclusion of an objective standard is understandable, it may give rise to difficult questions of fact. For example, under Sub-Clause 8.4(c) of the Red Book the Contractor is entitled to an extension of time due to delays caused by exceptionally adverse climatic conditions. Adverse (but not exceptionally adverse) climatic conditions are often likely to cause delay to the Contractor but, under the Red Book, he bears this risk. However, assume that the adverse climatic conditions continue for such a period that they properly can be classified as being *exceptionally* adverse. At what point should the Contractor have become aware that the adverse climatic conditions have become exceptionally adverse?

Failure to give notice within required time

6.218 The importance of the Contractor's compliance with the notice provisions in the first paragraph of Sub-Clause 20.1 (20.1(a) (G)) is evident from the second paragraph of that Sub-Clause, which, in the Red, MDB, Yellow and Silver Book (the Gold Book is identical apart from differences in terminology) provides:

> "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".

6.219 For consideration of the consequence of a failure to comply with notice provisions generally, see paragraphs 6.159–6.160 and 6.168 above.

6.220 The second paragraph of Sub-Clause 20.1 (20.1(a) (G)) is often described as a "time-bar provision". It is clear that the giving of notice within the 28-day period is intended to operate as a condition precedent to the Contractor's claims for an extension of time and additional payment. Failure to comply with an effective condition precedent will, in principle, invalidate the claim and deprive the Contractor of any right he would have to bring that claim.

6.221 Whether a condition precedent does have this effect, however, varies considerably as between jurisdictions, including between common law jurisdictions, and is dependent on the particular circumstances in question.

6.222 In any event, even if the Contractor considers that he may be able to argue that the condition precedent should not apply under the relevant governing law in a particular situation where the time limit has been breached, it could never be advisable for a Contractor to ignore the time limit in formulating a claim. The only safe assumption that the Contractor can make at the time of presenting the claim is that failure to follow the prescribed procedure is likely to have a serious impact on his rights.

6.223 Non-common law jurisdictions. Frilet[180] states, for example, that under French law the court will generally give effect to time-bar provisions provided that "they appear to be reasonable under the circumstances". On the other hand, the time-bar

180. Marc Frilet in Robert Knutson (ed.), *FIDIC —An Analysis of International Construction Contracts* (2005, Kluwer Law International), p. 84. See also Rubino-Sammartano, *op. cit.*, n. 147.

provision in Sub-Clause 20.1 may be unenforceable under Saudi law.[181] Indeed, one commentator has even gone so far as to suggest that this provision may be more widely held to be invalid under the laws of Arab countries, including, for example, Egypt, because it modifies the limitation (or prescription) period provided for in the laws of those countries, which is forbidden in conformity with the principles of Sharia.[182]

6.224 Common law jurisdictions. In common law jurisdictions, the courts have traditionally construed potential condition precedent Clauses strictly. Indeed, under English law, procedural timescales in construction contracts are generally construed by the courts as being directory rather than mandatory such that non-compliance does not result in a loss of rights to which the time period relates.[183] However, the English courts are more willing to give effect to notice provisions as condition precedents if the provisions state the precise time within which the notice is to be served and makes clear that a failure to serve the notice within that time will result in the claimant losing his rights under that provision.[184] It would appear that Sub-Clause 20.1 would satisfy these requirements.[185]

6.225 However, there has been much debate[186] recently in common law circles as to the enforceability or effect of conditions precedent on a contractor's entitlement to an extension of time (but, it should be stressed, not additional payment) in light of the 'prevention principle'. The prevention principle is discussed in more detail in Chapter 8, paragraphs 8.69–8.71. In effect, the issue revolves around the argument that, if the contractual procedures for making a claim for an extension of time constitute a condition precedent to a claim, failure to satisfy them would make it impossible for an extension of time to be granted, thus jeopardising the liquidated damages provisions.[187] This issue has been considered in a series of conflicting decisions in Australia and, more recently, in the UK.

6.226 An argument based on the prevention principle was raised by the contractor but robustly rejected by the Supreme Court of New South Wales in *Turner Corporation* v. *Austotel*.[188] Cole J held that:

> "If the Builder, having a right to claim an extension of time fails to do so, it cannot claim that the act of prevention which would have entitled it to an extension of time for Practical Completion resulted in its inability to complete by that time. A party to a contract cannot rely upon preventing conduct of the other party where it failed to exercise a contractual right which would have negated the effect of that preventing conduct".

6.227 The Supreme Court of South Australia in *Décor Ceiling Pty Ltd* v. *Cox Constructions Pty Ltd (No. 2)*[189] similarly upheld a clearly worded condition precedent.

181. Hammond in Knutson, *op. cit.*, p. 275.

182. Marwan Sakr, "Turnkey Contracting under the ICC Model Contract for Major Projects: A Middle Eastern Law Perspective", [2009] 26(2) ICLR 146 at 149.

183. *Temloc* v. *Errill Properties* (1988) 39 BLR 30 (CA), *per* Croom-Johnson LJ.

184. *Bremer Handelsgesellschaft mbH* v. *Vanden Avenne-Izegem PVBA* [1978] 2 Lloyd's Rep 109 at 128, *per* Lord Salmon.

185. Hamish Lal, "The Rise and Rise of 'Time-Bar' Clauses: the 'Real Issue' for Construction Arbitrators" [2007] 24(1) ICLR 118 at 123.

186. See, for example, Ellis Baker, James Bremen & Anthony Lavers, "The Development of the Prevention Principle in English and Australian Jurisdictions" [2005] ICLR 197; I N Duncan Wallace, "Liquidated Damages 'Down Under': Prevention by Whom?" [2002] 7 Construction and Engineering Law, Issue 2, 23.

187. Baker, Bremen & Lavers, *op. cit.*, n. 186, p. 208.

188. (1997) 13 BCL 378 at pp. 384–385.

189. [2006] CILL (March) p. 2311, as cited by Lal *op. cit.*, n. 185, p. 125.

6.228 On the other hand, an argument based on the prevention principle was accepted by the Northern Territory Supreme Court in 1999 in *Gaymark Investments Pty Ltd* v. *Walter Construction Group Ltd*.[190] In *Gaymark*, on the basis of the prevention principle, Bailey J refused to give effect to what would otherwise seem to be a clear condition precedent and instead held that liquidated damages could not be recovered after the contractor had failed to comply with the notice provision. This decision has been the centre of much of the debate and severely criticised.[191] It, of course, was a decision of a court in a different state to that where *Turner* was decided, in a country where a federal system operates.

6.229 While there remains doubt over the correctness of the decision in *Gaymark*, this and the decision in another case[192] led Gordon Smith to warn that, in light of these decisions "the condition precedent to an extension of time in subclause 20.1 of the new suite of FIDIC forms . . . , if governed by Australian law, could result in the employer being prohibited from recovering liquidated damages in circumstances where the employer delays the contractor and the contractor fails to comply with subclause 20.1".[193]

6.230 The position in the UK is more settled. In 2002, the Inner House of the Court of Session of Scotland in *City Inn Ltd* v. *Shepherd Construction Ltd*[194] upheld an express time-bar provision as an effective condition precedent following the failure of the contractor to comply with this provision in relation to a claim for extension of time. Interestingly, however, the contractor did not rely on the prevention principle in this case.

6.231 The decision in *City Inn* was followed by the decision of Jackson J in 2007 in the English High Court case of *Multiplex Constructions (UK) Ltd* v. *Honeywell Control Systems Ltd*.[195] Although the issue did not need to be decided in this case, Jackson J[196] indicated that he doubted whether *Gaymark* represented the law of England and preferred the reasoning in *Turner* and *City Inn*.[197]

6.232 From the authorities referred to above, it can be concluded that in some, but certainly not all, common law jurisdictions, the courts may give effect to the condition precedent found in Sub-Clause 20.1 in respect of a claim by the Contractor for an extension of time. However, it should be re-emphasised that every case will depend on its particular facts such that the above authorities may be distinguished.

6.233 Even in circumstances where the Contractor has failed to comply with the time limit in the first paragraph of Sub-Clause 20.1 (20.1(a) (G)) and the condition precedent

190. [1999] NTSC 143; (1999) 16 BCL 449; (2005) 21 Const LJ 71.

191. See, in particular, Duncan Wallace, *op. cit*. n. 186.

192. The decision of the Supreme Court of New South Wales in *Abigroup Contractors Pty Ltd* v. *Peninsula Balmain Pty Ltd* [2001] NSWSC 752. In this case, a similar decision to that in *Gaymark* was reached by Barrett J who held that the decision in *Turner* was not applicable (at [32]). The relevant provisions in issue in this case however were notably different from those found in Sub-Clause 20.1 in that they empowered the Superintendent (the equivalent to the Engineer) unilaterally to grant an extension of time even if the Contractor failed to comply with the condition precedent. Moreover, this decision was subject to an appeal where the Court of Appeal of New South Wales ([2002] NSWCA 211 at [78]) re-confirmed the approach in *Turner.*

193. Gordon Smith, "The 'Prevention Principle' and Conditions Precedent: Recent Australian Developments", [2002] 19(3) ICLR 397 at 403.

194. 2003 SLT 885.

195. [2007] EWHC 447 TCC; [2007] BLR 195.

196. *Ibid*., at [103].

197. The court in *Steria Ltd* v. *Sigma Wireless Communications Ltd* [2008] BLR 79 at [95] and [96] has also agreed with Jackson J's comments in *Multiplex*.

is enforceable under the governing law, the Employer may, by its conduct, have waived his entitlement to rely on the condition precedent as a bar to the claim.

6.234 DAB's power to overrule time limit. In the Gold Book, FIDIC has introduced a new provision at the end of the second paragraph of Sub-Clause 20.1(a) which mitigates the potential harshness of the effect of the condition precedent. This new provision allows the Contractor, if he considers there are circumstances which justify the late submission of Notice of the event or circumstance giving rise to a claim beyond the required 28-day period, to submit the details to the DAB for a ruling. In these circumstances, the DAB is expressly granted the authority to "overrule the relevant 28-day limit" if it considers "in all the circumstances, it is fair and reasonable that the late submission be accepted". This gives the DAB a very wide discretion to decide whether late submission may be accepted. Although no procedure is specified for obtaining the ruling apart from that the DAB must advise the Parties of its ruling, it is suggested that it could be very simple, with the Contractor sending a short submission to the DAB (with copies to the Employer and the Employer's Representative), which sets out the reasons why it considers it is fair and reasonable that the late submission should be accepted. In the authors' view, the Contractor's application can be made both before or after the time limit for giving Notice expires. It is further suggested that, while not required under the Contract, to ensure fairness and impartiality in reaching its ruling, the Employer (or the Employer's Representative on his behalf) should also be given an opportunity to respond before the ruling is given.[198]

6.235 Cut-off dates for submission of claims. Under Sub-Clause 14.14 of the Red, MDB, Yellow and Silver Books, the Employer is stated not to 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":

- in the Final Statement, and
- in the Statement at completion described in Sub-Clause 14.10 "except for matters or things arising after the issue of the Taking-Over Certificate for the Works".

6.236 Both these Statements are required to include "any further sums which the Contractor considers to be due" and, in the Statement at completion, "an estimate of any other amounts which the Contractor considers will become due to him under the Contract". Although not stated expressly, the effect of these provisions is to provide 'cut-off' dates by which the Contractor must have given notice to the contract administrator in respect of matters arising before the issue of the Taking-Over Certificate for the Works (Statement at completion) and in respect of all other matters (Final Statement).

6.237 Sub-Clause 14.16 in the Gold Book contains an equivalent provision, which is similarly worded to Sub-Clause 14.14 in the other Books but refers to the contents of the Contractor's Final Statement Design-Build and Final Statement Operation Service.[199] However, it is suggested that the effect is similar. The Contractor is required to submit, with the Final Statement Design-Build, a written undertaking that the "Statement is in full

198. Interestingly, it does not appear that the member(s) of the DAB are required expressly, under their terms of appointment, including the General Conditions of Dispute Adjudication Agreement, to give this ruling.

199. There is no equivalent to the Statement at completion in the Gold Book.

and final settlement of all matters under or in connection with the Contract relating to the Design-Build"[200] and, with the Final Statement Operation Service, a written discharge that the total of the two Final Statements "represents full and final settlement of all monies due to the Contractor under or in connection with the Contract".[201]

Relationship with other notice provisions

6.238 Sub-Clause 20.1 (20.1(d) (G)) expressly confirms that the requirements of Sub-Clause 20.1 are in addition to the requirements of any other Sub-Clause which may apply to a claim. All the Books apart from the Gold Book provide, in the third paragraph of Sub-Clause 20.1, further confirmation of the Contractor's obligations, by requiring the Contractor to submit any other notices and supporting particulars which are required by the Contract. A failure to comply with the requirements of the other provisions of the Contract will, in accordance with the last paragraph of Sub-Clause 20.1, result in an extension of time and/or additional payment taking account of the extent (if any) to which the failure prevented or prejudiced the proper investigation of the claim.

6.239 The standard wording of the Sub-Clauses that express the Contractor's entitlement to an extension of time or additional Cost as being subject to Sub-Clause 20.1 requires the Contractor, under the particular Sub-Clause, to give notice[202] to the contract administrator if the Contractor suffers delay and/or incurs Cost and, by the reference to Sub-Clause 20.1, also requires the Contractor to give notice[203] under the first paragraph of Sub-Clause 20.1 (20.1(a) (G)). These provisions strictly place two separate notice obligations on the Contractor, with notice to be given under the specific Sub-Clause and under Sub-Clause 20.1. However, in practice, the occurrences or circumstances which trigger each of these notice obligations will either be the same or occur within a short time period of each other. Thus, it will often be possible for the Contractor to give notice[204] to the contract administrator under both the specific Sub-Clause and Sub-Clause 20.1 in the same document.

Contemporary records

6.240 Under Sub-Clause 20.1 (20.1(b) (G)), the Contractor has a wide obligation to keep whatever contemporary records may be necessary to substantiate any claim he may wish to make, without awaiting instructions on the matter from the contract administrator. This obligation is not expressed as being conditional upon the Contractor having given notice[205] to the contract administrator under the first paragraph of Sub-Clause 20.1 (20.1(a) (G)). These contemporary records must be kept on Site, or at another location acceptable to the contract administrator, and be available for inspection by the contract administrator. In addition, the contract administrator has a wide power to monitor the record-keeping of the

200. Sub-Clause 14.11.
201. Sub-Clauses 14.13 and 14.14.
202. "Notice" (G).
203. "Notice" (G).
204. "Notice" (G).
205. "Notice" (G).

Contractor and to instruct him to keep "further contemporary records" and provide copies of all these records to the contract administrator.

6.241 The purpose behind this requirement to keep contemporary records is perhaps obvious, but Seppälä helpfully explains that it is "to ensure that there will be contemporary documentary evidence to support the claim".[206] In one of the few court decisions on the FIDIC contracts,[207] Acting Judge Sanders held that "contemporary records" in the context of the 4th Edition of the Red Book meant "original or primary documents, or copies thereof, produced or prepared at or about the time giving rise to the claim, whether by or for the contractor or the employer".[208] The judge further held that "contemporary records" does not mean "witness statements produced after the time giving rise to the claim where such statements cannot be considered to be original or primary document prepared at or about the time giving rise to the claim".[209]

6.242 The judgment of Acting Judge Sanders emphasises the importance of original or primary evidence for substantiating a claim. Original or primary documents recording events at the time that they were occurring are usually significantly more persuasive than evidence prepared after the event which is not supported by any such documents.

6.243 Moreover, the significance of keeping contemporary records is demonstrated by the general sanction that applies if the Contractor fails to comply with Sub-Clause 20.1 or any other Sub-Clause which applies to the claim, namely any extension of time and/or additional payment shall take account of the extent to which the failure prevented or prejudiced proper investigation of the claim.[210] If the Contractor fails to comply with Sub-Clause 20.1 (apart from the notice provision) but nevertheless keeps all necessary contemporary records, this will reduce the effect that any such failure might have on the proper investigation of the claim.

6.244 In any event, the Contractor is not limited to relying on contemporary records to substantiate his claim and the obligation to keep contemporary records does not prevent the Contractor from including a narrative of the events surrounding the claim, or even witness statements, as part of the fully detailed claim and in support of his claimed entitlement. Indeed, narratives and witness statements are often likely to be a key aspect of a fully detailed claim to explain why the Contractor considers that he is entitled to an extension of time or additional payment. However, as stated above, narratives or witness statements produced after the event, to the extent that they are unsupported by documents produced at the time, will usually carry less evidential weight or be less persuasive than documents produced at the time of the event.

6.245 In deciding what contemporary records are necessary, both the Contractor and the contract administrator will have to take into account the likely claim that the Contractor will make. The kinds of contemporary records that will be necessary to substantiate a claim for an extension of time are likely to include different documents from those to substantiate a claim for additional Cost.

206. *Op. cit.*, n. 156 at 287.

207. *Her Majesty's Attorney General for the Falkland Islands* v. *Gordon Forbes Construction (Falkland) Limited* [2003] BLR 280 (Falklands Islands Supreme Court).

208. *Ibid.*, at 285.

209. *Ibid.*

210. This should be contrasted with Sub-Clause 53.4 of the 4th Edition of the Red Book, which provides that if the Contractor fails to comply with the claims provisions set out in Clause 53, his entitlement is limited to the amount that the Engineer or any arbitrator(s) considers is verified by contemporary records.

6.246 For example, in relation to claims for both an extension of time and additional Cost due to the Contractor being delayed in his progress of the Works, such records might include:

- regular updates to the programme setting out the actual progress of the Works, in particular the activities affected by the delaying event, the impact of the delays to the affected activities on the progress of the Works and revisions to the planned sequence and timing of the remaining work to accommodate the delaying event;
- records of the actual resources involved, including personnel, equipment and materials, based on progress;
- records of actual expenditure incurred, including invoices and purchase orders;
- records of any resources which were standing or uneconomically employed;
- records of any overtime worked and the cost of such overtime;
- regular progress photographs and/or videos, taken monthly, weekly or even daily, if appropriate;
- regularly updated registers, for example the drawings register, which should record all revisions made to drawings and when they were made;
- site diaries;
- records relating to specific work activities such as piling records, concrete pour records and steelwork fabrication records; and
- minutes of progress meetings.[211]

6.247 Many of these records will, of course, be kept by the Contractor during the ordinary course of the project.

Fully detailed claim

6.248 Under all the Books, after giving notice under the first paragraph of Sub-Clause 20.1 (20.1(a) (G)), the Contractor is then required to send to the contract administrator "a fully detailed claim" with full supporting particulars.

6.249 Contents. What must be included in the fully detailed claim differs slightly between the Red, MDB, Yellow and Silver Books on the one hand, and the Gold Book on the other:

- the Red, MDB, Yellow and Silver Books require the detailed claim to include "full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed";
- the Gold Book requires the fully detailed claim to include "full supporting particulars of the contractual or other basis of the claim . . . ". This difference in wording from the other Books provides helpful clarification and also relates to the additional time bar introduced in Sub-Clause 20.1 of this Book (see paragraph 6.254 below).

6.250 In practical terms, when preparing the fully detailed claim, the Contractor should bear in mind that he has the burden of proof to prove his claim. Therefore, he should set out the claim in a clear and logical manner, including the legal basis of the claim and an

211. Roberta Downey, "What Documents are Really Needed in Order to Resolve a Construction Dispute?", (2006) 22 Const LJ 160 at 172–173.

explanation as to why this gives rise to the monetary amount or extension of time claimed.

6.251 Given that the contract administrator has the right to inspect the Contractor's contemporary records, it is certainly arguable that the 'particulars' do not extend to these records and so the Contractor is not strictly required to provide copies of them unless instructed by the contract administrator. However, it is suggested that, as a matter of good practice, the Contractor should also provide the relevant contemporary records upon which he relies to support his claim with his fully detailed claim.

6.252 Timing. The claim must be sent within 42 days after the Contractor "became aware (or should have become aware) of the event or circumstance giving rise to the claim", or "within such other period as may be proposed by the Contractor and approved by the [contract administrator]". This opportunity for extending the period for submission with the approval of the contract administrator recognises that the 42-day period may present the Contractor with difficulties in preparing the claim within this time, particularly, for example, if the claim is complex but the event or circumstance giving rise to the claim does not have a continuing effect.[212] Under Sub-Clause 1.3, the contract administrator's approval must not be unreasonably withheld or delayed. The *FIDIC Guide*[213] advises that the reasonableness of the requested additional time "must depend upon the circumstances, including the complexity of the matter".

6.253 In all the Books apart from the Gold Book, a failure by the Contractor to send the claim to the contract administrator within the required time period will not attract the same severe consequences as a failure to give notice under the first paragraph of Sub-Clause 20.1. Instead, the sanction for such a failure is that any extension of time and/or additional payment that may be determined by the contract administrator is to take into account the extent to which the delay in providing the claim prevented or prejudiced proper investigation of the claim.

6.254 In the Gold Book, if the Contractor fails to provide the "contractual or other basis of the claim" within the required time, the Notice given under sub-paragraph (a) is considered to be invalid. This has the same effect as if no Notice had been given in the first place and thus that the Employer has no liability in respect of the claim. However, importantly, these consequences apply only if the Contractor fails to provide the *basis* of the claim within the required time period and not if the Contractor fails to provide the other details of the claim that are required to be included in the fully detailed claim. Any other failures by the Contractor in this respect will attract the same sanction as in the other Books. As stated above, the 42-day period within which the Contractor must provide the fully detailed claim, including the basis of the claim, may be extended with the approval of the contract administrator. Such approval must not be unreasonably withheld or delayed. Consequently, if the Contractor considers that he may not be able to provide the basis of the claim within the required time, he can, of course, propose an extension of the period to the contract administrator for approval. In addition, the Contractor may refer the matter to the DAB to decide whether "in all the circumstances, it is fair and reasonable that the

212. There is no express provision under Sub-Clause 20.1 for the Contractor to submit further details of the claim on his own volition unless the event or circumstance has a continuing effect. See paras. 6.278–6.279 below.

213. *FIDIC Guide*, p. 303.

late submission be accepted", in the same way as in respect of a failure to give Notice under sub-paragraph (a) as discussed at paragraph 6.234 above.

Contract administrator's response and determinations under Sub-Clause 3.5

6.255 In all the Books, the contract administrator is required to respond to the Contractor's claim within 42 days of receiving it. The period for the response may also be extended:

- In the Red, MDB, Yellow and Silver Books, the contract administrator may propose an alternative period for approval by the Contractor. Under Sub-Clause 1.3, such approval must not be unreasonably withheld or delayed.
- In the Gold Book, any alternative period must be agreed by the Employer's Representative and the Contractor.

6.256 The nature of the required response varies between the Books and is discussed below. Nevertheless, when introduced in the FIDIC forms published in 1999,[214] this was the first time that a FIDIC contract expressly required the contract administrator to respond to a claim by the Contractor within a specified time period and in a given manner.[215]

6.257 The contract administrator is also required to proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the Contractor's entitlement to an extension of time and/or additional payment. In this respect, the Books differ as to when the contract administrator must so proceed.

Red, Yellow and Silver Books

6.258 Response. In the Red, Yellow and Silver Books, under the sixth paragraph of Sub-Clause 20.1, the contract administrator (the Employer in the Silver Book) is required to respond within the applicable time period either with (i) approval or (ii) disapproval with detailed comments. The contract administrator is also expressly permitted to request "any necessary further particulars" from the Contractor. These might include, for example, additional details that the contract administrator considers are required to justify the extension of time or additional payment claimed. Nevertheless, even if the contract administrator does not consider that the Contractor's claim has been fully established by the supporting particulars provided to him at that point, these Books make it clear that the contract administrator must "give his response", i.e., approval or disapproval, on the 'principles' of the claim within the required time period.

6.259 The purpose of these provisions has been explained by members of the FIDIC Contract Committee as being in the hope that requiring the contract administrator to provide a definitive answer within a limited time period will reduce the problem often previously encountered in the past whereby the contract administrator either "sits on claims without answering, or . . . 'stonewalls' claims by asking for more and more

214. Red, Yellow and Silver Books.

215. Seppälä, *op. cit.*, n. 156 at p. 287.

details".[216] However, although a contract administrator who adopts this approach now in relation to the Contractor's claims under the Red, Yellow and Silver Book will clearly have failed to comply with his duty as contract administrator, there is no express sanction for such a failure. Moreover, a failure to provide a response within the required time period does not necessarily mean that the claim can be considered to have been rejected. A rejection of the claim, or the existence of circumstances from which the claim can be considered to have been rejected, it is suggested, is required before a dispute which can be referred to the DAB can arise.[217] Furthermore, as discussed below, it is uncertain whether dissatisfaction with the approval or disapproval of the contract administrator can itself be referred to the DAB without the contract administrator also having proceeded in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the Contractor's entitlement. Thus the practical benefit of these provisions to the Contractor is arguably limited. Indeed, it is noticeable (as will be seen below) that the Books published subsequently, i.e., the MDB and the Gold Book, introduced express sanctions if the contract administrator fails to respond within the required time period.

6.260 If the contract administrator has requested further particulars from the Contractor, he must again respond to the further particulars within 42 days of receiving them (or other such period as proposed by him and approved by the Contractor) with approval or with disapproval and detailed comments.

6.261 Proceed in accordance with Sub-Clause 3.5. Under the eighth paragraph of Sub-Clause 20.1, the contract administrator is required to proceed in accordance with Sub-Clause 3.5 to agree or determine the Contractor's entitlement to an extension of time and/or additional payment.

6.262 Relationship between contract administrator's response and duty to proceed in accordance with Sub-Clause 3.5. The relationship between the contract administrator's response and his duty to proceed in accordance with Sub-Clause 3.5 is unclear. This is partly due to the arrangement of the provisions, with the duty to proceed in accordance with Sub-Clause 3.5 being set out two paragraphs later than the duty to respond. No time is stated within which the contract administrator must proceed in accordance with Sub-Clause 3.5 and thus the general requirement under Sub-Clause 1.3 that determinations must not be unreasonably withheld or delayed will apply.

6.263 If the duties of the contract administrator to give a response and to proceed in accordance with Sub-Clause 3.5 are separate duties, this gives rise to several potential difficulties.

6.264 The approval or disapproval of the contract administrator will bind the Employer and the Contractor.[218] Therefore, if the contract administrator approves or disapproves the claim, such approval or disapproval would arguably make the duty for the contract administrator to then make a determination under Sub-Clause 3.5 redundant because he has already made a decision on the claim. Moreover, the seventh paragraph of Sub-Clause 20.1 expressly provides that each Payment Certificate or, in the Silver Book, each interim payment, should include any amounts as have been reasonably substantiated as due.

216. Christopher Wade, "Claims Procedures", 2003 (FIDIC Website); Michael Mortimer Hawkins, "Clause 20, Dispute Resolution", 2004 (FIDIC website).

217. See Chapter 9, paras. 9.109–9.133.

218. Under Sub-Clause 3.1 of the Red and Yellow Books, when giving approval or disapproval, the Engineer will be deemed to be acting for the Employer.

Therefore, if the contract administrator approves a claim, including an amount which he considers has been reasonably substantiated, this amount must be included in the next Interim Payment Certificate or interim payment. Accordingly, it could further be argued that the contract administrator's duty to make a determination under Sub-Clause 3.5 of the additional payment due is also redundant because the Contractor is entitled to payment on the basis of the contract administrator's approval.

6.265 A further difficulty may arise where the contract administrator approves part of a claim and requests further particulars in relation to the remainder. When the further particulars are provided, it may become apparent to the contract administrator that the approval which he had previously given is no longer justifiable. This creates a difficulty because the Contractor may already be entitled to payment on the basis of the previous approval.

6.266 It should also be noted that the standard to be applied to the contract administrator's decision whether to approve or disapprove the claim is, in principle, different from that which applies in making a determination under Sub-Clause 3.5. The contract administrator's approval under Sub-Clause 20.1 is subject to a test of reasonableness by operation of Sub-Clause 1.3, whereas the determination under Sub-Clause 3.5 must be fair and in accordance with the Contract, taking due regard of all relevant circumstances.

6.267 If the duty to give approval or disapproval is separate from the duty to proceed in accordance with Sub-Clause 3.5, it is also uncertain whether it is intended that a Party which is dissatisfied with the contract administrator's approval or disapproval of the claim can refer this matter as a dispute to the DAB for its decision, before the contract administrator has made a determination under Sub-Clause 3.5 (in the absence of agreement between the Parties).

6.268 Nevertheless, in the authors' view, it is possible to reconcile the duties of the contract administrator under Sub-Clause 20.1, if they are properly to be considered to be separate, in such a way as to address the potential difficulties identified above. Such an interpretation is based on the principle that the contract administrator's duty to approve or disapprove a claim and to proceed in accordance with Sub-Clause 3.5 must be understood to involve different, albeit related, considerations. In this way, it is suggested that the approval or disapproval of the claim is effective but may be revised by the contract administrator when making a determination under Sub-Clause 3.5. Moreover, the contract administrator, in making a determination under Sub-Clause 3.5, should not be construed as being bound by any approval or disapproval that he may have already given provided that his duty to make a fair determination in accordance with the Contract, taking regard of all relevant circumstances, requires that a different conclusion be reached. Any necessary adjustments that may need to be made in relation to amounts paid or certified as due to the Contractor can be made under the express power in Sub-Clause 14.6[219] of the Engineer, in the Red and Yellow Books, and of the Employer, in the Silver Book, to make any correction or modification that should properly be made to any previous Payment Certificate or, in the Silver Book, any amount previously considered due.

6.269 It is further suggested that a dispute, which can be referred to the DAB, may arise in respect of both the contractor administrator's approval or disapproval of the claim and any determination made under Sub-Clause 3.5. However, practical considerations will come

219. "*Issue of Interim Payment Certificates*" (R/Y); "*Interim Payments*" (S).

into play when deciding whether to refer a dispute arising in relation to the contract administrator's approval or disapproval of the claim, including the likelihood of the contract administrator's reaching a different conclusion when making a determination under Sub-Clause 3.5.

6.270 Finally, it should be noted that both MDB and the Gold Book, which were published after the Red, Yellow and Silver Books, introduced changes to the wording of Sub-Clause 20.1 which attempt to address the difficulties discussed above.

MDB

6.271 The provisions relating to the Engineer's duties to respond and to proceed in accordance with Sub-Clause 3.5 are identical to those in the Red Book discussed above, except for two significant differences.[220] First, the MDB expressly requires the Engineer to proceed in accordance with Sub-Clause 3.5 to agree or determine the Contractor's entitlement to an extension of time and/or additional payment within the same 42-day period[221] in which the Engineer is required to respond to the Contractor's claim or any requested further particulars. It would appear that this time limit was introduced in the MDB in order to provide some certainty as to the relationship between the Engineer's separate duties in the Red Book to respond with approval or disapproval and to proceed in accordance with Sub-Clause 3.5. However, it is suggested that simply requiring the two duties to be exercised within the same time period has not resolved the uncertainties. Indeed, the matter is made more complex because, in principle, the Engineer is required both (i) to respond with approval or disapproval, and (ii) to consult the Parties in an endeavour to reach an agreement and, if no agreement is reached, to then make a fair determination, all within the 42-day period.

6.272 Second, and perhaps more importantly as far as the Contractor is concerned, the MDB expressly sets out the consequences if the Engineer fails either to respond or to proceed in accordance with Sub-Clause 3.5 [*Determinations*] within the 42-day period, namely "either Party may consider that the claim is rejected by the Engineer and any of the Parties may refer to the Dispute Board in accordance with Sub-Clause 20.4". This right to refer the matter to the Dispute Board if the Engineer fails to comply with the time limits in Sub-Clause 20.1 no doubt provides a welcome element of certainty to the Contractor.

Gold Book

6.273 The Gold Book adopts a different approach from all the other Books by removing the requirement for the Employer's Representative to respond to the Contractor's claim with approval or disapproval. Instead, Sub-Clause 20.1(d) provides that the Employer's Representative must proceed in accordance with Sub-Clause 3.5 within 42 days after the Contractor has submitted a fully detailed claim (or any requested further particulars), or within such other period as has been agreed between the Employer's Representative and the Contractor. In addition, the Gold Book follows the MDB in providing that, if the

220. For completeness, there is also a third difference, which is the re-ordering of the paragraphs of Sub-Clause 20.1, with the provisions requiring the Engineer to proceed in accordance with Sub-Clause 3.5 now in the seventh paragraph and thus immediately following the provisions relating to the Engineer's response.

221. Or within another period proposed by the contract administrator and approved by the Contractor.

Employer's Representative fails to respond in accordance with this 'timetable', either Party may consider that the claim has been rejected and either Party may then refer the matter to the DAB in accordance with Sub-Clause 20.6. However, the circumstances when the Parties may consider the claim as having been rejected are not limited only to a failure to respond within the required time, but also include a failure by the Employer's Representative to respond in accordance with the procedures set out in Sub-Clause 20.1.

6.274 In line with the other Books, the Employer's Representative is permitted to request "any necessary additional particulars" from the Contractor but is nevertheless required to give "his response on the contractual or other aspects of the claim within the 42 days after receiving the fully detailed claim from the Contractor". It is suggested that the words "or other aspects", although particularly vague, are intended to be a reference to the requirement of the Contractor to provide full supporting particulars of the contractual *or other basis* of the claim.

6.275 It is, moreover, uncertain whether the response contemplated from the Employer's Representative in these circumstances is a response as part of the procedure under Sub-Clause 3.5 to agree or determine the Contractor's entitlement or a response more akin to the Engineer's response under Sub-Clause 20.1 of the Yellow Book.

Giving effect to the Contractor's entitlement to payment

6.276 Payment of any amounts agreed or determined as due to the Contractor under Sub-Clauses 20.1 and 3.5 is made under the payment mechanism set out in Clause 14 [*Contract Price and Payment*], and in particular as part of the interim payment process. Under Sub-Clause 14.3(f) (14.3(e) (S); 14.3(j) (G)),[222] the Contractor is required to include in his Statement "any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [*Claims, Disputes and Arbitration*]".

6.277 Sub-Clause 20.1 (20.1(d) (G)) further indicates that payment of these amounts should not necessarily wait until the amounts have been agreed or determined in accordance with Sub-Clause 3.5. It expressly provides that each Payment Certificate or, in the Silver Book, interim payment is to include "such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract". The test for the inclusion of amounts in a Payment Certificate or interim payment is therefore whether they have been "reasonably substantiated" and not whether they have been agreed or determined under Sub-Clause 3.5. This is particularly important in relation to the Red, Yellow and Silver Books, which do not require the contract administrator to proceed in accordance with Sub-Clause 3.5 within a specified time. In these Books, the contract administrator is therefore required to include in each Payment Certificate or interim payment any amounts approved by him under Sub-Clause 20.1 prior to any determination under Sub-Clause 3.5. Sub-Clause 20.1 (20.1(d) (G)) further recognises that the contract administrator may have considered that the Contractor has provided insufficient particulars to substantiate the whole of his claim, but nevertheless requires the parts of the claim that have been substantiated to be included in the Payment Certificate or interim payment.

222. "*Application for Interim Payment Certificates*" (R/M/Y); "*Application for Interim Payments*" (S); "*Application for Advance and Interim Payment Certificates*" (G).

Claims based on events or circumstances with a continuing effect

6.278 If the event or circumstance giving rise to the claim has a continuing effect, specific provisions apply:

- the fully detailed claim to be submitted within 42 days after the Contractor became aware, or should have become aware, of the event or circumstance giving rise to the claim is to be considered as 'interim';
- the Contractor is required to submit further interim claims at monthly (28-day (G)) intervals, "giving the accumulated delay and/or amount claimed, and such further (additional (G)) particulars as the [contract administrator] may reasonably require"; and
- once the event or circumstance giving rise to the claim ceases to have a continuing effect, the Contractor is required to send a "final claim" within 28 days or such other period as may be proposed by the Contractor and approved by the contract administrator.

6.279 Although not expressly stated, it is suggested that both the interim and final claims should be considered as a 'claim' and thus the contract administrator is required to respond to each interim claim and the final claim in the same manner required for claims involving no continuing effect.[223]

Dissatisfaction with contract administrator's determination

6.280 Generally, if either Party is dissatisfied with the contract administrator's determination under Sub-Clauses 20.1 and 3.5 and informs the other Party of its dissatisfaction, a dispute will arise which can be referred to the DAB for its decision. In all the Books apart from the Gold Book, there is no time period within which the referral must be made.

6.281 In the Gold Book, the procedure for challenging a determination by the Employer's Representative in respect of a claim under Sub-Clause 20.1 has been formalised, but also places strict time limits within which the matter must be referred to the DAB. The penultimate paragraph of Sub-Clause 20.1(d) provides that if either Party is dissatisfied with the determination of the Employer's Representative,[224] either Party may issue a Notice of dissatisfaction to the other Party and the Employer's Representative. Such Notice must be given within 28 days after receiving the determination. If no Notice is given or is given out of time, the determination "shall be deemed to have been accepted by both Parties". Notwithstanding that the giving of Notice of dissatisfaction is a condition precedent to refer the matter to the DAB (see below), it is suggested that the purpose behind this 'deemed acceptance' provision is to restrict, in terms of time, the opportunity of the Parties to dispute the determination.[225] If a determination has been accepted by the Parties, there is obviously no Dispute as to that determination.

223. See paras. 6.255 *et seq.*, above.

224. The actual text refers to the "Engineer's Representative" which must be a typographical error.

225. Consequently, even if there is no DAB in place, the Parties will also not be able to refer the Dispute to arbitration under Sub-Clause 20.11.

6.282 Once a Notice of dissatisfaction has been given, the dissatisfied Party may proceed in accordance with Sub-Clause 20.6 to refer the Dispute to the DAB. It is suggested that the reference to Sub-Clause 20.6 is intended to be a reference to Sub-Clause 20.6 or 20.10.[226] A Party's right to refer a dispute in respect of a determination by the Employer's Representative on a claim by the Contractor under Sub-Clause 20.1, with which either Party is dissatisfied, is expressly made conditional upon the dissatisfied Party giving a Notice of dissatisfaction under Sub-Clause 20.1 and the referral being made within 28 days of issuing that Notice. If no referral is made within this 28-day period, the Notice of dissatisfaction is "deemed to have lapsed and no longer be considered to be valid", in which case the position reverts to that where no Notice was given in the first place, i.e., the determination is deemed to have been accepted.

Employer's claims

6.283 Sub-Clause 2.5, or Sub-Clause 20.2 in the Gold Book, governs claims by the Employer and sets out the procedure that should be followed. More specifically, it applies to the Employer's claims for payment from the Contractor under any Clause of the Conditions, (for example for payment of delay damages under Sub-Clause 8.7 (9.6 (G))) or "otherwise in connection with the Contract". In addition, in all the Books apart from the Gold Book, this Sub-Clause also applies to the Employer's entitlement to an extension to the Defects Notification Period under Sub-Clause 11.3.[227]

6.284 Importantly, Sub-Clause 2.5 (20.2 (G)) also governs the Employer's entitlement to set off against or deduct from amounts due to the Contractor, which is expressly prohibited otherwise than in accordance with this Sub-Clause.[228] Consequently, the Employer is not entitled to withhold or deduct delay damages, for example, unless he has complied with the requirements of this Sub-Clause. The Employer will also lose his entitlement to an extension to the Defects Notification Period if he fails to claim for such an extension under this Sub-Clause.

6.285 This Sub-Clause is almost identical in all the Books. The most significant differences are found in the Silver Book, the MDB and the Gold Book:

- The Silver Book differs from the Red and Yellow Books to reflect the fact that there is no third-party contract administrator and no Payment Certificates under this Book.
- The MDB contains changes to the time period within which the Employer or Engineer must give notice to the Contractor.
- Apart from the change in location, the Gold Book also includes changes to the time period within which Notice must be given and provides for either Party to give Notice of its dissatisfaction with the Employer's Representative's determination on a claim, which is a condition precedent to referring a Dispute on that claim to the DAB.

226. Sub-Clause 20.6 governs the rights of the Parties to refer Disputes arising during the Design-Build Period to the DAB for its decision, whereas Sub-Clause 20.10 governs the rights of the Parties to refer Dispute arising during the Operation Service Period to the DAB.

227. There is no Defects Notification Period in the Gold Book.

228. Final paragraph of Sub-Clause 2.5 (20.2 (G)). See below.

Scope of application of Sub-Clause 2.5/20.2 (G)

6.286 Sub-Clause 2.5 (20.2 (G)) applies if the Employer considers himself entitled to:

- any payment under any Clause of the Conditions "or otherwise in connection with the Contract"; and
- any extension of the Defects Notification Period (not Gold Book).

6.287 The Employer's entitlement to an extension of the Defects Notification Period is governed by Sub-Clause 11.3 [*Extension of Defects Notification Period*].[229]

6.288 In relation to the Employer's entitlement to payment, the application of this Sub-Clause is more straightforward than that of Sub-Clause 20.1 in respect of claims by the Contractor. This is because it is stated to apply to "*any* payment under any Clause of these Conditions or otherwise in connection with the Contract" (emphasis added). Moreover, the final paragraph of this Sub-Clause provides that the Employer "shall only be entitled . . . to otherwise claim against the Contractor, in accordance with this Sub-Clause". It is therefore clear that this Sub-Clause applies to every situation where the Employer seeks payment from the Contractor under or in connection with the Contract. The Sub-Clauses which expressly entitle the Employer to payment from the Contractor under the Contract are also set out in Chapter 8, para. 8.135 Table 8.1.

6.289 Nevertheless, several Sub-Clauses in the FIDIC forms expressly state that Sub-Clause 2.5 (20.2 (G)) applies. These are set out in Table 6.2 below.

Table 6.2: Sub-Clauses which expressly state that Sub-Clause 2.5 (20.2 (G)) applies

	Red Book/MDB	Yellow Book	Silver Book	Gold Book
4.19	Electricity, Water and Gas	Electricity, Water and Gas	Electricity, Water and Gas	
4.20	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials	Employer's Equipment and Free-Issue Materials
5.2				Contractor's Documents
7.5	Rejection	Rejection	Rejection	Rejection
7.6	Remedial Work	Remedial Work	Remedial Work	Remedial Work
8.6	Rate of Progress*	Rate of Progress	Rate of Progress	9.5 Rate of Progress

229. See Chapter 8, paras. 8.96–8.102.

	Red Book/MDB	Yellow Book	Silver Book	Gold Book
8.7	Delay Damages*	Delay Damages	Delay Damages	9.6 Delay Damages relating to Design-Build
9.4	Failure to Pass Tests on Completion	Failure to Pass Tests on Completion	Failure to Pass Tests on Completion	
11.3	Extension of Defects Notification Period	Extension of Defects Notification Period	Extension of Defects Notification Period	
11.4	Failure to Remedy Defects	Failure to Remedy Defects	Failure to Remedy Defects	
11.10				Delayed Tests Prior to Contract Completion
12.3		Retesting	Retesting	11.11 Retesting Prior to Contract Completion
15.4	Payment after Termination	Payment after Termination	Payment after Termination	Payment after Termination for Contractor's Default
18.1	General Requirements for Insurances	General Requirements for Insurances	General Requirements for Insurances	
18.2	Insurance for Works and Contractor's Equipment	Insurance for Works and Contractor's Equipment	Insurance for Works and Contractor's Equipment	

Notes:

* Sub-Clauses 8.6 and 8.7 in the MDB are anomalous in that they state that the Employer's entitlement under these Sub-Clauses is "subject to notice under Sub-Clause 2.5" and not simply "subject to Sub-Clause 2.5". It is clear Sub-Clause 2.5 as a whole will nevertheless apply.

6.290 In addition, the FIDIC forms provide for the Contract Price to be adjusted to take account of changes in legislation (Sub-Clause 13.7 (13.6 (G)) and for the instalments in which the Contract Price is to be paid as set out in Schedule of Payments[230] (if any) to be revised to reflect progress. If any such adjustment or revision decreases the amounts to

230. "schedule of payments" (R/M).

which the Contractor has become entitled, this may mean, for example, that the Employer has overpaid the amounts now due or, in all the Books apart from the Silver Book, that the amounts due to the Contractor have been over-certified in Interim Payment Certificates. In these circumstances, it is suggested that Sub-Clause 2.5 (20.2 (G)) will apply if the Employer wishes to seek repayment from the Contractor.

6.291 Sub-Clause 2.5 (20.2 (G)) would also, the authors suggest, apply to the following Sub-Clauses:

- Sub-Clause 11.11 [*Clearance of Site*] in all the Books apart from the Gold Book, in respect of payment of the costs incurred by the Employer as a result of the Contractor's failure to comply with his obligations to clear the Site under Sub-Clause 11.11.
- Sub-Clause 5.4 [*Evidence of Payments*] in the Red Book and MDB, if the Employer wishes to recover direct payments made to nominated Subcontractors.
- Sub-paragraph (a) of Sub-Clause 10.6 [*Delays and Interruptions during the Operation Service*] of the Gold Book in respect of the payment to the Employer to compensate him for any losses caused by delays or interruptions during the Operation Service which are caused by the Contractor or for which the Contractor is responsible.
- Sub-Clause 10.7 [*Failure to Reach Production Outputs*] of the Gold Book in respect of payment of performance damages in the event that the Employer suffers loss due to the Contractor's failure to achieve the production outputs required under the Contract and where the cause of the failure 'lies' with the Contractor.

6.292 As to the meaning of "or otherwise in connection with the Contract", see paragraphs 6.199–6.200 above.

Outline of procedure

6.293 The procedure set out in Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*] is more abridged and simpler than the one that applies to the Contractor's claims under Sub-Clause 20.1. It is almost identical in all the Books. It commences on the occurrence of an event or circumstance giving rise to a claim as a result of which the Employer considers himself entitled to any payment under or in connection with the Contract and/or (in all the Books apart from the Gold Book) to any extension of the Defects Notification Period. It then involves the following stages:

- The Employer or Engineer (R/Y/S)/Employer's Representative (G) is required to give notice[231] and particulars to the Contractor. The time within which notice must be given differs as between the Books.
- The contract administrator is then required to proceed in accordance with Sub-Clause 3.5 to agree or determine the Employer's claim.

Notice and particulars

6.294 The period within which notice[232] must be given under the different Books is as follows:

231. "Notice" (G).
232. "Notice" (G).

- Red, Yellow and Silver Books: "as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim".
- MDB: "as soon as practicable and no longer than 28 days after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim".
- Gold Book: "as soon as practicable after the Employer becomes aware, or should have become aware, of the event or circumstances giving rise to the claim".

6.295 The Red, Yellow and Silver Books therefore require the Employer to have actual knowledge of the event or circumstance before he must give notice, whereas the MDB and the Gold Book are more strict by including the objective standard of when the Employer "should have become aware".

6.296 Unlike under Sub-Clause 20.1, no sanction is specified if the Employer, Engineer or Employer's Representative (as appropriate) fails to give notice[233] to the Contractor within the required time. Even though a fixed period for giving notice is stated in the MDB, this is unlikely to be construed as a condition precedent. It is nevertheless suggested that claims should be notified at the earliest opportunity in the interest of good project management, if nothing else. The applicable Laws may specify the time period for notices in relation to payment.[234] Furthermore, notice relating to any extension of the Defects Notification Period must be given before the expiry of the current (i.e., unextended) Defects Notification Period.

6.297 However, in all the Books apart from the Gold Book, no notice is required for payments due under Sub-Clauses 4.19 [*Electricity, Water and Gas*] or 4.20 [*Employer's Equipment and Free-Issue Materials*] or "for other services requested by the Contractor".

6.298 Contents and formalities. As with the Contractor's notice[235] under Sub-Clause 20.1 (20.1(a) (G)), only bare notice needs to be given and thus the notice can be given in a short letter, which should set out the event or circumstance giving rise to the claim as a result of which the Employer considers himself entitled to payment and/or an extension of the Defects Notification Period. Although only the Gold Book requires that the Notice must state that it is a Notice and that it is given under Sub-Clause 20.2, it is suggested that this practice (but obviously referring to Sub-Clause 2.5 and not 20.2) should be adopted in the other Books to provide certainty as to the intended status of the notice. If the notice relates to a claim based on an entitlement under one of the Sub-Clauses in the Conditions, this Sub-Clause should also ideally be identified. Generally, the notice must comply with Sub-Clause 1.3,[236] i.e., given in writing, delivered in accordance with that Sub-Clause. Once received by the Contractor, it should also be listed in the progress reports in accordance with Sub-Clause 4.21(f).

6.299 The particulars are required to specify the basis of the claim, including reference to the relevant Clause if the claim is under the Contract, and are to include substantiation of the amount to which the Employer considers himself entitled. The time period set out in Sub-Clause 2.5 (20.2 (G)) relates specifically to the giving of the notice. There is, however, no express time period for service of the particulars, nor any express requirement

233. "Notice" (G).
234. *FIDIC Guide*, p. 79.
235. "Notice" (G).
236. See paras. 6.146–6.152 above.

that the particulars must be given with the notice. Consequently, on a strict reading, there is no time period for service of the particulars. Indeed, the *FIDIC Guide*[237] states that "Particulars may be given at any time" and explains that it was considered unnecessary to impose time constraints on the giving of particulars "because it seemed unlikely that the Contractor would be disadvantaged by belated particulars". The *FIDIC Guide* does, however, warn that "excessive delay in their submission may be construed as an indication that the Employer will not be proceeding with the notified claim".

Determination under Sub-Clause 3.5

6.300 Once the particulars have been given to the Contractor, the contract administrator is required to proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine:

- "the amount (if any) which the Employer is entitled to be paid by the Contractor", and/or
- "the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3" (not Gold).

6.301 The provisions of Sub-Clause 3.5 are discussed in paras. 6.119–6.135 above.

6.302 Notice of dissatisfaction. In the Gold Book, there is an additional paragraph in Sub-Clause 20.2, providing for the issue of a Notice of dissatisfaction by either Party if it is dissatisfied with the Employer's Representative's determination. This additional provision is identical to the paragraph found in the Sub-Clause 20.1(d) and is discussed above in paras. 6.281–6.282.

6.303 Although not expressly stated in Sub-Clause 2.5 of the Silver Book, because the Employer's determination of his claim is to be made under the Sub-Clause 3.5, the Contractor's right to give notice of his dissatisfaction with that determination within 14 days of receiving it will also apply.[238]

Right to set off, withhold and deduct

6.304 The final paragraph of Sub-Clause 2.5 (20.2 (G)) regulates the Employer's contractual entitlement to deduct any amounts agreed or determined under Sub-Clause 3.5 as due to the Employer from Payment Certificates (not Silver Book) or payments to the Contractor and, more generally, it is suggested, the Employer's right to set off under the Contract. The specific provisions of this final paragraph, however, differ between the Books.

Red, MDB and Yellow Books

6.305 The final paragraph of Sub-Clause 2.5 in the Red, MDB and Yellow Books provides:

237. *FIDIC Guide*, p. 80.
238. See para. 6.134 above.

"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 . . . in accordance with this Sub-Clause".

6.306 Under the first sentence, the Engineer is empowered to include a deduction in a Payment Certificate of a sum due to the Employer in accordance with Sub-Clause 2.5 from amounts otherwise due to the Contractor. There is, however, nothing in the wording that *requires* such a deduction to be made.

6.307 The right of the *Employer* to set off an amount due to him is, however, unclear. The second sentence provides that "the Employer shall *only* be entitled to set off . . . *in accordance with this Sub-Clause*" (emphasis added); no other provision in Sub-Clause 2.5, however, grants the Employer any express right of set-off, separate from the Engineer's power to include deductions in Payment Certificates. On the other hand, this second sentence refers, not to deductions *in* a Payment Certificate, but to the setting-off against or deductions *from an amount certified* in a Payment Certificate. This might therefore suggest that the Employer is intended to have a right of set-off against amounts certified by the Engineer, which is distinct from the Engineer's power to include deductions in Payment Certificates.

6.308 In this context, it should be noted that the *FIDIC Guide*, in its commentary to Sub-Clause 2.5, states:[239]

"Under Sub-Clause 14.7, the Employer is required to pay the amount certified (namely, incorporating [the Engineer's] 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".

6.309 Moreover, the commentary on Sub-Clause 14.6 states:[240]

"The Employer is . . . 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".

6.310 It appears from these extracts that the draftsmen's intention was that any claim by the Employer should be compensated by way of a deduction included by the Engineer in a Payment Certificate and not by a separate right of set-off exercised by the Employer.

6.311 A further uncertainty is introduced by the words "This amount" in the final paragraph of Sub-Clause 2.5. These words are ambiguous in the sense that they could be taken to refer either to the Employer's claim or to the amount agreed or determined under Sub-Clause 3.5 which the Employer is entitled to be paid by the Contractor. In the authors' opinion, the better view is that they refer to the amount agreed or determined under Sub-Clause 3.5. On this basis, the Engineer's right to include deductions in Payment Certificates only arises when the amount due to the Employer has been agreed or determined under Sub-Clause 3.5. Similarly, it is suggested that, if the Employer does have an independent right of set-off against payments otherwise due to the Contractor, this right arises only

239. *FIDIC Guide*, p. 80.
240. *Ibid.*, p. 245. Almost this entire passage is also repeated in the commentary to Sub-Clause 14.7 on p. 247.

when the amount due to the Employer has been agreed or determined under Sub-Clause 3.5 and is restricted to this amount.

Silver Book

6.312 The final paragraph of Sub-Clause 2.5 in the Silver Book provides:

"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 . . . in accordance with this Sub-Clause or with sub-paragraph (a) and/or (b) of Sub-Clause 14.6 [*Interim Payments*]".

6.313 The position under the Silver Book is, in principle, more straightforward than under the Red, MDB and Yellow Books because the payment mechanism under the Silver Book does not involve the issuing of Payment Certificates, and thus any deductions or set-off will only be made by the Employer against payments due to the Contractor. The reference to Sub-Clauses 14.6(a) and (b) has accordingly been included to acknowledge this additional right of the Employer to withhold.

6.314 As with any determination under Sub-Clause 3.5, the Contractor is entitled to give notice of his dissatisfaction with the Employer's determination on his claim under Sub-Clause 2.5, in which case the Parties are not required to "give effect" to that decision. Either Party may then refer the dispute to the DAB in accordance with Sub-Clause 20.4. The effect that such notice of dissatisfaction is intended to have on the Employer's claim is explained in the *FIDIC Guide*, in the commentary on Sub-Clause 2.5 in the Silver Book, as follows:[241]

"[The amounts due to the Contractor under Sub-Clause 14.7(b)] 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 [Sub-Clause] 3.5 . . . the determination is of no effect, and the Employer cannot rely upon it as entitling him to recover such compensation."

Gold Book

6.315 The final paragraph of Sub-Clause 20.2 in the Gold Book provides:

"The amount determined by the DAB 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 . . . in accordance with this Sub-Clause".

6.316 The second sentence is identical to the second sentence of Sub-Clause 2.5 in the Yellow Book and, it is suggested, the same considerations that apply to that provision in the Yellow Book also apply to the Gold Book.

6.317 The first sentence is problematic. By indicating that the inclusion of deductions of an amount determined by the DAB in Payment Certificates is optional ("may"), it conflicts with Sub-Clause 14.7 which requires that each Interim Payment Certificate "shall include any amounts due to or from the Contractor in accordance with a decision by the DAB made under Sub-Clause 20.6 [*Obtaining Dispute Adjudication Board's Decision*]". It is difficult to

241. *Ibid.*, p. 80.

interpret these two provisions together in such a way as to resolve this conflict. In addition, by referring only to the "amount determined by the DAB" and not, for example, as determined under Sub-Clause 3.5, it would appear to exclude the Employer's Representative's power to include any deductions in Payment Certificates of determinations made under Sub-Clauses 20.2 and 3.5 but where no Party has given Notice of its dissatisfaction and referred that matter to the DAB. This cannot have been the intention of the draftsmen.

CHAPTER SEVEN

RISK, INSURANCE AND SECURITIES

INTRODUCTION

7.1 By their nature, construction projects expose the parties involved to significant risks. A major feature of any international construction or engineering contract is to allocate those risks between the parties. The FIDIC forms are no different. Some risks, for example the risk of damage to the Works and claims by third parties for personal injury, property damage and infringement of intellectual property, are allocated through specific provisions. Other risks are allocated through the operation of other mechanisms found in the contract. Even once allocated, the parties will usually require certain restrictions and other measures to be taken to limit and manage their exposure. These include provisions in the contract to limit liability, to require insurance to be effected and to ensure that the other party provides appropriate security for its obligations. This chapter deals with how the FIDIC forms address these matters.

RISK ALLOCATION: CLAUSE 17

Generally

7.2 Clause 17 of all the FIDIC forms concerns the allocation of risk and responsibility between the Contractor and the Employer of a wide range of matters or events which may arise during the course of or as a result of the project. The provisions of this Clause are closely related to the insurance provisions in Clause 18 (19 (G)).

7.3 In general, this Clause concerns the allocation of responsibility for the following matters:

(a) loss or damage to the Works, Goods and Contractor's Documents;[1]
(b) personal injury to any person;[2]
(c) property damage other than to the Works arising out of, in the course of or by reason of the Contractor's design (if any), execution and completion of the Works and the remedying of any defects;[3]
(d) claims, loss or damage relating to matters or events, the risk of which are expressly allocated to the Employer;[4]
(e) loss or damage to facilities provided to the Contractor by the Employer (if any);[5]

1. Sub-Clauses 17.2 to 17.4 (R/M/Y/S); Sub-Clauses 17.1 to 17.7 (G).
2. Sub-Clause 17.1 (R/M/Y/S); Sub-Clauses 17.9 and 17.10 (G).
3. Sub-Clause 17.1 (R/M/Y/S); Sub-Clause 17.9 (G).
4. Sub-Clause 17.1 (R/M/Y/S); Sub-Clause 17.10 (G).
5. Sub-Clause 17.7 (M) and additional example Sub-Clause in the Guidance for the Preparation of Particular Conditions (Notes on the Special Provisions (G)) accompanying the other Books.

(f) claims relating to the infringement of the intellectual or industrial property rights of third parties.[6]

7.4 In addition, by Sub-Clause 17.6 (17.8 (G)), the Parties' liability for certain types of loss is excluded and the Contractor's total liability to the Employer is expressly limited, subject to certain exceptions. This exclusion and limitation of liability further serves as a mechanism for apportioning or allocating risk.

7.5 The arrangement of Clause 17 [*Risk and Responsibility*] in the Red, MDB, Yellow and Silver Books has been laid out on a conventional basis. Risks are allocated on the basis of the Parties' responsibility for specific types of damage due to those risks. There is also a degree of cross-over in the risks for which the Employer is responsible for the resultant damage under Clause 17 and the provisions in Clause 19 concerning *force majeure*. When drafting the Gold Book, the FIDIC Task Group redrafted completely the provisions of Clause 17 (as well as the insurance provisions in Clause 18). The order of the provisions was changed.[7] More significantly, however, FIDIC also sought to incorporate a comprehensive scheme for the allocation of all risks, with different allocations of risks during the Design-Build and Operation Service Periods as these periods involve different potential risks (and the types of insurance required).

General allocation of risk to Employer in Red, MDB, Yellow and Silver Books

7.6 As stated above, in all the Books apart from the Gold Book, the allocation of risk is defined in terms of responsibility for specific losses or damage. It is, however, possible to identify a more general underlying policy as to the allocation to the Employer of responsibility for all loss or damage caused by the matters set out in Sub-Clause 17.3.

7.7 Sub-Clause 17.3 is headed "Employer's Risks"[8] and contains, by express reference to Sub-Clause 17.4, a list of matters for which the Employer bears the risk of loss or damage to the Works, Goods or Contractor's Documents. Responsibility for such loss and damage is an exception to the general principle that the Contractor is liable for loss or damage to the Works, Goods or Contractor's Documents prior to completion.[9] The matters listed in Sub-Clause 17.3 are discussed further below.

7.8 The allocation of risk in relation to these matters is, however, not limited only to loss or damage to the Works, Goods or Contractor's Documents. Many of the matters listed in Sub-Clause 17.3 (items (a) to (d)—or at least slight variants of them) are included as possible examples of Force Majeure under Sub-Clause 19.1. Accordingly, Sub-Clause 17.3 should be read with Clause 19 [*Force Majeure*] to appreciate fully the risk profile.

7.9 In addition, other risks are more generally allocated to the Employer by the indemnity provisions in Sub-Clause 17.1. Under the final paragraph of this Sub-Clause, the

6. Sub-Clause 17.5 (R/M/Y/S); Sub-Clause 17.12 (G).

7. The order in the other Books is from indemnities to responsibility to risk to liability. The sequence has been described by one commentator as "confused and baffling" (Nael Bunni, "FIDIC's New Suite of Contracts —Clauses 17 to 19", [2001] 18(3) ICLR 523 at 525). The order in the Gold Book is from risk to responsibility to liability to indemnities. See also Christopher Wade, "FIDIC Introduces the DBO Form of Contract—the New Gold Book for Design, Build and Operate Projects", [2008] 23(1) ICLR 14 at 24.

8. One commentator has suggested that this may potentially mislead the reader to conclude that these are the only matters for which the Employer bears the risk under the FIDIC forms, such that the Contractor bears all other risks. Bunni, *op. cit.*, n. 7, at 524.

9. See para. 7.32 *et seq.* below.

Employer is required to give a wide indemnity against "all claims, damages, losses and expenses" in respect of certain matters. Hidden here, by reference to Sub-Clause 18.3(d)(iii), is an indemnity by the Employer in respect of all risks arising due to "a cause listed in Sub-Clause 17.3 . . . , except to the extent that [insurance] cover is available at commercially reasonable terms". By Sub-Clause 17.1, the Employer is therefore more generally allocated responsibility for the matters set out in Sub-Clause 17.3, but subject to their not being insurable on commercially reasonably terms. The indemnity by the Employer in the Gold Book has been widened in Sub-Clause 17.10(b) to refer only to the Employer's Risks, without any qualification that the risk should not be insurable.

7.10 By Sub-Clauses 17.1 and 18.3(c), the Employer is also allocated the risk in respect of:

- "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";[10] and
- "damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects".[11]

7.11 Sub-Clause 17.3 Broadly speaking, the matters set out in Sub-Clause 17.3 are risks which the Contractor has no control over. The list of risks differs as between the Books. The list in the Silver Book is more limited than in the other Books. The MDB qualifies the risks to the matters listed in Sub-Clause 17.3, but only "insofar as [these matters] directly affect the execution of the Works in the Country", and also includes "sabotage by persons other than the Contractor's Personnel" in item (b). This reference to the Country in the MDB obviously reduces the scope of the listed Employer's risks.

7.12 Items (a) to (e) are common to all the Books[12] and are as follows:

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

7.13 These risks, historically at least, are commonly uninsurable by general insurance cover. This is reflected in the *FIDIC Guide*[13] which states: "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". The matters set out in items (b), (c) and (d) only relate to events within the Country. In an international construction project,

10. By reference to Sub-Clause 18.3(d)(i).
11. By reference to Sub-Clause 18.3(d)(ii).
12. Although in the MDB the wording of (a) and (b) is slightly amended from the Red Book. See below.
13. FIDIC, *The FIDIC Contracts Guide*, (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils), ("*FIDIC Guide*"), p. 274.

Plant or Materials may be manufactured or produced in another country from where the Site is located. Consequently, even though the occurrence of these events outside of the Country may also cause loss or damage to the Goods (or even possibly the Contractor's Documents), the risk of such loss or damage is not an Employer risk and thus is borne by the Contractor. There is no such restriction of these items in the definition of Force Majeure under Sub-Clause 19.1.

7.14 In addition to these common items, the Red, MDB and Yellow Books also include in the list of Employer's risks the following:

7.15 *"(f) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract".* The concept of use or occupation of the Permanent Works is relatively straightforward and it is suggested that this Employer risk will apply however minor or temporary the Employer's use or occupation. This Employer risk will only be relevant in respect of loss or damage to the Works prior to taking over and thereafter to the (limited) extent that the Contractor retains responsibility for the care of the Works after taking over (i.e., responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate (Sub-Clause 17.2)). The scope of application of this item, in many cases, may be limited. This is because, under Sub-Clause 10.2 of these Books, the Employer is not entitled to 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 that part. If the Employer uses a part of the Works (other than as an agreed temporary measure) before a Taking-Over Certificate has been issued, that part is nevertheless deemed to have been taken over by the Employer and the Contractor expressly ceases to be liable for its care. This is repeated in Sub-Clause 17.3.

7.16 This item has not been included in the Silver Book. The *FIDIC Guide*[14] explains this omission on the basis that use or occupation by the Employer of any part of the Works prior to the relevant Section or the Works being taken over would be a breach of the Contract. However, this fails to recognise that Sub-Clause 10.2 permits the Employer to use a part of the Works if specified in the Contract or if agreed between the Parties. Consequently, if any such use is intended, the Contractor may wish to ensure that a Taking-Over Certificate has been issued for that part or that the Contract (or terms of a subsequent agreement) contains similar provisions to those in item (f) of the other Books in respect of the relevant part.[15]

7.17 *"(g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible".* Although the rationale behind this Employer risk is clear, its application may give rise to some practical difficulties in circumstances where, for example, it is unclear whether damage has been caused by defective design or by faulty workmanship. The *FIDIC Guide*[16] explains the omission of this item from the Silver Book on the basis that the design of any part of the Works is intended to be wholly the Contractor's risk. Nevertheless, the Contractor may wish to seek to have included in the Employer risks the

14. *FIDIC Guide*, p. 275. Under Sub-Clause 10.2 of the Silver Book, the Employer is entitled to use a part of the Works only if specified in the Contract or if agreed between the Parties.

15. EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects* (2nd Edn, 2003), p. 33.

16. *FIDIC Guide*, p. 275.

risk of loss or damage to the Works or Goods due to the elements of the design, if any, for which the Employer retains responsibility under Sub-Clause 5.1.[17]

7.18 *"(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"*. For operation of the forces of nature to fall within this item, they must either be Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions. Therefore, even if they were not Unforeseeable, any resultant loss or damage to the Works or Goods may still fall within the Employer's responsibility if it would have been unreasonable to expect an experienced Contractor to have taken preventative precautions. The concept of "Unforeseeable" in the FIDIC forms is considered in more detail in Chapter 3, paras. 3.150 *et seq*. This item is not included in the list of Employer's risks in the Silver Book on the basis that these are intended to be Contractor's risks under this Book.[18]

Allocation of risk in the Gold Book

General arrangement

7.19 The arrangement of, and approach adopted in, Clause 17 [*Risk Allocation*] in the Gold Book is significantly different from the other Books.

7.20 The starting point is Sub-Clauses 17.1 to 17.4, which allocate *all* risks (as opposed to only risk of loss or damage) between the Parties and differentiate between the risks during the Design-Build Period and during the Operation Service Period. These Sub-Clauses are all stated to be expressly subject to Sub-Clause 17.8 [*Limitation of Liability*], which excludes the liability of the Parties for loss of profit, loss of contract or any other indirect loss and limits the total liability of the Contractor to the sum stated in the Contract Data. The purpose of this reference is to make it clear that the allocation of risk in Sub-Clauses 17.1 to 17.4 does not override these exclusions and limitation of liability.

7.21 During the Design-Build Period, the risks allocated to the Contractor are negatively defined: firstly the risks allocated to the Employer are specifically identified under Sub-Clause 17.1 [*The Employer's Risks during the Design-Build Period*], and then the Contractor is stated to be liable for all other risks during this Period (Sub-Clause 17.2 [*The Contractor's Risks during the Design-Build Period*]).

7.22 During the Operation Service Period, the Employer's risks are defined specifically under Sub-Clause 17.3 [*The Employer's Risks during the Operation Service Period*]. The Contractor's risks are defined in Sub-Clause 17.4 [*The Contractor's Risks during the Operation Service Period*] as:

- all risks resulting or arising from the design or construction of the Works (except for any design expressly allocated to the Employer under Sub-Clause 17.1(b)(ii) and 17.3(b)(ii));
- all risks resulting or arising from the operation and maintenance of the Permanent Works and the care of the Works excluding the Employer's Risks defined under Sub-Clause 17.3.

17. See further Chapter 3, para. 3.171 *et seq*.
18. *FIDIC Guide*, p. 275.

7.23 As a general observation, FIDIC's attempt to set out clearly the overall allocation of all risks between the Parties (as opposed to the allocation of responsibility for the risk of damage due to certain matters as adopted in the other FIDIC forms) represents a fundamental and brave departure from the traditional approach to risk allocation found in the other FIDIC forms, their predecessors and other standard form contracts.

Employer's risks

7.24 The risks allocated to the Employer under Sub-Clauses 17.1 and 17.3 are collectively referred to as the "Employer's Risks".[19] These risks are divided into "Commercial Risks" and "Risks of Damage". The definitions of these terms indicate that the categorisation of the risks has been made on the basis of types of damage which result from these risks:[20]

- "Commercial Risk" is defined[21] as "a risk which results in financial loss and/or time loss for either of the Parties, where insurance is not generally or commercially available";
- "Risk of Damage" is defined[22] as "a risk which results in physical loss or damage to the Works or other property belonging to either Party, other than a Commercial Risk".

7.25 However, there is no reference to these defined terms other than in their definitions and in Sub-Clauses 17.1 and 17.3. Instead, all references to risks allocated to the Employer refer to these Sub-Clauses (or one of them) *as a whole* and do not distinguish between Commercial Risks and Risks of Damage. This may give rise to difficulties of interpretation. For example, use or occupation of the Permanent Works by the Employer is specified as an Employer's Commercial Risk in Sub-Clause 17.1(a)(iv) but is not included in the Employer's Risks of Damage in Sub-Clause 17.1(b). It may therefore be argued that *physical* damage to the Permanent Works caused by the Employer's use is at the Contractor's risk because it does not fall within the *definition* of "Commercial Risk". The authors consider that the better view is that the allocation of risk should be determined by reference to the matters listed in Sub-Clauses 17.1 to 17.4 and not by whether they are identified as a Commercial Risk or Risk of Damage. On this basis, in the example, the physical damage to the Permanent Works caused by the Employer's use would be an Employer's risk.

7.26 Table 7.1 contains a comparison between the risks allocated to the Employer in the Gold Book during the Design-Build Period and those allocated to the Employer in the Yellow Book (although this cannot be considered a like-for-like comparison because, as stated above, the specific allocation of risk in the Yellow Book differs depending on the type of damage in question). It will be evident from this comparison that the risks that are allocated to the Employer under Sub-Clause 17.1 of the Gold Book are broadly equivalent to the risks, at least in respect of certain damage, that are allocated to the Employer under the Yellow Book. The Employer's risks during the Design-Build Period (Sub-Clause 17.1) and Operation Service Period (Sub-Clause 17.3) are generally the same; the differences take into account the difference in the activities and obligations of the Parties in these separate phases of the Contract.

19. Note "Employer's Risks" is not a defined term.
20. Wade, *op. cit.*, n. 7, at 24.
21. Sub-Clause 1.1.7.
22. Sub-Clause 1.1.67.

Table 7.1: Comparison of general allocation of risk to Employer in the Gold Book during the Design-Build Period and the Yellow Book

Note that this table is intended to provide a useful comparison of the general allocation of risks in these Books. However, given the fundamental differences in the way in which risks are allocated in these Books, this cannot be treated as a direct comparison.

Sub-Clause	**Gold Book**	Sub-Clause	**Yellow Book**
	Commercial Risks		
17.1(a)(i)	Financial loss, delay or damage allocated to the Employer under the Contract or for which the Employer is liable by law.	—	*No express equivalent in Yellow Book*
17.1(a)(ii)	Right of Employer to construct the Works or any part thereof on, over, under, in or through the Site.	17.1/ 18.3(d)(i)	Employer's right to have the Permanent Works executed on, over, under, in or through any land.
17.1(a)(iii)	Use or occupation of the Site by the Works or any part thereof, or for the purpose of design, construction or completion of the Works other than the abusive or wrongful use by the Contractor.	17.1/ 18.3(d)(i)	Employer's right to occupy any land for the Permanent Works.
17.1(a)(iv)	Use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract.	17.3(f)	*Same wording as Gold Book Sub-Clause 17.1(a)(iv).*
	Risks of Damage		
17.1(b)(i)	Damage due to any interference with any right of way, light, air, water or other easement which is the unavoidable result of the construction of the Works in accordance with the Contract.	17.1/ 18.3(d)(ii)	Damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects.

Sub-Clause	**Gold Book**	Sub-Clause	**Yellow Book**
17.1(b)(ii)	Fault, error, defect or omission in any element of the design of the Works by the Employer or which may be contained in the Employer's Requirements, other than design carried out by the Contractor pursuant to his obligations under the Contract.	17.3(g)	Design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible.
17.1(b)(iii)	Any operation of the forces of nature (other than those allocated to the Contractor in the Contract Data) against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.	17.3(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.
17.1(b)(iv) /18	Any risk arising from an Exceptional Event.		*There is no equivalent in the Yellow Book.*
17.1(b)(iv) /18.1(a)	War, hostilities (whether war be declared or not), invasion, act of foreign enemies.	17.3(a)	*Same wording as Gold Book Sub-Clause 18.1(a).*
17.1(b)(iv) /18.1(b)	Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country.	17.3(b)	*Same wording as Gold Book Sub-Clause 18.1(b).*
17.1(b)(iv) /18.1(c)	Riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors.	17.3(c)	*Same wording as Gold Book Sub-Clause 18.1(c).*

Sub-Clause	Gold Book	Sub-Clause	Yellow Book
17.1(b)(iv) /18.1(d)	Strike or lockout not solely involving the Contractor's Personnel and other employees of the Contractor and Subcontractors.	—	*No equivalent (but similar included in Sub-Clause 19.1(iii) excluding any involvement of Contractor's Personnel etc.).*
17.1(b)(iv) /18.1(e)	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.	17.3(d)	*Same wording as Gold Book Sub-Clause 18.1(e)*
—	*No equivalent*	17.3(e)	Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.
17.1(b)(iv) /18.1(f)	Natural catastrophes such as earthquakes, hurricane, typhoon or volcanic activity which are Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.	—	*No equivalent (but similar included in example of Force Majeure in Sub-Clause 19.1(v) without qualification)*

7.27 The majority of the wording found in Sub-Clauses 17.1 and 17.3 of the Gold Book is similar to that found in the Sub-Clauses 17.3 and 18.3(d) in the Yellow Book, but also contains some important differences.

7.28 Financial loss, delay or damage allocated under Contract or by law. Sub-Clauses 17.1(a)(i) and 17.3(a)(i) of the Gold Book can be considered as catch-all provisions, acknowledging that the Employer bears other risks under the Contract, for example, the risk of delay to completion of the Works due to an event for which the Contractor is entitled to an extension of time or to be paid additional Cost in accordance with other provisions in the Conditions, and/or under the applicable Laws, other than those set out in Sub-

Clauses 17.1 and 17.3. These provisions have been inserted so as to make Sub-Clauses 17.1 to 17.4 a complete allocation of risk.[23]

7.29 Operation of the forces of nature. The Gold Book expressly anticipates that the Parties may agree that the risk of operation of not all forces of nature will be allocated to the Employer during the Design-Build Period, by providing for the force(s) of nature of which the Contractor will bear the risk to be specified in the Contract Data.

7.30 Exceptional Risks. Sub-Clauses 17.1(b)(iv) and 17.3(b)(iv) allocate the "Exceptional Risks[24] under Clause 18 [*Exceptional Risks*]" to the Employer. An exceptional risk is described as a risk arising from an Exceptional Event. The Exceptional Events are the equivalent to Force Majeure under the Yellow Book. This significantly widens the scope of the Employer's risks when compared with the other Books, since the other Books do not provide that *any force majeure* is an Employer's risk.

7.31 Sub-Clauses 17.1(a)(iii) and 17.3(a)(iii). Both these Sub-Clauses include an apparently errant "or" after "thereof". This breaks the link between the use or occupation of the Site by the Works and the Contractor's obligations under the Contract to design, construct, complete, operate and maintain the Works. This cannot have been the intention of these provisions. In any event, the inclusion of "or" here does not make any grammatical sense. The words following cannot stand alone as an alternative and thus must relate only to the preceding words. It is therefore suggested that this must be a typographical error, which could be corrected in the Particular Conditions for clarity.

Liability for loss or damage to the Works, Goods and Contractor's Documents

7.32 An important division of risk in any project concerns the allocation of responsibility for the loss or damage to the Works, the Goods and the Contractor's Documents. In all the Books apart from the Gold Book, these matters are dealt with in Sub-Clauses 17.2 to 17.4 and 1.8, supported by the insurance provisions in Sub-Clause 18.2; the equivalent provisions in the Gold Book are set out in Sub-Clauses 17.5 to 17.7 and 1.9 (with reference to the allocation of risks in Sub-Clauses 17.1 to 17.4), and the insurance provisions in Sub-Clauses 19.2 and 19.3.

7.33 In the Red, MDB, Yellow and Silver Books, the general policy is that the Contractor bears the risk of any loss or damage to the Works, Goods and Contractor's Documents until they are completed, except for loss or damage due to the risks which are expressly allocated to the Employer under Sub-Clause 17.3. Once completed, the Employer generally bears the risk of such loss or damage.

7.34 In the Gold Book, consistent with the fact that the Contractor's obligations are not only related to the completion of the Design-Build of the Works but also to the operation and maintenance of the facility during the Operation Service period, the Contractor bears

23. The inclusion of these provisions also makes it clear that the risks set out in the remaining provisions of Sub-Clauses 17.1 and 17.3 are not the sole risks to be borne by the Employer. This addresses difficulties of interpretation which the authors understand arose in relation to Clause 17 of the Orange Book where no such provision was included. Under Sub-Clause 17.5 of the Orange Book, the Contractor was allocated all other risks not listed in Sub-Clause 17.3. This gave rise to arguments that the sole risks borne by the Employer were those set out in Sub-Clause 17.3 and that all other risks were borne by the Contractor. See Bunni, *op. cit.*, n. 7, at 524.

24. Note that "Exceptional Risks" is not defined in the definitions in Sub-Clause 1.1 but in Sub-Clause 18.1, which provides that an "exceptional risk is a risk arising from an Exceptional Event".

this risk throughout the Contract Period, again except for loss or damage due to risks allocated to the Employer. There is no equivalent transfer of risk of loss or damage to the Employer on completion of the Design-Build of the Works.

Red, MDB, Yellow and Silver Books

7.35 Sub-Clause 17.2 sets out the Contractor's liability for loss or damage to the Works, Goods or Contractor's Documents.[25] When the Contractor is liable for such loss or damage, he is stated to be 'responsible for the care' of these matters.

Duration and extent of Contractor's responsibility

7.36 The duration and extent of the Contractor's responsibility for the care of the Works, Goods and Contractor's Documents is set out in Sub-Clause 17.2 [*Contractor's Care of the Works*] and, to a limited extent, Sub-Clause 1.8 [*Care and Supply of Documents*]. The Contractor's general liability under Sub-Clause 17.2 is however significantly qualified. At all times, the Employer bears the risk of certain matters causing loss or damage to the Works, Goods or Contractor's Documents. These risks are set out in Sub-Clause 17.3 and are discussed in more detail above.[26]

7.37 Prior to issue of Taking-Over Certificate. The Contractor's primary responsibility relates to the care of the Works and Goods prior to completion. Goods include Contractor's Equipment, Materials, Plant and Temporary Works.[27] This responsibility commences on the Commencement Date and ceases on the issue (or deemed issue) of a Taking-Over Certificate for the Works under Sub-Clause 10.1 or, in the case of parts or Sections of the Works, when a Taking-Over Certificate is issued (or deemed to be issued) in respect of those parts or Sections. On the issue (or deemed issue) of a Taking-Over Certificate, the liability, and thus risk, of loss or damage transfers to the Employer. As stated in the *FIDIC Guide*,[28] this transfer of liability on the taking-over of Sections reinforces the importance of ensuring that any Sections are adequately defined in geographical terms in the Contract (as opposed to in terms of construction milestones) so that the Parties are clear as to the extent of the Works in respect of which liability is transferred. This may also be important to ensure that the completed Sections are insured. It will also be noted that the date of transfer of responsibility/liability is the date when the Taking-Over Certificate is issued (or deemed issued) and not the date stated in the Taking-Over Certificate on which the Works (or Section) were completed or when any Tests on Completion have been passed (Y/S).

7.38 After issue of Taking-Over Certificate. Although the general liability for loss or damage to the Works and Goods transfers to the Employer on taking-over, the Contractor is nevertheless still liable for any loss or damage to "any work" outstanding at the

25. As a preliminary point, although Sub-Clause 17.2 in all the Books apart from the Gold Book is headed "Contractor's Care of the Works", this heading, while not to be taken into consideration in the interpretation of the FIDIC Conditions (Sub-Clause 1.2), could mislead the reader. The provisions of this Sub-Clause (in conjunction with Sub-Clause 1.8) set out the Contractor's liability for loss or damage to the Works, Goods and Contractor's Documents, as well as the Contractor's liability for loss or damage occurring after the issue of a Taking-Over Certificate.

26. See para. 7.11 *et seq.*

27. Sub-Clause 1.1.5.2.

28. *FIDIC Guide*, p. 273.

date stated in the Taking-Over Certificate (for example, the items that may be included in a punchlist provided with the Taking-Over Certificate),[29] until this outstanding work has been completed.

7.39 Contractor's Documents. The period of the Contractor's responsibility for care of the Contractor's Documents is framed in different terms to the Works and Goods. This is because there is no equivalent to the issue (or deemed issue) of a Taking-Over Certificate for the Contractor's Documents. Instead, by Sub-Clause 1.8, the Contractor's Documents are in the custody and care of the Contractor until they are 'taken over' by the Employer. This is the only reference to the taking-over of Contractor's Documents in the FIDIC forms. The *FIDIC Guide*[30] explains that the Contractor's Documents will be 'taken over' in this context when they are issued to the contract administrator.

7.40 Contractor's liability after issue of Taking-Over Certificate. Under Sub-Clause 17.2, the Contractor is liable for any loss or damage caused by his actions after a Taking-Over Certificate has been issued, for example, in rectifying defects under Clause 11. In addition, the Contractor will also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued but which arose from a previous event for which the Contractor was liable.

Consequences following damage

7.41 The primary consequence of the Contractor being responsible for the care of the Works, Goods and Contractor's Documents is clearly set out in the third paragraph of Sub-Clause 17.2, which provides that, if any loss or damage happens to the Works, Goods or Contractor's Documents when the Contractor is responsible for their care, the Contractor is required to rectify any such loss or damage, at his own risk and cost, so that they conform to the Contract. This responsibility also means that the Contractor bears the risk that the rectification of such loss or damage may delay the completion of the Works. This is consistent with the policy that the Works and Contractor's Documents are generally at the Contractor's risk until completion.

7.42 On the other hand, by Sub-Clause 17.4, the Employer is liable for any loss or damage to the Works, Goods or Contractor's Documents caused by any of the Employer risks listed in Sub-Clause 17.3. This liability is an exception to the Contractor's otherwise general responsibility for the care of these matters. In real terms, the Employer's assumption of responsibility for these consequences translates into a liability for the Contractor's Costs in rectifying the loss and damages caused by any of them and the Contractor is entitled to an extension of time for any delay caused in carrying out this rectification work, subject to compliance with the procedure specified in this Sub-Clause.

7.43 Given that it is an exception to the Contractor's liability, the Contractor will generally have the burden of proof of establishing that the loss or damage falls within the scope of the Employer's liability. The Employer's liability is limited only "to the extent" that such loss or damage is caused by any of the Employer risks.

7.44 Procedure in the event of damage due to matters listed in Sub-Clause 17.3. The procedure to be followed if the Works, Goods or Contractor's Documents

29. See Chapter 5, para. 5.138 *et seq*.
30. *FIDIC Guide*, p. 273.

suffer loss or damage due to a matter listed in Sub-Clause 17.3 is set out in Sub-Clause 17.4 [*Consequences of Employer's Risks*]. The Contractor is firstly required to give notice promptly to the contract administrator. This notice should be given in writing and comply with the required formalities under Sub-Clause 1.3. The purpose of such notice is to inform the contract administrator of the loss or damage and that the Contractor considers that it has been caused by one of the Employer risks such that the provisions of Sub-Clause 17.4 are invoked. The notice should therefore include details of these matters.

7.45 The Contractor is then required to rectify the loss or damage "to the extent required by" the contract administrator. It is therefore likely to be for the contract administrator (invariably through consultation with and/or on instruction by the Employer) to decide whether the loss or damage should be repaired and, if so, to what extent. Indeed, there does not seem to be any obligation on the part of the Contractor to rectify any such loss or damage unless and until the contract administrator instructs him as to what work is required, unless, as suggested in the *FIDIC Guide*,[31] required under the applicable Laws or otherwise under the Contract (e.g. for reasons of safety).

7.46 If the Contractor is required by the contract administrator to rectify any loss or damage caused by any Employer risk listed in Sub-Clause 17.3, he will be entitled to an extension of time for any delay suffered and payment of Cost incurred in rectifying this loss or damage, subject to Sub-Clause 20.1. In the Red, MDB and Yellow Books, the Contractor is also entitled to profit[32] on the Cost incurred where the cause of the loss or damage is due to the Employer's use or occupation of any part of the Permanent Works (except as specified in the Contract) or design of any part of the Works by the Employer's Personnel.[33] These entitlements relate only to the rectification of the loss and damage and not to any other incidental delay or losses incurred as a result of the Employer risk. However, depending on the cause, the Contractor may be entitled to an extension of time and/or payment of Cost under Sub-Clauses 8.4 or 19.4.

Gold Book

Liability based on allocation of risk

7.47 Sub-Clauses 17.6 [*Consequences of the Employer's Risks of Damage*] and 17.7 [*Consequences of the Contractor's Risks resulting in Damage*] in the Gold Book set out the consequences of damage to the Works or other property, Goods or Contractor's Documents depending on whether the risk of that damage has been allocated to the Employer or Contractor respectively. In this Book, the Works are handed back to the Employer at the end of the Operation Service Period and not, as in the other Books, on completion of the initial construction of the Works. This simplifies the issue of liability for damage. Liability for loss or damage to the Works, as well as Goods and Contractor's Documents is determined, under Sub-Clauses 17.6 and 17.7, simply by the allocation of the risk that

31. *Ibid.*, p. 276.
32. In the Red and Yellow Books, the Contractor is entitled to Cost plus "reasonable profit"; in the MDB, to "Cost plus profit", which profit is defined as 5% of the Cost, unless otherwise indicated in the Contract (Sub-Clause 1.2).
33. Sub-Clause 17.3(f) and (g).

caused that damage under Sub-Clauses 17.1 to 17.4 and not by reference to the period in which the Contractor is responsible for their care, as in the other Books.

Contractor's responsibility for care of the Works, Goods and Contractor's Documents

7.48 Although liability for damage to the Works, Goods and Contractor's Documents is governed by the general allocation of risk under this Book, express provisions relating to the Contractor's responsibility for the care of the Works, Goods and Contractor's Documents are nevertheless still included in Sub-Clauses 17.5 and 1.9.[34] Given the absence of any reference to the 'responsibility for the care' of these matters in Sub-Clauses 17.6 and 17.7, there is however a potential disconnect between this concept and liability for damage to them (unlike in the other Books in Sub-Clauses 17.2 to 17.4 and 1.8). Moreover, Sub-Clause 17.2 casts some confusion over the operation of Sub-Clauses 17.6 and 17.7 by stating that the risks allocated to the Contractor during the Design-Build Period are all the risks other than the risks listed in Sub-Clause 17.1 (risks allocated to the Employer) "including the care of both the Works and the Goods". This gives rise to two questions: (i) Is responsibility for the care of the Works different from liability for loss or damage to the Works? (ii) Should the reference to care of the Works in Sub-Clause 17.2 be read as being subject to the risks allocated to the Employer under Sub-Clause 17.1 or as qualifying these risks? In the authors' view, given the history of the 'responsibility for care' provisions in the other Books and their predecessors[35] and the policy behind the allocation of risk in respect of such damage, it is likely to have been the intention of the draftsmen that the Gold Book should be interpreted such that the answers to these questions respectively are (i) "yes" and (ii) subject to the risks allocated to the Employer. If this is correct, it is suggested that the qualification at the end of Sub-Clause 17.2 is unnecessary and should be deleted.

7.49 In addition, given that liability under Sub-Clauses 17.6 and 17.7 is unconditionally determined on the basis of allocation of risk alone, it is certainly arguable that whether or not the Contractor is responsible for their care is irrelevant, and thus the provisions concerning these matters are redundant. In respect of the Works and Goods, they of course provide useful express confirmation of the Contractor's liability for the Works and, during the Design-Build Period, the Goods throughout the Contract Period. However, in relation to the Contractor's Documents, the situation is more complicated and there is a direct conflict between Sub-Clause 1.9 and the provisions of Sub-Clauses 17.6 and 17.7. Either way, for these reasons and the reasons set out below, it is suggested that the provisions relating to responsibility for the care of these matters, without amendment to the General Conditions, are likely to give rise to confusion, uncertainty and potential arguments between the Parties, thus undermining the very intention of the reformulation of Clause 17 in the Gold Book.

7.50 Works and Goods. Sub-Clause 17.5 [*Responsibility for Care of the Works*] relates to the responsibility for care of the Works and Goods. It confirms that the Contractor is

34. Contained in Sub-Clauses 17.5 and 11.7 (Works (and Goods)); Sub-Clause 1.9 (Contractor's Documents).

35. See Clause 20 of the 4th Edition of the Red Book, Clauses 38 and 39 of the 3rd Edition of the Yellow Book and Sub-Clause 17.2 of the Orange Book, which all directly relate responsibility for care to liability for damage.

responsible for the care of the Works and Goods from the Commencement Date until the issue of the Commissioning Certificate for the Works,[36] and for the care of the Permanent Works and any outstanding work required during the Operation Service Period.[37] Notably, however, the Contractor is stated not simply to be responsible for the Permanent Works during the Operation Service Period but responsible for these Works "in accordance with the requirements of the Operating Licence pursuant to Sub-Clause 1.7". The intention behind this reference to the Operating Licence is unclear. In any event, this provision, in the authors' view, does not affect the allocation of risk of loss or damage to the Parties in Sub-Clauses 17.1 to 17.4 and 17.6 and 17.7, and the Contractor's responsibility under Sub-Clause 10.1 for ensuring that the Works remain throughout the Operation Service Period fit for the purposes for which they are intended.

7.51 There is also an inconsistency in the Conditions between when the Contractor ceases to be responsible for the care of the Works and when the Employer becomes so responsible. Under Sub-Clause 17.5, the Contractor is responsible for the care of the Permanent Works during the Operation Service Period, which, by its definition,[38] ends on the date stated in the Contract Completion Certificate on which the Contractor completed his obligations in respect of both the Design-Build and the Operation Service.[39] However, Sub-Clause 8.6, which concerns the issue of the Contract Completion Certificate, provides that the Employer shall be fully responsible for the care of the Works "following the issue of the Contract Completion Certificate", which necessarily will be issued after the date certified as when the Contractor completed his obligations. This conflict is unfortunate because it gives rise to uncertainty as to when responsibility transfers to the Employer and thus may create a 'gap' in the insurance of the Works. In practical terms, to allow for the Employer to effect insurance of the Works prior to the transfer of responsibility, and following the approach in the other Books, it is suggested that the date of transfer should be the date of issue of the Contract Completion Certificate and thus Sub-Clause 17.5 should be amended so that it is consistent in this way with Sub-Clause 8.6.

7.52 Sub-Clause 17.5 also expressly sets out the date on which responsibility for the care of the Works ceases if the Contract is terminated under the Conditions. This is a useful clarification which is not present in the other Books, but it is suggested that it merely reflects the effect of the termination provisions and thus is not strictly necessary.

7.53 Contractor's Documents. Care of the Contractor's Documents is dealt with in Sub-Clause 1.9, which follows the provisions of Sub-Clause 1.8 of the Yellow Book.[40] Under this Sub-Clause, the Contractor's responsibility for the care of the Contractor's Documents ends once they are taken over by the Employer, which must occur prior to the issue of the Commissioning Certificate. However, given the lack of reference to this transfer in responsibility of the Contractor's Documents in Sub-Clauses 17.6 and 17.7, without amendment to the Conditions there is a conflict between this transfer in responsibility and the Contractor's liability for damage to the Contractor's Documents after the Contractor's

36. This is further confirmed by Sub-Clause 11.7.

37. There is in fact a slight cross-over between these two periods. The Operation Service Period commences on the date stated in the Commissioning Certificate on which the Contractor completed the Design-Build obligations and not on the issue of the Commissioning Certificate itself. Given the continuity of the Contractor's responsibility during this period, it is suggested that this cross-over is unlikely to be material.

38. Sub-Clause 1.1.58 (G).

39. Sub-Clause 8.6 (G).

40. See para. 7.39 above.

Documents have been issued. An example of where this conflict could come into play is where, prior to the issue of the Commissioning Certificate, the Employer's copies of the Contractor's Documents are destroyed by fire through no fault or negligence on the part of the Employer. This risk of fire would, in principle, fall within the Contractor's risks under Sub-Clause 17.2. Is the Contractor required to provide the Employer with an additional copy of the Contractor's Documents? It is certainly arguable that he will be if required by the Employer's Representative under Sub-Clause 17.7. This is of course an extreme example and, in reality, it is difficult to see any circumstances in which the Employer may suffer damage to the Contractor's Documents which could be attributed to the risks allocated to the Contractor during the Operation Service Period.

7.54 One possible solution to resolve the potential uncertainty as to the interrelationship between the Contractor's responsibility for the care of the Works, Goods and Contractor's Documents and his liability for damage to them would be to amend Sub-Clause 17.7 to relate his liability only to the period that he is responsible for their care. Any such amendments, however, would need to be carefully drafted so as not to distort the general allocation of risk or to create any unwanted gaps in responsibility.

Consequences following damage to Works or other property, Goods or Contractor's Documents

7.55 Subject to the above, Sub-Clauses 17.6 and 17.7 determine the liability of the Parties for damage to the Works, Goods and Contractor's Documents on the basis of the allocation of risks under Sub-Clauses 17.1 to 17.4. Unlike the other Books, the procedure to be followed by the Contractor is the same under both of these Sub-Clauses, whether or not the Contractor is liable for the damage, and is similar to the procedure in the event of damage as result of risk listed in Sub-Clause 17.3 of the Yellow Book: if there is any damage to the Works, Goods and Contractor's Documents, the Contractor must firstly promptly give Notice to the Employer's Representative and is then required to rectify the damage to the extent required by the Employer's Representative.

7.56 Under Sub-Clause 17.7, if the damage is due to a risk allocated to the Contractor under Sub-Clauses 17.2 or 17.4, the Contractor is required to rectify such damage at his own cost. On the other hand, under Sub-Clause 17.6, if the damage is due to a risk allocated to the Employer under Sub-Clause 17.1 or 17.3, the rectification is to be deemed a Variation, and thus the Contractor's entitlement to payment incurred in relation to this rectification work and an extension of time are to be dealt with under the relevant provisions relating to Variations (Clause 13). However, interestingly, Sub-Clause 17.6 also envisages a third situation, whereby the damage was due to a risk, the allocation of which is not "governed by any other term of the Contract". In this event, the Contractor is entitled to payment of additional Cost Plus Profit and an extension of time (during the Design-Build Period only). Although not stated, such an entitlement will be subject to the notice requirements of Sub-Clause 20.1. Yet, it is not immediately apparent what risks would fall into this category of risk during the ordinary course of a Contract due to the comprehensive allocation of risk under Sub-Clauses 17.1 to 17.4.[41]

41. One possible situation might be where damage to the Works occurs on account of a risk allocated to the Contractor in circumstances where the Contractor's total liability under Sub-Clause 17.8 has already been reached.

7.57 Damage to "other property". Thus far, the discussion of Sub-Clauses 17.6 and 17.7 have only concerned the Parties' liability for damage to the Works, Goods or Contractor's Documents. This liability is comparable to the position under Sub-Clauses 17.2 to 17.4 of the other Books. However, Sub-Clauses 17.6 and 17.7 in the Gold Book do not only relate to damage to these matters but also expressly cover liability for "other property". The inclusion of "other property" may cause potential difficulties. First, it is unclear to what "other property" is intended to refer. For example, is it intended to refer only to the property belonging to the Parties other than the Works or other property generally? The former would be consistent with the definition of Risk of Damage[42] but there is nevertheless no restriction on the scope of "other property" in these Sub-Clauses. Second, liability for damage to property other than the Works due to negligence, wilful act or breach of the Contract of either Party is also covered, with certain limitations, under the indemnity provisions in Sub-Clauses 17.9 and 17.10. Therefore, there is a duplication and potential inconsistency in some instances between these two couplets of Sub-Clauses. Third, if "other property" is intended to extend to property owned by third parties, it is remarkable that the extent to which the Contractor is required to rectify the damage is subject to the direction of the Employer's Representative. Consequently, the Parties may wish to delete the reference to "other property" from these Sub-Clauses.

Indemnities and risk allocation

7.58 Sub-Clause 17.1 of all the Books apart from the Gold Book, and Sub-Clauses 17.9 and 17.10 in the Gold Book, contain various indemnity provisions. Indemnity provisions will be subject to the particular rules of the governing law which will affect their interpretation.

7.59 In the Red, MDB, Yellow and Silver Books, Sub-Clause 17.1 [*Indemnities*] allocates the responsibility of the risk of certain claims arising during the course of the project by way of indemnities. This risk is allocated by each Party indemnifying the other against the consequences of these claims. Where a third party may have a claim against either Party, the indemnities allocate the ultimate liability to one Party only. Consequently, even if that third party decides to pursue a claim against the indemnified party, the indemnified party will be able to recover the indemnified amounts from the indemnifying party, with the net effect that the indemnifying party bears the ultimate liability. It should nevertheless be recognised that these indemnities create a contractual mechanism for allocating the risk of the consequences of these claims and do not, in themselves, affect the Parties' primary legal liabilities to the claimant or create any direct legal responsibility towards third parties.

7.60 The indemnities under Sub-Clause 17.1 relate to:

- personal injury;
- damage to property (other than the Works) during the course of the project;
- other specific matters for which the Employer indemnifies the Contractor.

7.61 In the Gold Book, there are some similarities between Sub-Clauses 17.9 [*Indemnities by the Employer*] and 17.10 [*Indemnities by the Contractor*] and Sub-Clause 17.1 of the other Books. Sub-Clause 17.9 of the Gold Book additionally requires the Contractor to indemnify the Employer against all errors in the Contractor's design of the Works which

42. See para. 7.24 above.

result in the Works not being fit for purpose. This is discussed in Chapter 3, paras. 3.201–3.202. The indemnities in the Gold Book should, however, be construed in the light of the allocation of risk in Sub-Clauses 17.1 to 17.4. This is clear from Sub-Clause 17.11 [*Shared Indemnities*], which provides that the Contractor's liability to indemnify the Employer is reduced proportionately to the extent that the Employer's risks may have contributed to the damage, loss or injury, and similarly, that the Employer's liability to indemnify the Contractor is reduced proportionately to the extent that the Contractor's risks may have contributed to the damage, loss or injury.

7.62 Under all the Books, the indemnities are wide-reaching. They indemnify all claims, damages, losses and expenses, including legal fees and expenses. In addition, the Contractor is required to indemnify, not only the Employer, but also the Employer's Personnel and their respective agents.[43] Similarly, the Employer's obligation to indemnify extends beyond the Contractor to the Contractor's Personnel, which by definition includes all personnel whom the Contractor utilises on Site.

7.63 The indemnities under Sub-Clause 17.1 (17.9 and 17.10 (G)) are expressly not subject to the exclusion of liability for loss of profit, loss of contract or other indirect losses under Sub-Clause 17.6 (17.8 (G)) and, in all the Books apart from the Gold Book, the limitation on the Contractor's total liability under the same Sub-Clause.[44]

Personal injury

7.64 The ultimate responsibility for claims relating to personal injury is governed by Sub-Clause 17.1 in the Red, MDB, Yellow and Silver Books and Sub-Clauses 17.9 and 17.10 of the Gold Book.

7.65 The Parties are each responsible for claims relating to personal injury which is attributable to the negligence, wilful act or breach of Contract of that Party, their "Personnel" or agents. In this respect, the Contractor's obligation to indemnify only relates to personal injury arising out of, in the course of or by reason of the Contractor's design, execution and completion of the Works (and the remedying of any defects). There is no such restriction to the Works on the part of the Employer.

7.66 The Contractor's responsibility, however, is not limited only to where he is at fault but extends (by the qualifying provision "unless attributable to any negligence, wilful act or breach of the Contract of the Employer . . . ") to all personal injury which was not the fault of the Employer (or the Employer's Personnel). Therefore, the Contractor will be liable to indemnify the Employer, for example, where a third party brings a personal injury claim against the Employer which exists at law even though there is no negligence, wilful act or breach of the Contract on the part of the Contractor, the Employer or their respective Personnel. The Parties' respective obligations to indemnify in respect to personal injury relates to personal injury of anybody, including their respective Personnel.

43. The Employer's Personnel is defined as the Engineer (R/M/Y) or the Employer's Representative (S), any assistants to whom the contract administrator has delegated authority under Sub-Clause 3.2, "all other staff, labour and other employees of [the Engineer (R/M/Y) or Employer's Representative (S)] and of the Employer" and "any other personnel notified to the Contractor by the Employer or [the Engineer (R/M/Y) or Employer's Representative (S)], as Employer's Personnel".

44. See para. 7.79 *et seq.* below.

7.67 The obligation of the Contractor to indemnify applies "unless" the personal injury 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". The effect of the word "unless" will depend on the governing law. For example, under some legal systems, the use of the word "unless" may exclude the entire indemnity in the event that there is some negligence by the Employer. If this effect is not desired, Sub-Clause 17.1 should be amended by replacing the word "unless" with "except to the extent that".

7.68 The Red, MDB, Yellow and Silver Books do not deal with the situation where personal injury for which the Contractor would normally be liable to indemnify the Employer under Sub-Clause 17.1(a) is caused by an Employer's risk in the circumstances where the Employer's indemnity under Sub-Clause 17.1 also applies. On the other hand, this is expressly addressed in Sub-Clause 17.10 of the Gold Book.

Damage to property (other than the Works)

7.69 Under all the Books,[45] the Contractor is required to indemnify the Employer and the Employer's Personnel against certain claims for damage or loss to property arising in the course of the Works. This indemnity provision is again contained in Sub-Clause 17.1 in the Red, MDB, Yellow and Silver Books and Sub-Clause 17.9 of the Gold Book. The specific scope of this indemnity, in terms of fault on the part of the Contractor differs between the Books and is as follows:

- Red and Yellow Books: To the extent that such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Contractor.
- MDB: Unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer.
- Silver Book: To the extent that such damage or loss is not attributable to any negligence, wilful act or breach of the Contract by the Employer.
- Gold Book: "Or" to the extent that such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Contractor. Although drafted in almost identical terms to the Yellow Book, there is "one small but very significant amendment".[46] This is the replacement of the word "and" found at the end of Sub-Clause 17.1(b)(i) of the Yellow Book, with the word "or" at the end of the equivalent provision in the Gold Book, Sub-Clause 17.9(b)(i). Its effect is to remove any requirement of negligence, wilful act or breach of the Contract by the Contractor as a condition for liability. Thus the Contractor gives an absolute indemnity arising out of the Contractor's design, execution, completion, operation and maintenance of the Works.[47]

7.70 In all the Books, the Contractor's responsibility extends to damage to property owned by the Employer other than the Works.

7.71 In the Gold Book only, under Sub-Clause 17.10 the Employer is required to give a reciprocal indemnity to the Contractor in respect of damage to any property other than

45. Sub-Clause 17.1 (R/M/Y/S); Sub-Clause 17.9 (G).

46. The EIC takes the view that the insertion of "or" here must be a mistake and recommends replacing the word "or" with "and". EIC, *EIC Contractor's Guide to the FIDIC Conditions of Contract for Design, Build and Operate Projects* (2009, European International Contractors), p. 45.

47. *Ibid.*, pp. 45–46.

the Works which is attributable to any negligence, wilful act or breach of Contract by the Employer, the Employer's Personnel or their agents.

Risks allocated to the Employer

7.72 By Sub-Clause 17.1 (R/M/Y/S) and Sub-Clause 17.10 (G), the Employer is required to give a wide indemnity to the Contractor, the Contractor's Personnel and their agents in respect of certain risks allocated to the Employer. The indemnity extends to all claims, losses, damages or expenses (including legal fees and expenses) in respect of these risks. The scope of this indemnity is different between the Gold Book and the other Books, partly because the allocation of risks to the Employer is dealt with in a more comprehensive way in the Gold Book and partly because of the fact that in the other Books the extent to which some of the Employer's risks fall within the Employer's obligation to indemnify depends on whether they are insurable on commercially reasonable terms.

7.73 In the Red, MDB, Yellow and Silver Books, by reference to Sub-Clause 18.3(d), the risks covered by this indemnity are matters arising from:

- 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;[48]
- damage which is an unavoidable result of the Contractor's obligation to execute the Works and remedy any defects.[49] This would not however extend to damage caused by methods of work, for example, which are a matter of choice for the Contractor;
- the Employer risks (listed in Sub-Clause 17.3), except to the extent that cover is available at commercially reasonable terms.[50] These risks are discussed in para. 7.6 *et seq.* above.

7.74 This leads to the question as to what would constitute commercially reasonably terms. This is uncertain. Indeed, even FIDIC accept that this is matter of opinion.[51] The use of such an imprecise concept in the FIDIC forms to determine such a potentially significant issue is unfortunate. The Parties may wish to amend Sub-Clause 17.1 in the Particular Conditions to clarify definitively which risks are to be covered by the indemnity.

7.75 The indemnity in the Gold Book covers all the risks allocated to the Employer under Sub-Clauses 17.1 and 17.3, which are discussed in para. 7.19 *et seq.* above.

Intellectual property claims

7.76 Sub-Clause 17.5 (17.12 (G)) [*Intellectual and Industrial Property Rights*][52] sets out the Parties' responsibilities in respect of "claims"[53] brought alleging "infringement"[54] of

48. Sub-Clause 18.3(d)(i).
49. Sub-Clause 18.3(d)(ii).
50. Sub-Clause 18.3(d)(iii).
51. *FIDIC Guide*, p. 288.
52. "*Risk of Infringement of Intellectual and Industrial Property Rights*" (G).
53. "claim" is defined as "a claim (or proceedings pursuing a claim) alleging an infringement" (Sub-Clause 17.5 (17.12 (G))).
54. "infringement" is defined as "an infringement (or alleged infringement) of any patent, registered design, copyright, trademark, trade name, trade secret or other intellectual or industrial property right relating to the Works" (Sub-Clause 17.5 (17.12 (G))).

intellectual or industrial property rights relating to the Works. Central to these responsibilities is the requirement of each Party to indemnify the other Party against certain claims as specified in this Sub-Clause.

7.77 The Employer is required to indemnify the Contractor against any claim alleging an infringement which was either an unavoidable result of the Contractor's compliance with the Contract (R/M) or Employer's Requirements (Y/S/G) or due to, in effect, improper use of the Works by the Employer. In return, in the Yellow, Silver and Gold Books, the Employer is entitled to an indemnity from the Contractor from any claim arising out of "(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". In the Red Book and MDB, the Contractor's indemnity is more limited and covers claims arising out of "(i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible". The difference between the Books reflects the difference in the role of the Contractor under them.

7.78 This Sub-Clause also sets out additional rights and responsibilities of the Parties in relation to these claims, which relate to the management of these claims. First, the Party that first receives a claim must give notice to the other Party within 28 days of receiving the claim. If such notice is not given, and if the Party receiving the claim would otherwise have been entitled to an indemnity under this Sub-Clause, the first Party is deemed to have waived its right to that indemnity. This is a potentially serious sanction. Its purpose is to provide a strong incentive for the indemnified Party to inform the indemnifying Party in good time so as to enhance the opportunity of that Party to defend the claim. The indemnifying Party is entitled to conduct its own negotiations for the settlement of a claim against which it is obliged to indemnify the other Party and may require that other Party to assist in contesting the claim at the indemnifying Party's cost.

LIMITATION OF LIABILITY

7.79 Under Sub-Clause 17.6 [*Limitation of Liability*], or Sub-Clause 17.8 in the Gold Book, the Parties' liability in connection with the Contract is expressly excluded in respect of certain types of losses. By this Sub-Clause, the Contractor's liability to the Employer is also more generally limited. In all the Books, these 'limitation of liability' provisions are drafted in similar terms and mark a unification of approach when compared to the previous FIDIC forms.[55]

7.80 Generally, the interpretation and effect of this Sub-Clause will be particularly dependent on the treatment of limitation and exclusion Clauses under the particular governing law of the Contract. In addition, such limitation of liability Clauses are often the subject of intense negotiations between the Parties prior to contract award.

Exclusion of certain types of loss

7.81 The first paragraph of Sub-Clause 17.6 (17.8 (G)) excludes both Parties' liability for "loss of use of any Works, loss of profit, loss of any contract or for any indirect or

55. Christopher R. Seppälä, "FIDIC's New Standard Forms of Contract—Force Majeure, Claims, Disputes and Other Clauses", [2000] 17(2) ICLR 235 at 238–239; Jeremy Glover and Simon Hughes, *Understanding the New FIDIC Red Book* (2006, Sweet & Maxwell), p. 346, para. 17–032.

consequential loss or damage which may be suffered by the other Party in connection with the Contract",[56] subject to certain exceptions. The terms "direct loss", "indirect loss" and "consequential loss" will be familiar to lawyers and others from common law jurisdictions, where they are accepted as having specific legal meanings. However, these terms may not be accepted or understood in other jurisdictions in the same way. Moreover, the interpretation of "consequential loss" can vary between common law jurisdictions.[57] Therefore, the Parties should seek legal advice as to the effect of the provisions under the chosen governing law.

7.82 The FIDIC forms include exceptions to this exclusion of liability. The exceptions differ between the Books. The MDB and Gold Book each include additional exceptions to those found in all the Books, namely:

- liability under Sub-Clause 17.1 (or 17.9 and 17.10 in the Gold Book) concerning the Parties' obligations to indemnify each other for certain claims, damages and losses;
- liability under Sub-Clause 16.4 concerning the Contractor's entitlement on termination (thus allowing, for example, recovery of the expected profit that the Contractor would have made on the Contract but which has been "lost" in the event of termination).

7.83 The purpose of allowing the recovery of loss of profit etc. in the cases in relation to indemnities for personal injury and property damage of third parties in Sub-Clause 17.1 (17.9 & 17.10 (G)) is to enable the Party seeking indemnification to recover the claim by the third party in full to the extent that the third party's claim includes loss of profit etc. and to avoid any argument that the recovery of that third party's loss of profit is excluded by Sub-Clause 17.1 (17.8 (G)).

7.84 There is no equivalent exception in the event of termination by the Employer under Sub-Clause 15.2 [*Termination by Contractor*] (except in the MDB), and thus the Contractor's liability to the Employer in those circumstances is likely to exclude a significant proportion of the losses that the Employer may suffer in the event of such termination.

7.85 The exception to the exclusion of liability in Red, Yellow and Silver Books does not apply in relation to the indemnities for infringement of intellectual property under Sub-Clause 17.5.

7.86 MDB. The MDB also includes, as further exceptions, liability "as specifically provided" in:

- Sub-Clause 8.7: delay damages;
- Sub-Clause 15.4: the Employer's entitlement to payment on termination;
- Sub-Clause 17.4(b): Contractor's entitlement to Cost for rectifying loss or damage due to an Employer risk; and
- Sub-Clause 17.5: indemnities in respect of allegations of infringement of intellectual or industrial property rights.

56. Note that the wording in the Gold Book is slightly different: it only refers to "loss of contract" and does not refer to "consequential" loss or damage.

57. Joseph A. Huse, *Understanding and Negotiating Turnkey and EPC Contracts*, (2nd Edn, 2002, Sweet & Maxwell), para. 21–40 at p. 505, referring to a paper by G. L. Jaynes entitled "Termination, Risk and *Force Majeure*", presented at the "FIDIC Global Conditions of Contract" Seminar, New Delhi, January 2001 (from the FIDIC website: http://217.197.210.21/resources/contracts/jaynes_A.asp).

7.87 The most significant additions are in relation to Sub-Clauses 15.4 and 17.5. As a result of the reference to Sub-Clause 15.4, the Employer is entitled to recover loss of profit upon termination by the Employer under Sub-Clause 15.2. The reference to Sub-Clause 17.5 makes it clear that a third party's loss of profit can be recovered under the indemnities for infringement of intellectual or industrial property rights.

7.88 Gold Book. The Gold Book includes as further exceptions to those common to all the Books:

- Sub-Clause 10.6: the Parties' entitlement to losses, including loss of revenue and loss of profit, caused by delays or interruption during or suspension to the Operation Service;
- Sub-Clause 17.12: indemnities in respect of allegations of infringement of intellectual or industrial property rights.

7.89 In addition, Sub-Clause 17.9 [*Indemnities by the Contractor*] of the Gold Book includes an indemnity by the Contractor against "all errors in the Contractor's design of the Works and other professional services which result in the Works not being fit for purpose or result in any loss and/or damage for the Employer". By excluding this indemnity from the limitation of liability in the first paragraph of Sub-Clause 17.8, the Contractor is potentially exposed to significant claims from the Employer in the event that the Works are not "fit for purpose" during the Design-Build Period and the Operation Service Period. This indemnity should, however, be considered in the context of the Contractor's fitness for purpose obligation during the Design-Build Period under Sub-Clause 4.1 and the possible limitation on this obligation on the passing of the Tests on Completion of Design-Build, as discussed at Chapter 3, paragraphs 3.201–3.202.

Limitation of Contractor's liability to Employer

7.90 The second paragraph of Sub-Clause 17.6 (17.8 (G)) relates only to the Contractor's total liability to the Employer, and does not limit the Employer's liability to the Contractor. Under this paragraph, the Contractor's total liability under or in connection with the Contract is limited to the sum stated in the Particular Conditions (R/Y/S) or Contract Data (G) or, in the MDB, calculated by applying a multiplier stated in the Contract Data to the Accepted Contract Amount. If no sum or multiplier (M) is stated in the relevant contract document, the Contractor's liability is limited to the Accepted Contract Amount (R/M/Y/G) or the Contract Price stated in the Contract Agreement (S).

7.91 In the Red, MDB, Yellow and Silver Books, this limitation of liability is however subject again to express exceptions, relating to the cost of services provided by the Employer under Sub-Clauses 4.19 and 4.20, and the indemnities under Sub-Clauses 17.1 and 17.5. The rationale for excluding these indemnities is that they relate to sums which the Party has had to pay to a third party.

7.92 This limitation on the Contractor's total liability includes his liability for delay damages[58] and non-performance damages (if any) under the Yellow and Silver Books,[59] and

58. Sub-Clause 8.6 (R/M/Y/S); Sub-Clause 9.6 (G).
59. Sub-Clause 12.4 (Y/S).

his liability under Sub-Clause 15.4 [*Payment after Termination*][60] in the event of termination by the Employer for cause under Sub-Clause 15.2.

7.93 The Gold Book adopts a different approach by specifying an overall limit of liability with no exceptions.

7.94 Sub-Clause 17.6 (17.8 (G)) only addresses limitations and exclusions of liability in terms of amount and type of loss and not the duration of liability. In this respect, it should be noted that the Parties' liability for unfulfilled obligations which are unperformed at the time of the issue of the Performance Certificate or, in the Gold Book, the Contract Completion Certificate, continues after the issue of this Certificate (Sub-Clause 11.10 (8.8 (G))).

7.95 The *FIDIC Guide*[61] provides some useful comments on general issues relating to the duration of liability which are worth setting out in full:

"– *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.*"

7.96 Finally, all exclusions and limitations of liability under Sub-Clause 17.6 (17.8 (G)) do not apply in the case of fraud, deliberate default or reckless misconduct by the defaulting Party.

INSURANCE

Generally

7.97 Clause 18 [*Insurance*], or Clause 19 in the Gold Book, sets out the insurances that are required under the FIDIC forms. These insurances can be broadly categorised as:

- insurance against loss or damage to the Works, Plant, Materials, Contractor's Documents and Contractor's Equipment;
- insurance against liability for personal injury to third parties and damage to property (other than the Works);
- Contractor's insurance against personal injury of the Contractor's Personnel (i.e., employer's liability insurance);
- Contractor's professional liability insurance (Gold Book only); and
- optional operation insurance (Gold Book only).

7.98 The arrangement of the provisions in the Gold Book is noticeably different from that in the other Books. Whereas in the other Books the particular insurances required are

60. "*Payment after Termination for Contractor's Default*" (G).
61. *FIDIC Guide*, p. 279.

considered in separate Sub-Clauses, the Gold Book collates the required insurances into those required during the Design-Build Period (Sub-Clause 19.2 [*Insurances to be provided by the Contractor during the Design-Build Period*]) and those required during the Operation Service Period (Sub-Clause 19.3 [*Insurances to be provided by the Contractor during the Operation Service Period*]), with the particular insurances required during these periods specified in sub-paragraphs. This appropriately recognises that the matters to be insured and the scope of the cover required will depend on the phase of the Contract. The different insurances required are set out in Table 7.2 below. However, despite this broad categorisation, it is too simplistic to say that the insurances specified in these Sub-Clauses are only required during the particular period to which they relate. On a closer review, it is clear that the insurances stated to be provided during the Design-Build Period are also required to cover events arising during the Operation Service Period. In addition, although some of the requirements for some insurances, for example in relation to injury to third parties, are specified in relation to the separate phases, the same cover is in fact required throughout the entire Contract Period.

Table 7.2: Gold Book Insurance Requirements

<table>
<tr><th>Design-Build Period</th><th>Operation Service Period</th></tr>
<tr><td>Works, Materials, Plant</td><td>Works:
• fire extended cover insurance; and
• cover in respect of any incomplete work and loss or damage occasioned by the Contractor completing any outstanding work and/or remedying any defects</td></tr>
<tr><td>Contractor's Equipment</td><td></td></tr>
<tr><td>Liability for breach of professional duty</td><td></td></tr>
<tr><td colspan="2">Injury to persons and damage to property</td></tr>
<tr><td colspan="2">Injury to employees</td></tr>
<tr><td>Other insurances required by Law and by local practice</td><td>Other insurances required by Law and by local practice</td></tr>
<tr><td></td><td>Optional Operation Insurance</td></tr>
</table>

7.99 Clause 18 (19 (G)) only sets out the minimum insurances required under the Contract. In most instances, the Parties may also wish to effect other insurances,[62] or others may be required by the applicable Laws,[63] for example, decennial liability insurance in France. In addition, the insurance cover that is available is ever-changing and differs from country to country. To this end, the FIDIC forms have included the insurance that is typically available and have sought to identify some of the risks (which are included in

62. For example, the Employer may wish to effect delay in start up insurance.
63. This is expressly acknowledged in the Gold Book (Sub-Clauses 19.2(f) and 19.3(d)). In the other Books, for the Contractor, this would fall within his express obligations under Sub-Clause 1.13.

Employer's risks under Sub-Clause 17.3 (R/M/Y/S)) which may be uninsurable, as possible exclusions from the required insurances, but require them to be insured wherever possible.[64] More{dh}over, although insurance may be available, it may only be available at a very high premium or with disproportionately large deductibles. Therefore, the Parties should obtain the advice of insurance specialists prior to entering into the Contract as to whether the insurance required by the Contract is available and appropriate for the specific project.

7.100 The insurance requirements do not alter the Parties' liabilities under the Contract or otherwise. This is expressly recognised by Sub-Clause 18.1 (19.1 (G)). Where an element of loss or damage is not covered by insurance or not recovered from the insurers, the Party that has been allocated the risk of the loss or damage under the Contract (or under the applicable Laws if not expressly allocated under the Contract) will be liable for the amounts not insured or recovered.[65] Consequently, even if a claim is covered by insurance, the Party liable for the claim under the Contract will bear the amount of the deductible. However, in the Gold Book only,[66] where there is a shared liability which is not covered by insurance, the loss is to be borne by each Party in proportion to its liability under Clause 17 or Clause 18. This allocation of liability for amounts not recovered from the insurers is conditional upon the non-recovery not being caused by a breach of Clause 19 by the Contractor, in which case the Contractor bears the loss.

Who is required to effect the insurance?

7.101 Generally, the FIDIC forms assume that the Contractor will be responsible for effecting and maintaining the insurances. However, all the Books apart from the Gold Book provide flexibility as to which of the Parties is to effect and maintain the required insurances by referring to the "insuring party" as being responsible for the different insurances (except insurance for the Contractor's Personnel), instead of specifying the Employer or the Contractor. If the Employer is to effect and maintain any of these insurances, this should be stated in the Particular Conditions. Depending on the nature of the Parties, their relationships with insurers and the coverage of any global policies (i.e., not individual project-specific policies) they may have, one may be able to obtain more favourable terms from insurers than the other.

7.102 In the Gold Book, the Contractor is required to effect and maintain all the insurances required under the Contract.

Requirements for insurances to be effected

7.103 Sub-Clause 18.1 [*General Requirements for Insurances*] (19.1 [*General Requirements*] (G)) contains the general requirements for the insurances that must be effected and maintained under Clause 18 (19 (G)). The particular requirements regarding the scope, extent, amount, period, permitted exclusions and deductibles for the specific insurances are then set out in the subsequent Sub-Clauses, which variously require further information to

64. *FIDIC Guide*, p. 280.

65. This is expressly stated in Sub-Clause 18.1 (11th para.) (R/M/Y/S). It is implicit in the first paragraph of Sub-Clause 19.1 in the Gold Book.

66. Final paragraph of Sub-Clause 19.1.

be stated in the relevant contract document.[67] Here, the Gold Book adopts a generally more flexible approach, with many of the provisions in Sub-Clauses 19.2 and 19.3 acting as 'signposts' and leaving the specific requirements of some insurances and also any additional insurances that may be required to be specified in the Contract Data.[68]

7.104 Approval of terms and insurer. Whichever Party is responsible for arranging the insurance, the other Party is likely to wish to have details of the proposed insurer and insurance terms, including the conditions, limits, exclusions and deductibles during the tender stage (or in any event soon after) so that it can make its own arrangement for any other insurance it may require and, in the case of the Contractor, may take these matters into account when submitting his tender offer. Under Sub-Clause 18.1 (19.1 (G)), if the Contractor is to arrange the insurances, the insurers and the terms must be approved by the Employer;[69] if the Employer is to arrange any insurance under the Contract,[70] in the Red, Yellow and Silver Books, the proposed insurers and general terms should be annexed to the Particular Conditions or, in the MDB, the insurers and terms must be acceptable to the Contractor.

7.105 Under all the Books apart from the Gold Book, if the Contractor is the insuring party for any of the insurances (or, in the MDB, for both Parties) it is further envisaged that the Parties may agree on the principal terms of the insurance prior to entering into the Contract.[71] Any such agreed terms will take precedence over the provisions of Clause 18. If there is no such agreement, this may delay approval by the Employer of the terms proposed by the Contractor, which may in turn delay commencement of work.

7.106 It should be noted that only the Gold Book contains an express general provision concerning the permitted deductible limits allowed in any policy required. These limits are to be stated in the Contract Data. On the other hand, only one limit on deductibles is mentioned in the other Books and this is of limited application.[72] Therefore, it is suggested that, if either of the Parties wish to place limits on the permitted deductibles, these should be agreed prior to the Contract being entered into and, preferably, specified in the Contract in order to avoid any delay in finalising the terms of the insurances at a later date.

7.107 Joint names. The insurance for Works and Contractor's Equipment and the insurance against injury to persons and damage to property are required to be in the joint names of the Parties, unless agreed otherwise in the Particular Conditions. Ordinarily, on the principle of subrogation, an insurer is able to bring an action in the name of the insured party against a third party if that third party is liable for the same damage in respect of which the insurer has paid out under the policy. However, generally, such an action cannot be brought against a person who is insured under the policy for the same damage. In this way, the risk of that particular damage is transferred away from the Parties to the insurer (up to the limit of the cover) without the insurer being able to seek to recover from one of the Parties any amounts paid out. This also means that, if the Contractor and Employer are

67. Appendix to Tender (R/M/Y); Contract Data (M/G); Particular Conditions (S).

68. For example, the Contractor is required to insure the Contractor's Equipment "to the extent specified in the Contract Data" (Sub-Clause 19.2(b)) and to provide fire extended cover for the Works for the Operation Service Period "as specified in the Contract Data" (Sub-Clause 19.3(a)).

69. Which approval shall not be unreasonable withheld or delayed (Sub-Clause 1.3).

70. Not Gold Book.

71. "before the date of the Letter of Acceptance" (R/M/Y); "before they signed the Contract Agreement" (S).

72. Sub-Clause 18.2(d).

insured in joint names in respect of the same damage for which they both have responsibility, in principle it is not necessary to determine whose actual liability it is before the insurer will pay out. This may mean that recovery under joint names insurance will be quicker than if liability first had to be established to determine whether the damage was covered.[73]

7.108 For policies required under the Red, MDB, Yellow or Silver Books to be in joint names, these are regulated by additional provisions contained in the fourth paragraph of Sub-Clause 18.1, which, amongst other matters, requires such policies to include cross-liability Clauses such that the cover applies separately to each insured as though a separate policy had been issued for each of the joint insured. In the Gold Book, a cross-liability Clause is only expressly required in the insurance policy against liabilities for personal injury and damage to property.[74]

7.109 Administration of the insurance. Sub-Clause 18.1 (19.1 (G)) identifies the responsibilities of the Parties in relation to the administration of the insurance, which include provisions to ensure that the non-insuring party is satisfied that the required insurance has been effected and is being maintained.[75]

Failure to effect insurance

7.110 The consequences if the obligations in respect of this insurance are not complied with are also set out in Sub-Clause 18.1 (19.1 (G)). If the relevant Party fails to effect and keep in force any of the insurances required under the Contract or fails to provide the required proof[76] that the insurances have been effected or are being maintained, the other Party may effect and keep in force the insurances and recover the amount of any premiums paid as a result from the first Party. Under all the Books apart from the Gold Book, the entitlement to recover these amounts is subject to the procedures under Sub-Clause 2.5 [*Employer's Claims*] or 20.1 [*Contractor's Claims*], as appropriate. The Gold Book does not contain any reference to Sub-Clause 20.2 [*Employer's Claims*][77] but its provisions will nevertheless apply pursuant to the final paragraph of that Sub-Clause.

7.111 If the relevant Party fails to effect and keep in force any of the insurances required under the Contract and the other Party does not step in to arrange this insurance, the Party that was required to effect and maintain the insurance is liable to the other Party for this failure. In all the Books apart from the Gold Book, the "insuring Party" that fails to effect and maintain the required insurance without the approval of the other Party is required to pay the other Party all amounts that would otherwise have been recovered under the insurance; in the Gold Book, the Contractor is required to indemnify the Employer for all

73. Huse, *op. cit.*, n. 57, para. 22–02 at pp. 509–510.

74. Sub-Clause 19.2(d).

75. This differs between the Books. Under the Red, MDB, Yellow and Silver Books, the "insuring Party" is required to submit to the other Party within the periods stated in the Appendix to Tender (R/Y)/Contract Data (M)/Particular Conditions (S): (a) evidence that the insurances required under Clause 18 have been effected, and (b) copies of the policies in respect of the insurance of the Works and insurance against personal injury and damage to property. In the Gold Book, the Contractor is required to produce copies of the insurance policies which he is required to effect under the Contract, whenever required by the Employer.

76. See n. 75 above.

77. Sub-Clause 20.1 would not apply because the Contractor is required to effect and maintain all the insurances specified in Clause 19.

losses and claims arising from this failure and thus has a potentially greater liability than the insuring Party under the other Books.

Insurance for the Works, Goods and Contractor's Documents

7.112 Insurance of the 'product' to be provided under the Contract and its component parts, namely the Works, Goods and Contractor's Documents will invariably be required under any construction contract. The requirements for these insurances are set out in Sub-Clause 18.2 [*Insurance for Works and Contractor's Equipment*] or, in the Gold Book, in Sub-Clauses 19.2(a) and 19.3(a).

Red, MDB, Yellow and Silver Books

7.113 Insuring Party. In the Red, MDB, Yellow and Silver Books, unless otherwise stated in the Particular Conditions, the Contractor is the insuring party and is required to effect and maintain the insurances to cover the Works, Plant, Materials and Contractor's Documents required under Sub-Clause 18.2.

7.114 Amount of insurance cover. The Works, Plant, Materials and Contractor's Documents are required to be insured "for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit". The importance of ensuring adequate cover should be obvious. The starting point for evaluating the "full reinstatement cost" will be the Accepted Contract Amount (R/M/Y/G) or the Contract Price stated in the Contract Agreement (S). However, as the project progresses, the value of the Works, Plant, Materials and Contractor's Documents as required under the Contract may increase or decrease during the normal course of events due to differences between the amount of work actually carried out and the amount estimated in the Bill of Quantities (R/M), and inflation. The instruction of Variations may also significantly affect the value of the Works and may require the insuring party to make arrangements with the insurer to increase the level of cover.

7.115 The word "including" in the expression "full reinstatement cost including the costs of demolition . . . " is ambiguous. The costs of demolition, removal of debris and professional fees and profit do not generally fall within the scope of "full reinstatement costs". There is therefore an ambiguity as to whether the required cover is limited only to the full reinstatement cost or must be for the full reinstatement cost *plus* the costs of demolition, removal of debris etc. It is suggested that the latter was probably intended by the draftsmen but the Parties may wish to clarify the matter in the Particular Conditions to provide certainty and to avoid the risk of inadequate cover. Notably, the equivalent provision in the Gold Book[78] makes it clear that these costs are *additional* to the full reinstatement costs of the Works, Materials and Plant.

7.116 Extent and scope of insurance cover. The insurance cover required for the Works, Plant, Materials and Contractor's Documents is separated into the cover required until the date of issue of the Taking-Over Certificate for the Works, and the cover required until the date of issue of the Performance Certificate.

78. Sub-Clause 19.2(a)(ii) (G).

7.117 For the period up to the issue of the Taking-Over Certificate for the Works, the insuring party is required to effect and maintain insurance from "the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1". This date is determined by the period stated in the relevant contract document, calculated from the Commencement Date. Care should be taken to specify this period in the relevant contract document to avoid a period post-Commencement Date when Plant and Materials, in particular, might be exposed to insured risks but during which the insurance has not yet been effected. In this respect, the *FIDIC Guide*[79] comments that, under a Red Book (and MDB) contract, "insurances may need to be effective from the Commencement Date", but in respect of the Yellow and Silver Books, "this may be unnecessary because no insurable activities may be initiated for some time".

7.118 The fourth paragraph of Sub-Clause 18.2 sets out general provisions as to the scope of the required insurances which apply unless otherwise stated in the Particular Conditions. These are not particularly easy to follow, primarily because they are partly framed with reference to the risks listed in Sub-Clause 17.3 but also contain exceptions and exclusions to the exceptions. The general scheme is that the insurances must cover all loss and damage to the Works, Plant, Materials and Contractor's Documents from any cause not listed in Sub-Clause 17.3. Cover in relation to the causes listed in Sub-Clause 17.3 is, however, not excluded outright and may also be extended to include loss or damage due to risks listed in Sub-Clause 17.3 "for which insurance cover is usually available at commercially reasonable terms".[80]

7.119 The loss or damage due to risks listed in Sub-Clause 17.3 for which insurance cover may be required are:

- loss or damage from the risks listed in Sub-Clause 17.3(c), namely riot, commotion etc;
- Red, MDB and Yellow Books only: loss or damage from the risks listed in Sub-Clauses 17.3(g) (design of any part of the Works by the Employer's Personnel) and 17.3(h) (operation of the forces of nature);
- Red, MDB and Yellow Books only: 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. This does not include loss or damage to a part of the Works due to the Employer's use or occupation of that part. This is therefore a partial exclusion from the required cover of loss or damage due to the risk listed in Sub-Clause 17.3(f).

7.120 Note, however, in the MDB only, cover for these risks is only required "to the extent specifically required in the bidding documents of the Contract".

7.121 The requirement to effect and maintain insurance to cover these risks which would otherwise fall within Sub-Clause 17.3 is then subject to each of them being insurable on "commercially reasonable terms"[81] and to the deductibles being stated in the relevant contract document.[82] If no deductibles are so stated, insurance is not required to cover these matters.

7.122 The final paragraph of Sub-Clause 18.2 sets out the procedure in the event that insurance ceases to be available for these risks on "commercially reasonable terms" more

79. *FIDIC Guide*, p. 287.
80. *Ibid.*, p. 288.
81. For comment on "commercially reasonable terms", see para. 7.74.
82. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).

than one year after the Base Date where the Contractor is the insuring party under this Sub-Clause. By this procedure, the Employer can claim from the Contractor the amounts equivalent to the premium for this insurance that would have otherwise been paid by the Contractor if available on "commercially reasonable terms". The intention behind this provision is to prevent the Contractor from unduly benefiting from the lack of availability of the insurance, the cost of which he would be considered to have factored into his offer. This paragraph applies only if the Contractor is the insuring party. Therefore, to avoid confusion, it is suggested that it should be deleted if the Employer is the insuring party.[83]

7.123 Sub-paragraph (e) of Sub-Clause 18.2 sets out the other permitted exclusions from the insurance cover. The insurances are required to cover loss or damage to a part of the Works caused by another part being defective, whether due to a defect in design, materials or workmanship, but may exclude loss and damage to the defective part itself, as well as loss or damage to a part of the Works which occurs in order to reinstate the other part which is defective. In addition, no cover is required for a part of the Works which has been taken over by the Employer "except to the extent that the Contractor is liable for the loss or damage", nor is it required for Goods while they are not in the Country, unless insurance is required under Sub-Clause 14.5 as a condition of payment. In this context, "Goods" must refer to Plant and Materials and not the Temporary Works. Finally, it should also be noted that these exclusions, however, do not also include other losses which are not generally insurable, such as consequential losses and losses due to wear and tear.[84]

7.124 Once the Taking-Over Certificate has been issued for the Works, the Contractor is then required, by the second paragraph of Sub-Clause 18.2, to maintain a reduced level of insurance cover for the Works, Plant, Materials and Contractor's Documents until the date of issue of the Performance Certificate, i.e., during the Defects Notification Period. This insurance is required to only cover "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 [*Defects Liability*] [and Clause 12 [*Tests after Completion*] (Y/S)]". After the issue of the Taking-Over Certificate, the Employer would normally insure the Works other than for this loss or damage attributable to the Contractor.

7.125 Terms of insurance and joint names. Unless otherwise stated in the Particular Conditions, the insurances required are to be in the "joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payment being held or allocated", in the Red, Yellow and Silver Books, "between the Parties for the sole purpose of rectifying the loss or damage" and, in the MDB, "to the Party actually bearing the costs of rectifying the loss or damage".[85]

Gold Book

7.126 The Gold Book contains separate requirements for insurance of the Works, Plant and Materials during the Design-Build Period (Sub-Clause 19.2(a)) and the Operation Service Period (Sub-Clause 19.3(a)). However, there is a degree of cross-over as to the cover

83. *FIDIC Guide*, p. 288.
84. Nael G. Bunni, *The FIDIC Forms of Contract* (3rd Edn, 2005, Blackwell Publishing), p. 258.
85. Sub-Clause 18.2(b).

required for each period. These provisions are perhaps better understood as setting out the requirements for insurance:

- during both the initial construction of the Works and then whenever further work is required to be carried out by the Contractor as part of his ongoing obligation during the Operation Service Period to remedy defects under Clause 12 (Sub-Clause 19.2(a)), and
- for the Works more generally during the Operation Service Period (Sub-Clause 19.3(a)).

7.127 Given this degree of cross-over, the insurance position under the Gold Book is complicated, possibly requiring several policies to be taken out to cover the same period. Consequently, the Parties would be well advised to check the provisions carefully, seeking advice from insurance specialists, to ensure that there is no duplication or gaps in the cover, bearing in mind the Contractor's obligations during the Operation Service Period and whether the required insurances are available on the insurance market.

7.128 Unlike the other Books, there is no requirement for insurance to cover loss or damage to the Contractor's Documents.

7.129 The Contractor has the responsibility for effecting and maintaining this insurance.

Design-Build Period

7.130 Amount of cover and joint names. In relation to the Design-Build Period, the Contractor is required to insure, in joint names, the Works, Materials and Plant for their full replacement value *plus* an additional sum of 15% of the full replacement value (or another sum stated in the Contract Data) to cover any additional costs incidental to the rectification of any loss or damage. These costs are stated to include professional fees and the cost of demolition and removal of debris.

7.131 Extent and scope of insurance cover. As with the other Books, the scope of insurance required is reduced after the Works have been completed, which, in the Gold Book, is marked by the issue of the Commissioning Certificate. Insurance is required to be in place from the Commencement Date until the date of the Commissioning Certificate to cover the Parties "against all loss or damage from whatever cause arising until the Commissioning Certificate is issued". This cover is expressly required to be extended to include "loss and damage of any part of the Works as a consequence of failure of elements defectively designed or constructed with defective material or workmanship". This must also be read with the permitted exclusions from the cover set out in the third paragraph of Sub-Clause 19.2(a).

7.132 Under sub-paragraph (1), the insurance cover may exclude:

> "the cost of making good any part of the Works which is defective (including defective material and workmanship) or otherwise does not comply with the Contract, provided that it does not exclude the cost of making good any loss or damage to any other part of the Works attributable to such defect or non-compliance".

7.133 This essentially replicates the equivalent provision under the Yellow Book,[86] whereby the cover may exclude loss or damage to a part of the Works which is defective but

86. Sub-Clause 18.2(e)(i) (Y).

must include loss or damage to other parts which are lost or damaged due to that defective part.

7.134 The other permitted exclusions include other losses which are commonly not insurable, namely consequential losses and wear and tear.[87] In addition, by sub-paragraphs (4) and (5), the Employer's Risks under Sub-Clause 17.1 and Exceptional Risks under Sub-Clause 18.1 may also be excluded from the cover, although the opportunity to remove certain operations of the force of nature[88] and natural catastrophes[89] by specifying them in the Contract Data is expressly recognised.

7.135 After the Commissioning Certificate has been issued, under Sub-Clause 19.2(a) the scope of the insurance is reduced such that it is only required to cover:

(i) until the date of issue of the Final Payment Certificate Design-Build, "any incomplete work for loss or damage arising from any cause occurring prior to the date of the Commissioning Certificate", and
(ii) "for any loss or damage occasioned by the Contractor in the course of any operation carried out by him for the purpose of complying with his obligations under Clause 12".

The same exclusions which apply to the cover required until the issue of the Commissioning Certificate also apply to the cover after this date.

7.136 In respect of (ii) above, it would seem that this cover is required to continue, not only until the date of issue of the Final Payment Certificate Design Build, but throughout the Operation Service Period as well. This is because the Contractor's obligations under Sub-Clause 12.1(b) continue during the Operation Service Period.[90]

Operation Service Period

7.137 Cover required and joint names. During the Operation Service Period, the Contractor is required to provide, in the joint names of the Parties, "fire extended cover insurance for the Works as specified in the Contract Data".[91] This is in addition to the insurance discussed above which is required under Sub-Clause 19.2(a) in relation to incomplete work at the end of the Design-Build Period and the remedying of defects by the Contractor under Clause 12. The causes of damage covered by fire extended cover insurance is more limited and generally includes only fire, lightning, explosion, riot and civil commotion, earthquake, storm, flood and bursting or overflowing of water tanks, apparatus and pipes.[92] Although "fire extended cover insurance" is a common term in the insurance industry, the reference in this Sub-Clause only primarily serves as a 'signpost' to the Contract Data where the precise requirements of the cover should be specified. The reliance on the information in the Contract Data also means that any ambiguity as to the meaning of fire extended cover insurance is avoided (so long as the Contract Data is properly completed).

87. Bunni, *op. cit.*, n. 84, p. 258.
88. Sub-Clause 17.1(b)(iii) (G).
89. Sub-Clause 18.1(f) (G).
90. Sub-Clause 12.1(b) (G).
91. Sub-Clause 19.3(a).
92. Nael G. Bunni, *Risk and Insurance in Construction* (2nd Edn, 2003, Spon Press), p. 17.

7.138 Notwithstanding the cover specified in the Contract Data, Sub-Clause 19.3(a) expressly provides that the terms and the details of the policy that the Contractor proposes to effect to provide this cover must be approved by the Employer.[93] Such approval must not be unreasonably withheld or delayed.[94]

7.139 Timing. The insurance is required to come into force on the date stated in the Commissioning Certificate certifying completion of the Design-Build[95] and it must have been effected as a condition precedent for the Operation Service Period to commence. In order to allow time for the Employer to review and approve the terms, the Contractor is required to submit them "no later than 28 days before the date upon which the Commissioning Certificate is due to be issued".

Insurance for Contractor's Equipment

7.140 Red, MDB, Yellow and Silver Books. Under the third paragraph of Sub-Clause 18.2 of the Red, MDB, Yellow and Silver Books, the insuring party is required to insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. The insuring party is the Contractor and the insurance is required to be in the joint names of the Parties, unless otherwise stated in the Particular Conditions. This provision further states that "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". By virtue of the definition of Contractor's Equipment under Sub-Clause 1.1.5.1, an item will no longer be required as Contractor's Equipment when it is no longer required "for the execution and completion of the Works and the remedying of any defects".[96] The general provisions set out in the fourth paragraph of Sub-Clause 18.2, discussed at paragraphs 7.118–7.123 above, will also apply to the insurance of the Contractor's Equipment. The most notable of these provisions is found in sub-paragraph (e)(iv) which permits the exclusion of cover for loss or damage to Goods (which by definition includes Contractor's Equipment) while they are not in the Country.

7.141 Gold Book. Under Sub-Clause 19.2(b) of the Gold Book, the Contractor is required to insure the Contractor's Equipment in the joint names of the Parties. However, unlike the other Books, the Contractor's obligation to insure also extends to "other things brought onto Site by the Contractor". Although this latter expression is potentially far-reaching, the Contractor is only required to insure these "other things" "to the extent specified in the Contract Data". There is no default position in the event the Contract Data is not completed. In such circumstances, no insurance of such "other things brought onto Site by the Contractor" would be required under the Contract.

7.142 It is ambiguous whether the reference to the "extent specified in the Contract Data" also applies to the Contractor's Equipment. If it does not, the required scope of the insurance is not specified. In any event, the prudent course would be for the Contract Data to specify the extent of the cover required for the Contractor's Equipment.

93. In addition, under Sub-Clause 19.1, the insurers must also be approved by the Employer.
94. Sub-Clause 1.3.
95. See Chapter 5, para. 5.176 *et seq.*
96. *FIDIC Guide*, p. 287.

Insurance against injury to persons and damage to property

7.143 The requirements for insurances against personal injury of persons other than the Contractor's Personnel and damage to property other than the Works[97] are set out in Sub-Clause 18.3 [*Insurance against Injury to Persons and Damage to Property*] (R/M/Y/S) or Sub-Clauses 19.2(d) and 19.3(b) (G).

7.144 The insurances required under this Sub-Clause primarily relate to third-party liability. However, as with Sub-Clause 17.1 (R/M/Y/S) and Sub-Clauses 17.9 and 17.10 (G), these insurances are required to cover damage to property of either of the Parties other than the Works and (except for the Gold Book) other property to be insured under Sub-Clause 18.2.

7.145 Red, MDB, Yellow and Silver Books. In the Red, MDB, Yellow and Silver Books, it is the Contractor who is the insuring Party unless otherwise specified in the Particular Conditions but these insurance provisions apply only if the minimum amount of cover per occurrence is specified in the relevant contract document.[98] Therefore, the Parties should ensure that such an amount is so specified if they require this insurance to be effected under the Contract. Even if this is not a contractual requirement, it is of course advisable for the Parties to make their own arrangements to cover this liability. This insurance must be effected by the date stated in the relevant contract document[99] for providing evidence of this insurance, calculated from the Commencement Date. Nevertheless, given that this insurance is required to protect against claims arising out of the Contractor's performance of the Contract, it may be necessary for this insurance to be in place by the time that the Contractor takes any action in connection with the Contract, which may be at or even before the Commencement Date. The insurances are required to cover personal injury or property damage which occurs before the issue of the Performance Certificate. The insurances are expressly not required to cover the risks for which the Employer is required to indemnify the Contractor under Sub-Clause 17.1. See paras. 7.72–7.75 for a discussion on the scope of this indemnity.

7.146 Gold Book. In the Gold Book, the Contractor is required to take out this insurance in joint names and the policy must include a cross-liability Clause. Sub-Clause 19.2(d) sets out the requirements for the insurance to be maintained for loss or damage occurring during the Design-Build Period and up to the issue of the Final Payment Certificate Design-Build; Sub-Clause 19.3(b) sets out the insurances to be maintained during the Operation Service Period. The amount of the cover is to be not less than the amount specified in the Contract Data; there is no requirement that the amount specified in the Contract Data for these two periods must be the same. In addition, the insurance to be effected during the Operation Service Period only must be in the terms specified in the Contract Data.

7.147 The insurance is not required to cover the Employer's risks during the Design-Build Period set out in Sub-Clause 17.1 (and presumably, although this is not stated, the Employer's risks during the Operation Service Period set out in Sub-Clause 17.3) and the

97. In all the Books apart from the Gold Book, the insurances are strictly required to cover all property not insured under Sub-Clause 18.2.

98. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).

99. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).

Exceptional Risks set out in Sub-Clause 18.1. This exclusion from cover is therefore considerably wider than the permitted exclusions under the other Books.

Insurance for Contractor's Personnel and other employees

7.148 By Sub-Clause 18.4 [*Insurance for Contractor's Personnel*], or Sub-Clauses 19.2(e) and 19.3(c) (G),[100] the Contractor is required to effect and maintain insurance to cover personal injury, sickness, disease or death of the Contractor's employees and the Contractor's Personnel. This insurance will often be required under the applicable Laws, which may also impose additional obligations to insure.[101] It must cover injury etc. to Subcontractors and their employees,[102] although the insurance for a Subcontractor's employees may be effected by the Subcontractor. The Contractor will nevertheless remain responsible for ensuring that such insurance has been taken out[103] and that it complies with the requirements of this Sub-Clause.

7.149 The Employer and the contract administrator are also required to be indemnified under the insurance policy, but this cover may exclude losses and claims arising from any act or neglect by them or the Employer's Personnel. The wording in the MDB is different in this respect, and clarifies that the insurance required for the Employer and the Engineer must have the same coverage as that for the Contractor, but again may exclude losses and claims arising from any act or neglect of the Employer or Employer's Personnel.

7.150 The insurance is required to be maintained for the entire period that the Contractor's Personnel[104] are assisting in the execution of the Works. However, under Sub-Clause 19.3(c) of the Gold Book, the same insurance must also be effected "prior to the issue of the Commissioning Certificate and maintained until the issue of the Contract Completion Certificate", or until the last of the Contractor's or his Subcontractors' employees have left the Site, "whichever is later". In effect, therefore, the Contractor in the Gold Book is required to maintain the insurance for the entire Contract Period and until he and his Subcontractors have left the Site at the end of this Period.

Liability for breach of professional duty: Gold Book

7.151 Employers may request contractors who are responsible for the design and construction of the works to obtain professional indemnity insurance or design insurance. The Gold Book contains a requirement in Sub-Clause 19.2(c) for the Contractor to provide such

100. The wording of Sub-Clause 18.4 (R/M/Y/S) and Sub-Clause 19.2(e) (G) are almost identical in all the Books, with a minor change in the wording in the Gold Book and a clarification in the MDB as to the extent to which the insurance is required to cover the Employer and the Engineer. See below.

101. *FIDIC Guide*, p. 290.

102. These persons are included in the definition of Contractor's Personnel (Sub-Clause 1.1.2.7 (R/M/Y/S); 1.1.21 (G)).

103. By Sub-Clause 4.4, the Contractor is responsible for the acts or defaults of any Subcontractor.

104. The drafting of this provision in the Red, MDB, Yellow and Silver Books, found in the third paragraph of the Sub-Clause, could be clearer. It refers to "these personnel", which it is suggested must have been intended to be a reference to "any person employed by the Contractor or any other of the Contractor's Personnel" in the first paragraph. However, the second paragraph mentions the Employer's Personnel, which might lead one to question to which personnel "these personnel" relates. The Gold Book has addressed this by replacing "these personnel" with the "Contractor's Personnel".

insurance, with the amount of the insurance and the period of cover to be specified in the Contract Data.

7.152 Care should exercised, particularly by the Contractor, if the requirement to provide this insurance is to be included in the Contract unamended. The scope of the required insurance may go far beyond that of the standard professional indemnity insurance available in most countries. By this Sub-Clause, the Contractor is required to insure "the legal liability of the Contractor arising out of the negligent fault, defect, error or omission of the Contractor or any other person for whom the Contractor is responsible in the carrying out (sic) their professional duties". The scope of the required insurance is ambiguous. Arguably, it could be construed as being not only required to cover professional negligence (which is often what is only covered by professional indemnity insurance) but also the consequences of non-negligent defects, errors or omissions. Moreover, the insurance is expressly required to contain an extension indemnifying the Contractor for his liability in the event that the Works are not fit for purpose due to negligent fault, defect, error or omission on his part, causing loss or damage to the Employer. The Parties would be well advised to check, before entering into the Contract, as to the availability of this scope of insurance. In some countries, it may not be readily available in the insurance market or at least not without a significant premium.

7.153 The other Books do not include any requirement for the provision of professional liability insurance.

Other insurances under the Gold Book

7.154 In addition to the general types of insurances required under all the Books and professional liability insurance under Sub-Clause 19.2(c) of the Gold Book, under Sub-Clauses 19.2 and 19.3, the Gold Book identifies additional insurances that may be required by Law and by local practice[105] and optional operational insurances.[106] Any of these insurances are to be specified in the Contract Data, if required.[107]

SECURITY

Generally

7.155 As is common with most international construction contracts, the FIDIC forms envisage that the Parties (primarily the Contractor) may be required to give various securities to protect against the risk of non-performance of the obligations of that Party. The range of securities contemplated by the FIDIC forms is as follows:

- tender security;
- parent company guarantee from the Contractor;
- advance payment guarantee;

105. Sub-Clauses 19.2(f) and 19.3(d).
106. Sub-Clause 19.3(e).
107. Of course, if insurances are required by Law but not stated in the Contract Data, the Contractor would nevertheless still be obliged under Sub-Clause 1.14 to take out and maintain this insurance unless otherwise stated in the Employer's Requirements.

- performance security;
- Retention Money (or Retention Money guarantee);
- Maintenance Retention Fund or Maintenance Retention Guarantee (Gold Book only);
- payment guarantee by Employer.

7.156 Example forms for these securities are included in the FIDIC forms.

7.157 At the tender stage, the Parties should give thought to which of these securities will be required because not all of these securities will be appropriate for each particular project.

Types of security

7.158 Retention Money and the Maintenance Retention Fund represent the simplest type of security in the form of a notional cash-reserve retained by the Employer from amounts otherwise due to the Contractor for carrying out the Works or operating the facility during the Operation Service Period (Gold Book only).

7.159 The other securities are in the form of bonds and guarantees. Although it is often a contractual requirement for these securities to be obtained, they involve arrangements with third parties, which are separate to the underlying Contract. Bonds and guarantees represent a complicated area of law.[108] The interpretation and enforcement of these securities will be heavily dependent on the law of the jurisdiction(s) that governs them. The terminology used may also lead to confusion, particularly because 'bond' and 'guarantee' are often used synonymously although they may have a particular legal meaning under the applicable jurisdiction.

7.160 For the present purposes, it is useful to outline the three types of security which feature in the FIDIC forms.

7.161 Guarantee. A guarantee can be defined as an undertaking by a guarantor (a third party) to a beneficiary (one of the Parties) to accept liability for the failure of the principal (the other Party) to perform existing and future legal obligations. The liability of the guarantor is dependent on, or 'secondary' to, the principal being liable to the beneficiary. The guarantor's liability under the guarantee requires the beneficiary to prove the principal's liability. A common example of such a guarantee is a parent company guarantee procured by a contractor, in which the parent company guarantees the obligations of the contractor under its contract with the beneficiary.

7.162 'On-demand' bond. A bond can be defined as an enforceable promise whereby the issuer (a third party) agrees to pay the beneficiary (one of the Parties) a sum of money.[109] An 'on-demand' bond is a form of bond whereby the issuer agrees to pay the beneficiary on the beneficiary's (usually written) demand. It is significantly different to a 'traditional' guarantee in that, under an on-demand bond, the issuer's obligation to pay is *independent* of any liability between the beneficiary and the principal (the Party other than the beneficiary). These bonds are usually issued by banks. The issuer's obligation to pay is a

108. It is beyond the scope of this book to explore this subject in detail. For the position under English law, see, for example, Geraldine Andrews and Richard Millet, *Law of Guarantees*, (5th Edn, 2008, Sweet & Maxwell).

109. *Halsbury's Laws of England*, 5th edition, Vol. 13 (2007 Re-Issue), para. 89.

'primary' obligation in that it arises under, and is dependent solely on, the terms of the bond and not the terms of the contract between the beneficiary and the principal. So long as the demand (or 'call') is made in accordance with the terms of the bond, the issuer is required to honour the demand without proof of any default by the principal under the contract. Generally, it is extremely difficult to restrain the payment of a call on an on-demand bond where the call conforms to the requirements of the bond. The extent to which an injunction may be obtained varies between jurisdictions. For example, the English courts may grant an injunction only in the case of fraud.[110] By contrast, the courts in Singapore may grant an injunction upon proof of fraud or unconscionable behaviour.[111]

7.163 In addition to a written demand, it is an increasingly common requirement for the beneficiary to provide with the demand a written statement stating that the principal is in breach of its obligations under the contract or that some event has occurred (for example, the principal has failed to repay an amount in accordance with the contract).[112] Such a bond will still be an on-demand bond. The entitlement to payment under the bond requires only a *statement* that, for example, the principal is in breach and not *proof* of this breach.[113] Moreover, the issuer is not entitled to investigate the accuracy of the statement. For this reason, on-demand bonds offer significant benefits to the beneficiary over 'on default' bonds, discussed below, by providing a relatively immediate source of funds if an event covered by the bond has occurred.

7.164 Previously, FIDIC did not advocate the use of on-demand bonds due to the risk of their being called without justification, thus leading to a likely increase in tender offers to reflect this risk.[114] However, this did not necessarily recognise the growing international practice in the use of these types of security and from 1999 all the FIDIC forms include mainly on-demand bonds as example forms.[115]

7.165 'On-default' bond. An 'on-default' bond differs from an on-demand bond in that the obligation of the issuer (frequently an insurance company) to pay is conditional upon proof by the beneficiary of the principal's default. Any dispute as to whether the principal is in default can significantly delay the call on such a bond. The beneficiary's entitlement is limited to the amount of loss actually suffered due to the default. The issuer may also be entitled under the bond to step in and perform the principal's obligations. Under many jurisdictions an 'on-default' bond will operate as a guarantee up to the amount (if any) stated in the bond.

Requirement for security, form and entity

7.166 The requirement for the Parties to obtain security should be set out in the Contract (or the Instructions to Tenderers in relation to the provision of tender security and/or a

110. *Edward Owen Engineering Ltd* v. *Barclays Bank International Ltd* [1978] 1 QB 159.

111. *GHL Pte Ltd* v. *Unitrack Building Construction Pte Ltd* [1999] 4 SLR 604.

112. The example on-demand bonds included in the FIDIC forms all include such a requirement.

113. John Scriven, Nigel Pritchard and Jeff Delmon, *A Contractual Guide to Major Construction Projects*, (1999, Sweet & Maxwell), p. 210, para. 24–03.

114. See, for example, FIDIC's guide to the 4th Edition of the Red Book: FIDIC, *Guide to the use of the FIDIC Conditions of Contract for Works of Civil Engineering Construction, Fourth Edition*, (1989, Fédération Internationale des Ingénieurs-Conseils), at p. 58.

115. In the words of one commentator, FIDIC has "overcome its distaste for these instruments to recognise international practice". Edward Corbett, "FIDIC's New Rainbow 1st Edition—Is it an advance?", [2000] 17(2) ICLR 253 at 263.

parent company guarantee). The FIDIC forms include provisions in the General Conditions and other example provisions in the Guidance for the Preparation of Particular Conditions setting out the requirements for the various securities contemplated as being potentially appropriate for projects under these forms. The particular requirements in respect of the different securities are discussed below.

7.167 Bonds and guarantees should be carefully drafted, taking into account the law by which they will be governed,[116] to ensure that their wording fulfils the purpose for which the security is needed and that they are consistent with the Contract.

7.168 Banks and insurance companies almost invariably require that the bonds and guarantees which they issue have an expiry date fixed by reference to a calendar date so as to enable them to quantify the period of their risk under the bond or guarantee. The example forms in the Books all follow this practice by including provision for a fixed expiry date.

7.169 The Books all prescribe the period that the security in the form of bonds or guarantees must be valid for and, where the Contractor is required to obtain the security, include express requirements for the extension of the validity of these instruments if they expire on a stated date which is prior to the expiry of the period for which the Contractor is required to maintain the security. A failure of the Contractor to extend a bond or guarantee as required under the Contract will undoubtedly be a breach of the Contract but this may be of little comfort to the Employer, particularly if the Contractor is at risk of insolvency. In practical terms, the Employer will have lost the very protection that the security was intended to provide. To provide a powerful incentive for the Contractor to ensure that the bond or guarantee is extended as appropriate, the Employer will frequently require the bond or guarantee to include a term which entitles him to call the security in the event of the Contractor's failure to extend it. Such a term is found in the example forms for the Performance Security (demand guarantee),[117] advance payment guarantee, Retention Money guarantee and Maintenance Retention Guarantee (G). For example, under the advance payment guarantee, the guarantor is required to pay the guaranteed amount to the Employer if the advance payment has not been fully repaid 28 days prior to the expiry of the guarantee, on receipt of a written demand stating that the advance payment has not been repaid.

7.170 Form. In all the Books apart from the Gold Book, any security to be obtained after the Contract has been entered into is required to be in the form annexed to the Particular Conditions[118] or in another form approved by the Employer/Contractor (depending on which is the beneficiary). Such approval must not be unreasonably withheld or delayed.[119]

7.171 The Gold Book contains similar provisions to the other Books in relation to the Performance Security and the advance payment guarantee, except that these securities must

116. *FIDIC Guide*, p. 236.

117. Note that the example form of the Performance Security (demand guarantee) included in the Gold Book does not contain such a provision. This is discussed below at para. 7.201.

118. Note that the example provisions included in the Guidance for the Preparation of Particular Conditions in these Books for the provision of a Retention Money guarantee do not envisage that an acceptable form will be annexed to the Particular Conditions. Instead, the guarantee must be in a form approved by the Employer. Similarly, in the Gold Book, it is not contemplated that the form of Maintenance Retention Guarantee will be included in the Contract (or tender) but is instead to be in a form approved by the Employer.

119. Sub-Clause 1.3.

only be *based* on the relevant sample forms and that these sample forms will be included in the tender documents (not annexed to the Particular Conditions as in the other Books). As long as the security is "based" on the sample form, there is no requirement for the actual form to be approved by the Employer. This therefore gives the Contractor more flexibility as to, and the Employer less control over, the precise form of the security. It may also be a potential source of dispute because the requirement for the security only to be based on the sample form lacks certainty. There is a significant scope for different interpretations as to the extent to which the actual security is permitted to deviate from the terms of the sample form. Consequently, the Parties may prefer to adopt the more certain requirements of the other Books.

7.172 Entity. Where the Contractor is required to obtain a bond or guarantee, all the Books require the entity providing the security to be approved by the Employer.[120] The matters on which such approval is required differ as between the particular Sub-Clauses, which variously require either or both the identity of the entity and the location (i.e., country or jurisdiction) from where the security is issued to be approved. Again, such approval must not be unreasonably withheld.[121] The *FIDIC Guide*[122] further suggests that "The Particular Conditions therefore should include details of the Employer's requirements regarding the entity".

Example forms

7.173 The titles of the example forms included in the Books reflect common industry usage and should not be taken to define whether they are bonds or guarantees. The example forms are primarily on-demand bonds. Being example forms, they may or may not be appropriate for a particular Contract and, as the notes in all the Books warn,[123] they may have to be amended to comply with the applicable law.

7.174 All the example forms, except for the example parent company guarantee (and the surety bond Performance Security in the MDB), incorporate one of the following two sets of Uniform Rules published by the International Chamber of Commerce (ICC):

- Uniform Rules for Demand Guarantees (URDG),[124] which are incorporated in the example securities in the form of on-demand bonds; or
- Uniform Rules for Contract Bonds (URCB),[125] which are incorporated in the securities in the form of on default or surety bonds.

7.175 The *FIDIC Guide*[126] explains that "Incorporation of these Rules significantly reduces the wording in each example form, and should facilitate a common international standard for securities".[127]

120. Under the example wording in respect of a payment guarantee to be obtained by the Employer, this security is required to be provided by an entity as stated in the Appendix to Tender (R/Y) or the location specified in the Particular Conditions (S).
121. Sub-Clause 1.3.
122. *FIDIC Guide*, p. 99.
123. See, for example, Silver Book, Guidance for the Preparation of Particular Conditions, p. 23.
124. ICC Publication No. 458, 1992.
125. ICC Publication No. 524, 1993.
126. *FIDIC Guide*, p. 101.
127. See *ibid.*, pp. 100–102 for further comment on the example forms provided in the Red, Yellow and Silver Books and the ICC Uniform Rules.

7.176 As their names suggest, the URDG and the URCB each contain a set of uniform rules to govern the relevant type of security, including rules on demands or claims. Importantly, these rules also contain provisions on the governing law and dispute resolution.

7.177 For example, Article 27 of the URDG provides that "unless otherwise provided in the Guarantee . . . , its governing law is that of the place of business of the Guarantor".[128] Such a default provision is helpful in providing certainty if the governing law is not stated in the instrument. The example forms of security (other than the tender security and the parent company guarantee[129] and, in the MDB, the surety bond Performance Security) make provision for the selection of the governing law. On the other hand, the example form of tender security and the on-demand bond Performance Security in the MDB, which both incorporate the URDG, do not make provision for the governing law to be stated and accordingly this will be determined in accordance with Article 27.

7.178 Article 28 of the URDG provides that "unless otherwise provided in the Guarantee . . . any dispute between the Guarantor and the Beneficiary relating to the Guarantee . . . shall be settled exclusively by the competent court of the country of the place of business of the Guarantor".[130] Except for the parent company guarantee, the example forms of security do not set out the dispute resolution mechanisms and thus this default provision will apply.[131]

7.179 Exceptionally, the example form of surety bond Performance Security in the MDB does not incorporate either set of ICC Uniform Rules or include any express choice of law or mechanism for the resolution of disputes.

Tender security

7.180 A tender security, commonly also known as a 'tender guarantee' or 'bid bond', protects the Employer against the risk of the tenderer withdrawing his tender or, if the tender is accepted, refusing to sign the Contract. If the Employer requires the tenderers to provide a tender security with their tenders, this should be specified in the Instructions to Tenderers, to which a form of the required tender security should be annexed.[132]

7.181 The example form of tender security included with the FIDIC forms is an on-demand bond, subject to the ICC Uniform Rules of Demand Guarantees, which provides for payment of a specified sum on receipt of a written demand by the Employer stating, in essence, that the principal (i.e., the tenderer) has unilaterally withdrawn his tender prior to its expiry, the contract was awarded to the principal but he has subsequently failed to enter into the Contract Agreement in accordance with Sub-Clause 1.6,[133] or that

128. Article 8(a) of the URCB provides that unless expressly selected, the law governing the bond "shall be the law governing the Contract".

129. The example form of parent company guarantee provides that the governing law is the law of the country (or other jurisdiction) which governs the Contract.

130. Article 8(b) of the URCB provides that all disputes arising between the beneficiary, the principal and the guarantor (or any of them) in relation to the bond shall, unless otherwise agreed, be finally settled by arbitration under the ICC Rules by one or more arbitrators appointed in accordance with those Rules.

131. The form of parent company guarantee provides for disputes to be finally settled by arbitration under the ICC Rules by one or more arbitrators appointed in accordance with those Rules.

132. See, for example, Clause 5.4 of the example forms of Instructions to Tenderers in the *FIDIC Guide*, pp. 31–32.

133. Not Silver Book.

the principal has failed to provide the Performance Security in accordance with Sub-Clause 4.2.

Parent company guarantee

7.182 Where the Contractor is a subsidiary of another larger company or group of companies, the Employer may require the Contractor to procure a parent company guarantee which guarantees due performance of all of the Contractor's obligations under the Contract. Depending on the structure of the Contractor's parent organisation, the guarantor may be the Contractor's ultimate holding company or another parent company.

7.183 Notably, the FIDIC Conditions do not contain any reference to the Contractor's obligation to provide a parent company guarantee. Instead, the FIDIC forms envisage that, if the Employer requires the Contractor to provide a parent company guarantee, this requirement should be included in the Instructions to Tenderers, annexed to which should be the required form of guarantee. An example form of guarantee is included in all the FIDIC forms. If it is intended that this example form will be used as the basis for the required guarantee, it should be reviewed to ensure that it is appropriate for the particular circumstances, taking into account the applicable law that will govern it. Although provided with the tender, the example form of parent company guarantee does not come into force until the Contract comes into force. The guarantee is also void if the Contract does not come into force within one year of the date of the guarantee or if the Employer demonstrates that he does not intend to enter into the Contract with the Contractor.

7.184 The requirement to provide a parent company guarantee at the time of tender is unusual and, practically, may be problematic. It is problematic from the Employer's perspective because, at the time of issuing the tender documents, the Employer may not know, for each tenderer, the particular entity that would enter into the Contract if awarded to that tenderer and, consequently, whether a parent company guarantee is required in relation to that tenderer. It may cause difficulties for the tenderer since it is required to provide a parent company guarantee at a time when it is unsure as to whether it will be awarded the Contract, even though the parent company guarantee does not come into force until after contract award and the Contract has come into effect. The usual arrangement, in the authors' experience, where a parent company guarantee is required, is for the contractor to be obliged to provide the guarantee (along with any performance security) as a condition precedent to any payment under the contract, and not at the time of submitting its tender.

Advance payment guarantees

7.185 Under all the Books, the Contractor may be entitled to advance payments from the Employer:

- under Sub-Clause 14.2 [*Advance Payment*], to assist the Contractor with cash-flow at the outset of the project, where the initial outlay for start up costs and design may be significant; and,
- under Sub-Clause 14.5(b) (14.6(b) (G)) [*Plant and Materials intended for the Works*],[134] to fund the procurement of Plant and Materials.

134. "*Payment for Plant and Materials intended for the Works*" (G).

7.186 These payments are advance payments in the sense that the Contractor would not otherwise ordinarily be entitled to payment of these amounts until a later date as part of progress payments for the Works. To protect himself in respect of non-recovery of the advance payment or a failure by the Contractor to perform the obligations under the Contract which would otherwise entitle him to payment of these amounts, the Employer may require the Contractor to procure advance payment guarantees.

7.187 Sub-Clause 14.2. Sub-Clause 14.2 provides for an advance payment to be made to the Contractor as an interest-free loan for mobilisation, design (in the Yellow, Silver and Gold Books), and "cash-flow support" in the MDB. As a condition precedent to this advance payment, the Contractor is required to provide security in the form of an advance payment guarantee in an amount equal to the advance payment, as well as the Performance Security under Sub-Clause 4.2. The example form included in the FIDIC forms is an on-demand bond subject to the ICC URDG.

7.188 Detailed provisions relating to the advance payment guarantee are set out in Sub-Clause 14.2. The guarantee must be issued by an entity and from a country (or other jurisdiction) approved by the Employer, and in the form annexed to Particular Conditions (or, in the Gold Book, based on the sample form included in the tender documents) or in another form approved by the Employer. The guarantee is required to be valid until the advance payment has been repaid. This may require the Contractor to extend it to take account of any delay to the progress of the Works.[135] If an expiry date is stated in the guarantee, the Contractor is required to extend the guarantee if the advance payment has not been repaid by the date 28 days before that expiry date.

7.189 All the Books allow for the amount of the guarantee to be progressively reduced by the amounts repaid by the Contractor (as indicated in the Payment Certificates (not S)) so that the guarantee only relates to the unamortised amounts. The MDB actually frames these reductions as a requirement (the 'amount *shall* be progressively reduced'). Reduction in the amount of the guarantee may reduce the cost to the Contractor of the guarantee. Reducing the amount of guarantee so that it only guarantees the unamortised amounts is also likely to reduce the risk of abuse of this guarantee. It is therefore in the interests of the Contractor to effect the appropriate reductions. The example form envisages that these reductions will be automatically made on receipt of evidence of repayments, with the guarantor notifying the Employer of the revised guarantee amount each time.

7.190 The advance payment guarantee is not a general security for all of the Contractor's obligations under the Contract but, under the example forms (except in the MDB), may only be called with a written statement that the Contractor has failed to repay the advance payment in accordance with the Contract and stating the amount which the Contractor has failed to repay. In practice, this security is most likely to be called upon issue of the Taking-Over Certificate for the Works (Commissioning Certificate (G)) or termination of the Contract.[136]

135. The *FIDIC Guide* (p. 236) states that delays to completion should be taken into account when extending the expiry date of the guarantee. While delays to completion are relevant, in many instances the Contractor's entitlement to interim payments, and thus the repayment of the advance payment, is more directly dependent on rate of progress of the Works (which might in turn cause delays to completion).

136. Sub-Clause 14.2 provides that the whole of the balance of the advance payment (i.e., the unamortised amount) is immediately due to the Employer if the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works (Commissioning Certificate (G)) or prior to termination under Clauses 15, 16 or 19 (18 (G)).

7.191 Advance payments for Plant and Materials. The provisions relating to advance payments for Plant and Materials are set out in Sub-Clause 14.5 (14.6 (G)). Under sub-paragraph (b) of this Sub-Clause, if this Sub-Clause applies and the other conditions are satisfied,[137] the Contractor is entitled to an advance payment in respect of Plant and Materials after providing a bank guarantee in amounts and currencies equal to the amount of the advance payment due. The guarantee is required to be in a form and issued by an entity approved by the Employer. However, unlike Sub-Clause 14.2, it is not anticipated that a form of guarantee will be annexed to the Particular Conditions (or included in the tender documents (G)). This Sub-Clause nevertheless indicates that the guarantee *may* be in a similar form to the guarantee under Sub-Clause 14.2. Therefore, any refusal by the Employer to approve a guarantee in such a similar form may amount to an unreasonable withholding of approval in breach of Sub-Clause 1.3. The guarantee is required to be valid until the Plant and Materials are stored on Site and properly protected against loss, damage or deterioration.

Performance Security

7.192 Sub-Clause 4.2 [*Performance Security*] of all the Books provides for the option of requiring the Contractor to provide a Performance Security[138] to the Employer. This is a common requirement in international contracts. The purpose of a Performance Security is to secure the due performance of the Contractor's obligation under the Contract. Sub-Clause 4.2 contains detailed provisions relating to the Performance Security. However, this Sub-Clause applies only if the amount of the required security is stated in the relevant contract document.[139]

7.193 The General Conditions of the Gold Book require the provision of a single Performance Security covering the Contractor's obligations during the entire Contract Period, i.e., both during the Design-Build and Operation Service Periods. However, recognising that the Contractor's obligations under this Book are fundamentally different from those in the other Books, FIDIC states in the Introduction to the Sample Forms included in the Gold Book that:[140]

"*The provisions of Sub-Clause 4.2 . . . require a performance security to cover the full Contract Period. However it is recognized that this requirement may vary considerably from project to project and from Employer to Employer.*

- *Some Employers may not require a Performance Security during the Operation Service Period.*
- *Some Employers may require an on-going Security with a reduced value.*
- *Some Employers may require a new Security for the full Operation Service Period.*
- *Some Employers may require a short term renewable Security to cover the Operation Service Period.*

There are many options and alternatives.

137. Not Silver Book.

138. "Performance Security" is defined in the Red, MDB, Yellow and Silver Books as "the security (or securities, if any) under Sub-Clause 4.2" (Sub-Clause 1.1.6.6 (R/M/Y/S)). The definition in the Gold Book omits the words in parenthesis (Sub-Clause 1.1.60 (G)).

139. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

140. Gold Book, Sample Forms, p. 1.

For this reason, sample forms included in this section only cover the Design-Build Period, and it is up to the drafter of the tender and contract documents to prepare appropriate provisions to suit the needs of the Employer and, where required, the financial institution which is funding the project."

Performance Security connected to other rights and obligations under the Conditions

7.194 To emphasise the importance of valid Performance Security, several key rights and obligations of the Parties are conditional upon the Contractor's compliance with Sub-Clause 4.2. These are as follows:

- If the Contractor fails to comply with his requirements under Sub-Clause 4.2, the Employer will be entitled to terminate the Contract under Sub-Clause 15.2(a), on 14 days' notice;[141]
- The Contractor's entitlement to payment of the advance payment (if any) is conditional upon, and its timing dependent upon, the Employer's receipt of the Performance Security;[142]
- No amount will be certified (not S) or paid until the Employer has received and approved the Performance Security;[143]
- (MDB only) A condition precedent before the Commencement Date can be established under Sub-Clause 8.1 is receipt by the Contractor of the advance payment under Sub-Clause 14.2, which in turn is conditional upon receipt by the Employer of the Performance Security;
- The Employer is entitled to withhold the right of access to, and possession of, the Site until the Performance Security has been received.[144]

Type of security

7.195 All the Books include example forms of an on-demand bond (referred to as a demand guarantee) and an on-default bond (referred to as a surety bond). In all the Books apart from the MDB,[145] the example forms of Performance Security are stated to be subject to the relevant ICC Uniform Rules. Note that the example form of Performance Security included in the Gold Book may not be suitable for the Operation Service Period.[146]

7.196 Given the significant difference between an on-demand and an on-default bond, it is particularly important that the required form of the Performance Security is either annexed to Particular Conditions (or included in the tender document (G)) or at the least the type of security is specified in the Particular Conditions. This is in order to reduce any difficulties later in establishing, for example, whether the Employer is entitled reasonably to

141. In the Gold Book only, Sub-Clause 4.2 also expressly states the Contractor's failure to maintain the validity of the Performance Security as required under Sub-Clause 4.2 is "grounds for termination under Sub-Clause 15.2". This provision seems unnecessary because such a failure is already covered by Sub-Clause 15.2(a), but perhaps may be considered as a useful reminder to the Contractor to stress the importance of ensuring that valid security is maintained.

142. Sub-Clauses 14.2 and 14.7 (14.8 (G)).

143. Sub-Clause 14.6 (14.7 (G)).

144. Sub-Clause 2.1.

145. In the MDB, the wording of the example forms of the Performance Security is different from those in the other Books. The example form of demand guarantee (Annex F) is however also subject to the ICC URDG, whereas the example form of surety bond (Annex G) is not subject to the ICC URCB.

146. Gold Book, Sample Forms, Introduction.

reject an on-default bond proposed by the Contractor in circumstances where the Employer desired an on-demand bond.

Form, terms and period

7.197 The Performance Security must be issued by an entity and from a country (or other jurisdiction) approved by the Employer, and in the form annexed to Particular Conditions (or, in the Gold Book, based on the sample form included in the tender documents) or in another form approved by the Employer.[147]

7.198 Amount. The Contractor is required to obtain the Performance Security in the amounts and currencies stated in the relevant contract document.[148] It is common for the amount to be specified either as a sum or as a percentage of the Accepted Contract Amount or Contract Price.[149]

7.199 The example forms of Performance Security included in the Red, MDB, Yellow and Silver Books also include an optional provision for the amount of the Performance Security to be reduced upon issue of the Taking-Over Certificate for the whole of the Works, with the percentage reduction to be stated in the security.

7.200 Whilst the Gold Book provides for the Performance Security to continue throughout the Operation Service Period, Sub-Clause 4.2 of this Book provides that the Contractor is entitled to "a reduction of the amount of the Performance Security" at the end of the Retention Period,[150] with the amount of the reduction stated in the Contract Data. FIDIC anticipate that this will be a substantial reduction[151] and the notes in the Gold Book[152] advise that the tender documents should make it quite clear how this reduction will be managed and, if separate or staged Performance Securities are required during the Operation Service Period, "this Sub-Clause will need amending to reflect the appropriate requirements". This may, for instance, require a new form of Performance Security to be provided.

7.201 Period. The Contractor is required to deliver the Performance Security to the Employer[153] within 28 days after receiving the Letter of Acceptance (R/M/Y/G) or after both Parties have signed the Contract Agreement (S).

7.202 Under all the Books apart from the Gold Book, the Contractor is required to ensure that the Performance Security is valid and enforceable until he has "executed and completed the Works and remedied any defects". However, in practice, in most instances the Contractor will be required to ensure that the Performance Security is valid until the

147. The Guidance for the Preparation of Particular Conditions included in the FIDIC forms also contains an example provision to be inserted at the end of the second paragraph of Sub-Clause 4.2 which places restrictions on the location and identity of the issuing entity.

148. See n. 139.

149. For the Red, MDB, Yellow and Gold Books, the example forms of Appendix to Tender (R/Y) and Contract Data (M/G) provide for the amount to be stated as a percentage of the Accepted Contract Amount. In the Silver Book, the Guidance for the Preparation of Particular Conditions provides, as example wording for the Particular Conditions: "The amount of the Performance Security shall be ten percent (10%) of the Contract Price stated in the Contract Agreement".

150. "Retention Period" is defined as "the period of 1 year after the date stated in the Commissioning Certificate for the completion of outstanding work" (Sub-Clause 1.1.66 (G)).

151. Wade, *op. cit.*, n. 7, at 18.

152. Gold Book, Notes on the Preparation of Special Provisions, p. 11.

153. With a copy to the Engineer (R/M/Y) or Employer's Representative (G).

issue of the Performance Certificate under Sub-Clause 11.9. Only by the issue of the Performance Certificate will the Contractor formally be informed that the Works have been completed and all defects have been remedied. Indeed, the Contractor is expressly required to extend the validity of the Performance Security (if it specifies an expiry date) if the Contractor "has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date", which in effect creates a 28-day 'buffer'. Greater certainty could perhaps be provided by amending this Sub-Clause to require simply that the Performance Security must be valid until the issue of the Performance Certificate. The Gold Book adopts this suggested approach and requires the Performance Security to be valid until the issue of the Contract Completion Certificate.

7.203 When arranging for the extension of a Performance Security which incorporates an expiry date, this date should take account of any delays to completion of the Works, whether or not the Contractor is entitled to an extension of time, as well as the possibility under all the Books apart from the Gold Book of defects appearing on the final day of the Defects Notification Period, which the Contractor is required to remedy.[154]

Increases in Performance Security

7.204 In all the Books, if the Contractor wishes to remove defective or damaged items of Plant from Site to repair them under Sub-Clause 11.5 (12.5 (G)) [*Removal of Defective Work*], the contract administrator may require the amount of the Performance Security to be increased by the full replacement cost of these items as a condition for the Contractor obtaining the contract administrator's consent.

7.205 The MDB only contains an additional paragraph at the end of Sub-Clause 4.2 which gives the Engineer the discretion to require the Contractor promptly to increase the Performance Security "as a result of a change in cost and/or legislation, or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency". The Contractor is also permitted to decrease the amount of the Performance Security where there is a reduction due to the same factors. The provision is not particularly well-worded. This aside, its main criticism is that it is unclear whether the circumstances giving rise to the 25% threshold amount are intended to be a single Variation or an accumulation of several Variations.[155] This uncertainty could therefore benefit from clarification in the Particular Conditions.

Entitlement of Employer to call Performance Security

7.206 Sub-Clause 4.2 in all the Books sets out the circumstances in which the Employer may make a claim under the Performance Security. Here, the MDB is noticeably different from the other Books. In all the Books, the Employer is required to indemnify the Contractor in respect of the consequences following a claim which the Employer was not entitled to make.

154. *FIDIC Guide*, p. 100.

155. Richard Appuhn and Eric Eggink, "The Contractor's View on the MDB Harmonised Version of the New Red Book", [2006] 23(1) ICLR 4 at 15. Although this paragraph only refers to a single Variation, under Sub-Clause 1.2(b), words indicating the singular include the plural.

7.207 Red, Yellow, Silver and Gold. In the Red, Yellow, Silver and Gold Books, the Employer is entitled to make a claim for the full amount[156] of the Performance Security if the Contractor fails to extend the validity of the Performance Security as required under Sub-Clause 4.2.

7.208 Otherwise, in the Red, Yellow and Silver Books, the Employer may only make a claim under the Performance Security "for amounts to which the Employer is entitled under the Contract in the event of" one (or more) of the following:

- "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";[157]
- "failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied";[158] or
- "circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*], irrespective of whether notice of termination has been given".[159]

7.209 The Gold Book contains almost identical grounds, except that the reference to Sub-Clause 2.5 in Sub-Clause 4.2(b) is replaced with Sub-Clause 3.5, "notice" replaced with "Notice" and the heading to Sub-Clause 15.2 is replaced with "Termination for Contractor's Default".

7.210 The three circumstances entitling the Employer to make a claim under the Performance Security deserve further comment:

- Sub-Clause 4.2(b) is the only provision in the Conditions which specifies any consequences if the Contractor fails to pay an amount agreed or determined as due within 42 days.
- Sub-Clause 4.2(c) is the only provision which refers to the Employer's notice (Notice (G)) requiring the Contractor to remedy a default. This would seem to be different from notice given under Sub-Clause 15.1 because that notice is given by the contract administrator and not the Employer, as under Sub-Clause 4.2(c), and the Contractor must remedy the failure for which the notice under Sub-Clause 15.1 [*Notice to Correct*] was given within the time specified[160] in that notice, which may have no relation to the 42-day period in Sub-Clause 4.2(c).
- Sub-Clause 4.2(d) includes bankruptcy or insolvency of the Contractor,[161] although this is not a breach of the Contract.[162]

156. Sub-paragraph (a) in the Gold Book states that the Employer may claim "the full or, in case of an earlier reduction, the reduced amount of the Performance Security". While this recognises that the amount of the Performance Security may be reduced at the end of the Retention Period (and/or possibly otherwise as may have been agreed between the Parties) the full amount of the Performance Security will be the same as the reduced amount. Therefore, the additional words in the Gold Book seem unnecessary.

157. Sub-Clause 4.2(b).

158. Sub-Clause 4.2(c).

159. Sub-Clause 4.2(d).

160. In the Red, MDB, Yellow and Silver Books, the time specified must be reasonable.

161. Sub-Clause 15.2(e). Note that the grounds set out in this sub-paragraph are specified in wider terms than only bankruptcy and insolvency.

162. This is inconsistent with the terms of the example forms of the on-demand bond which requires a statement that the Contractor is in breach of his obligation(s) under the Contract and the respect in which he is in breach.

7.211 In addition, the Employer is also expressly limited to claim "amounts to which the Employer is entitled under the Contract in the event of" these circumstances. This makes it clear that the purpose of the Performance Security is to secure the Contractor's liabilities and is not intended as a discount on the Contract Price.

7.212 MDB. The MDB does not identify any particular circumstances which must exist before the Employer may make a claim under the Performance Security, but again limits the claim to "amounts to which the Employer is entitled under the Contract".

7.213 Indemnity. In the Red, MDB, Yellow and Silver Books, the Employer is required to indemnify the Contractor "against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim". This is a very wide indemnity. The Gold Book contains an almost identical indemnity provision except that the qualifying words "to the extent" have been omitted.

7.214 It must be recognised that the limitations set out in Sub-Clause 4.2 are only contractual limitations as between the Employer and the Contractor. If the Performance Security is in the form of an on-demand bond, whether the Employer is entitled to payment on a call on the bond will depend, certainly in most jurisdictions, on the terms of the bond and whether the Employer's demand complies with those terms. The Contractor may, however, seek to argue that an injunction (or similar prohibitory order from a court) should be granted to prevent the Employer from making the call on the on-demand bond Performance Security on the grounds that to do so would breach the limitations in Sub-Clause 4.2. The prospects of succeeding in such an application will, in many jurisdictions, be very limited.[163]

Return of Performance Security

7.215 The Employer is required to return the Performance Security within 21 days after receiving a copy of the Performance Certificate (R/Y/M/S) or Contract Completion Certificate (G),[164] or once the Contractor's obligations under the Contract have been discharged through termination for convenience[165] or termination by the Contractor for cause under Sub-Clause 16.2 [*Termination by Contractor*].[166]

Retention Money and Retention Money Guarantee

7.216 During the course of the execution of the Works, prior to completion,[167] the Employer[168] is entitled under Sub-Clause 14.3(c)[169] to retain a percentage of the contract

163. For example, the English courts will not consider granting an injunction unless it has been positively established that the party was not entitled to call the relevant security; it would not be sufficient to establish a serious arguable case to that effect. *Per* Ramsey J in *Permasteelisa Japan KK* v. *Bouygesstroi* [2007] EWHC 3508 (TCC) at para. 51.

164. Sub-Clause 4.2. Note that Sub-Clause 14.12 (14.14 (G)) provides that the Contractor's written discharge may state that it becomes effective only after the Performance Security has been returned.

165. Sub-Clause 15.5.

166. Sub-Clause 16.4.

167. "prior to completion of the Design-Build" (G).

168. The reference to the retention by the Employer's Representative in the Gold Book appears to be a typographical error and should read "the Employer".

169. By reference to the amounts in sub-paragraphs (a) and (b) of Sub-Clause 14.3.

value of the Works executed and the Contractor's Documents produced (including adjustments for changes in legislation,[170] changes in cost[171] and (Gold Book only) changes in technology[172]) during the period covered by an Interim Payment Certificate or, in the Silver Book, interim payment from amounts otherwise due. These accumulated monies retained by the Employer under Sub-Clause 14.3 are released to the Contractor under Sub-Clause 14.9 (14.10 (G)) [*Payment of Retention Money*], and are defined as Retention Money.[173]

7.217 The practice of holding a percentage of the sums already payable as security for completion of the whole (or of a section) of the Works is widespread, not only in common law countries, but in Continental Europe as well. A recent paper[174] at the European Society of Construction Law (ESCL) Conference demonstrated that the concept is familiar in all the countries surveyed in the ESCL research project (Austria, England and Wales, France, Germany, Greece, Netherlands, Sweden and Switzerland).

7.218 Purpose of Retention Money. The purpose of retention money is, in significant part, to provide security, in the form of a source of funds, against the contractor's failure to complete any work outstanding when the works are taken over and to remedy any defects or damage and in respect of any other liability of the contractor to the employer.

Amount and limit of Retention Money

7.219 The percentage to be applied to the contract value of the Works executed to calculate the amount to be retained is the percentage of retention stated in the relevant contract document.[175] The FIDIC forms also provide for the possibility of a limit of the Retention Money to be specified in the relevant contract document. If no limit is specified, the amount that the Employer will be entitled to retain will simply be the percentage of the total contract value of the Works. The ESCL research referred to above revealed typical amounts of 5% of certified amounts in France, Greece and the Netherlands and 5% to 10% of the contract sum in Germany and Switzerland.

Release of Retention Money

7.220 The release of the Retention Money is governed by Sub-Clause 14.9 (14.10 (G)). All the Books adopt a similar scheme for release but differ in the detail. The Retention Money is to be released in two halves, with 50% to have been released at a point after completion of the Works, and the remaining 50% to have been released on the expiry of the latest Defects Notification Period (except in the Gold Book).

7.221 Because there is no Defects Notification Period in the Gold Book, the concept of a Retention Period has been introduced to accommodate the staged release of the Retention

170. In accordance with Sub-Clause 13.7.

171. In accordance with Sub-Clause 13.8.

172. In accordance with Sub-Clause 13.6 (G).

173. Sub-Clause 1.1.4.11 (R/M/Y); 1.1.4.7 (S); 1.1.65 (G). Note that the definition in the Gold Book omits mention of payment by the Employer under Sub-Clause 14.10.

174. Anthony Lavers, "Ethics in Construction Law—European Society of Construction Law study: responses from eight member countries", [2007] 24(3) ICLR 435.

175. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

Money. The Retention Period is defined as "the period of 1 year after the date stated in the Commissioning Certificate for the completion of outstanding work".[176]

7.222 In addition, all the Books provide for a proportion of the first half of the Retention Money to be released at an earlier date if a Taking-Over Certificate is issued for a Section (or a part of the Works (Red Book and MDB only)) or, in the Gold Book, a Section Commissioning Certificate[177] is issued for a Section. However, in all the Books apart from the Gold Book, these general provisions are subject to an express entitlement of the Employer to withhold the release of the estimated costs of any work that remains to be executed under Clause 11 and, in the Yellow and Silver Books, Clause 12.

7.223 Red Book and MDB. In the Red Book and MDB, the trigger for the release of the first half (or instalment) of the Retention Money is the issue of a Taking-Over Certificate for a Section, a part of the Works or the Works. Such release following the issue of a Taking-Over Certificate in respect of a part of the Works is particular to these Books only. The calculation of the proportion to be released in the case of Sections or parts of the Works is slightly complicated and is related to the proportional value of the Section or part of the Works to the estimated final Contract Price, without taking into account any adjustments for changes in legislation or cost under Sub-Clauses 13.7 and 13.8. The proportion of the Retention Money to be released is then obtained by multiplying this proportional value again by two-fifths (R) or one-half (M). The outstanding balance of the first-half of the Retention Money is then to be released following the issue of the Taking-Over Certificate for the Works.

7.224 Yellow and Silver Books. In the Yellow and Silver Books, the first half (or instalments) of the Retention Money is not released until both the issue of a Taking-Over Certificate for a Section or the Works and the passing of all tests, including the Tests after Completion (if any). The proportion of the first half of Retention Money to be released if these conditions have been satisfied for a Section is defined in terms of the "relevant percentage", which in turn is defined in the final paragraph of Sub-Clause 14.9 as the percentage value of each Section as stated in the Appendix to Tender (Y) or Contract[178] (S). However, the final paragraph continues by providing that, if no such percentage value for a Section is specified in these documents, no separate amounts are to be released in respect of such Section. The outstanding balance of the first half of the Retention Money is then to be released on the issue of the Taking-Over Certificate for the Works and the passing of all tests. As indicated in the *FIDIC Guide*,[179] if Tests after Completion are unduly delayed by the Employer, the Contractor may be entitled to payment of the financing costs attributable to the delayed release of the Retention Money under Sub-Clause 12.2.

7.225 Gold Book. The trigger for the release of the first half of the Retention Money in the Gold Book is stated to be the issue of the Commissioning Certificate or a Section Commissioning Certificate for a Section. In this way, it seems likely that it was intended that the Gold Book would follow the approach of the Yellow and Silver Books such that a proportion of the Retention Money should be released on the issue of a Commissioning Certificate for a Section.

176. Sub-Clause 1.1.66 (G).
177. But see para. 7.225 in relation to this reference to "Section Commissioning Certificate".
178. This reference to the Contract provides flexibility as to where in the contract documents the relevant percentage is stated. This will usually be in the Particular Conditions or in a schedule.
179. *FIDIC Guide*, p. 250.

7.226 The operation of these provisions in respect of Sections is, however, problematic because a Section Commissioning Certificate is, confusingly, not issued in relation to a Section but in respect of a part of the Works. In addition, the Gold Book seems to have been intended to adopt a similar approach to the Yellow and Silver Books by providing that a "relevant percentage" of the first half of the Retention Money should be released if a Section Commissioning Certificate is issued for a Section. However, there is no equivalent paragraph in Sub-Clause 14.10 of the Gold Book to the final paragraph of Sub-Clause 14.9 in the Yellow and Silver Books. Consequently, the "relevant percentage" is not defined.[180] The outstanding balance of the first half of the Retention Money is then to be released on the issue of the Commissioning Certificate for the Design-Build.

Release of second half of Retention Money

7.227 While the provisions relating to the release of the first half of the Retention Money vary significantly as between the Books, those governing the release of the second half of the Retention Money are broadly similar, differing only in the method for calculating the proportion to be released in respect of Sections. The most significant differences are found in the Gold Book which is considered separately below.

7.228 Red, MDB, Yellow and Silver Books. In the Red, MDB, Yellow and Silver Books, a proportion of the second half of the Retention Money is required to be released on the expiry of the Defects Notification Period for any Section, with the remainder to be released after the latest expiry dates of the Defects Notification Periods.

7.229 Notwithstanding the general provisions relating to the release of the Retention Money, the Employer is, however, expressly entitled under Sub-Clause 14.9 to withhold the estimated cost of any remaining work to be executed under Clause 11 and Clause 12 (Y/S).[181] This relates to the Contractor's obligations during the Defects Notification Period under Sub-Clause 11.1 and 12.3 (Y/S) to complete any outstanding work at the date stated in the Taking-Over Certificate and to remedy damage or defects occurring during the Defects Notification Period in respect of which the Contractor is liable for the cost under Sub-Clause 11.2. The Employer's right to withhold these costs specifically provides him with an identifiable source of funds in the event that the Contractor fails to execute this work. However, the Employer is only entitled to withhold the estimated cost of the remaining "work". Thus, the right is unlikely to extend to other matters, such as the cost of retesting under Sub-Clause 12.3.

7.230 Gold Book. Unlike the other Books, the Gold Book does not provide for the separate, early release of any part of the second half of the Retention Money where a Section Commissioning Certificate is issued before the Commissioning Certificate for the Design-Build. Instead, it simply provides that the Contractor can include the second half of the Retention Money in his Final Statement Design-Build, which, in accordance with Sub-Clause 14.11, must be submitted within 28 days after the end of the Retention Period.

180. This appears to be an oversight by the draftsmen and could be corrected by amending Sub-Clause 14.10 to include the final paragraph of Sub-Clause 14.9 of the Yellow Book (with the reference to Appendix to Tender changed to Contract Data).

181. Penultimate paragraph of Sub-Clause 14.9 (not G).

Mechanism for payment to Contractor of Retention Money

7.231 Up to this point, no mention has been made of any mechanism for payment to the Contractor of the Retention Money, and the Retention Money has simply been stated to be released or required to be released. All the Books specifically address payment of these amounts, albeit in general terms, with the Gold Book providing more guidance than the others.

7.232 Red, MDB, Yellow and Silver Books. The Red, MDB and Yellow Books provide that the amounts released from the first half of the Retention Money should be certified for payment and the amounts from the second half should promptly be certified and paid. The Silver Book provisions are similar except that they only refer to the amounts being paid. Given the absence of any express requirement for the Contractor to apply for payment of these amounts, it is certainly arguable that there is a positive duty on the Engineer in the Red, MDB and Yellow Books to certify the amounts for payment and the Employer in the Silver Book to pay these amounts on their own initiative. This is particularly so given that the ascertainment of the amount of Retention Money that is due to be released at any stage should be relatively non-contentious and is likely to be able to be determined by the contract administrator or the Employer (S) without further information from the Contractor. Given the uncertainty as to the effect of these provisions, in practical terms it would be advisable in any event for the Contractor to submit an application for payment of the relevant amount of the Retention Money as soon as it becomes due to be released.

7.233 Gold Book. The Gold Book simply provides that the relevant proportion of the first half of the Retention Money should be included for payment in the next Interim Payment Certificate and that the Contractor is entitled to include the amount of the second half of the Retention Money in the Final Statement Design-Build.

Retention Money guarantee

7.234 As an alternative to the Employer retaining the second half of the Retention Money, the Contractor in the MDB is entitled, under Sub-Clause 14.9, to substitute this amount with a guarantee. The Guidance for the Preparation of Particular Conditions in the Red, Yellow and Silver Books also include example Clauses to be included in the Particular Conditions for this option to be adopted for a contract under these Books. This practice is becoming increasingly common on major projects and assists the Contractor's cash flow.

7.235 The provisions in the MDB differ from the example wording contained in the Guidance to the other Books.

7.236 MDB. In the MDB, the Contractor is entitled to substitute a guarantee for the second half of the Retention Money when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment. The guarantee is required to be provided by an entity approved by the Employer and in the form annexed to the Particular Conditions or in another form approved by the Employer.

7.237 However, if the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee (which is understood to mean an on-demand bond), these provisions in effect allow the Contractor to reduce the amount of security under both the Performance Security and Retention Money, when the Taking-Over Certificate for the Works is issued, to the amount of half of the Retention Money:

- If the amount of the Performance Security when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Contractor is not required to provide a Retention Money guarantee.
- If the amount of the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee is only required "for the difference between half of the Retention Money and the amount guaranteed under the Performance Security".

7.238 Red, Yellow and Silver Books. Under the example provisions in the Red and Yellow Books, the Contractor may substitute a Retention Money guarantee for 50% of the Retention Money when the Retention Money has reached 60% of the limit of Retention Money. In the Silver Books, the amounts are left to be inserted. The guarantee must be in a form, and provided by an entity, approved by the Employer, and in amounts and currencies equal to the amount released. An example form of guarantee is included in the Red, Yellow and Silver Books.

Maintenance Retention Fund or Maintenance Retention Guarantee: Gold Book only

7.239 Sub-Clause 14.19 [*Maintenance Retention Fund*] of the Gold Book provides for the creation of a Maintenance Retention Fund during the Operation Service Period. Its purpose is to provide a source of funds for the Employer to carry out any maintenance required under the Contract in the event that the Contractor fails to do so. These provisions are broadly similar to those relating to the accumulation of Retention Money and its release under Sub-Clauses 14.3(c) and 14.10, except that they also entitle the Contractor to replace this fund with a guarantee, defined as a Maintenance Retention Guarantee. The fund is created by deducting 5% from the value of each Interim Payment Certificate after the Commissioning Certificate. If a limit to the Maintenance Retention Fund is to apply, this should be specified in the Contract Data. However, if no limit is so specified, the deductions will continue up to the last Interim Payment Certificate. The Maintenance Retention Guarantee, if provided, is required to be in a form, and with an entity, approved by the Employer.[182]

Payment guarantee by Employer

7.240 The FIDIC forms do not require the Employer to provide a security for payments due to the Contractor. The Guidance for the Preparation of Particular Conditions in the

182. Note, however, that, although an example form of Maintenance Retention Guarantee is included in the Gold Book, its wording appears to be unsuitable to provide the intended security. Firstly, payment under this guarantee is conditional upon the receipt of a written statement from the Employer stating that, amongst other things, the Contractor "has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract". This, it is suggested, is too limited and does not reflect the circumstances upon which the Employer is entitled to apply amounts from the Maintenance Retention Fund under Sub-Clause 14.19. Secondly, the guarantee then refers to the advance payment, copying the wording in the example form of advance payment guarantee. The inclusion of this provision relating to the advance payment must, it is suggested, be a typographical error.

Red, Yellow and Silver Books, however, contain example provisions which contemplate such a payment guarantee in two circumstances.

7.241 First, in the example provision for use where finance is to be provided by a third-party financing institution, the portion of the contract value which is to be paid directly by the Employer upon shipment of each item of Plant is to be made by an irrevocable letter of credit issued by the Employer in favour of the Contractor and confirmed by a bank acceptable to the Contractor.

7.242 Second, an example provision is also included which is intended for use where the Contractor arranges finance. A contractor will normally require a payment guarantee in such a case, because usually the Employer is obliged to make payment only when the works are completed. The example provision provides that the Employer is required to obtain a payment guarantee to be provided in the amounts and currencies and by an entity as stated in the relevant contract document,[183] and in the form annexed to the Particular Conditions or in another form acceptable to the Contractor. The example provisions make the delivery of the guarantee a condition precedent before notice of the Commencement Date can be given under Sub-Clause 8.1. An example form of payment guarantee, in the form of an on-demand bond (subject to the ICC URDG), is included in these Books.

7.243 Whilst the example provision and form are intended for use where the Contractor obtains finance, the example clause and form of payment guarantee are drafted in such a way as to be of more general application.

TITLE

Ownership of Plant and Materials

7.244 In the event of non-performance by, or the insolvency of, the Contractor, the issue of ownership of Plant and Materials can be important.[184] As a general principle, in the absence of an express provision, the Contractor's ownership of Plant and Materials will be transferred when they are fixed to the land or buildings, but this will be subject to the particular applicable Laws of the Country.[185]

7.245 As is common in construction contracts, the FIDIC forms include an express provision, in Sub-Clause 7.7 [*Ownership of Plant and Materials*], for the transfer of title of Plant and Materials before they have been fixed. The primary purposes of such a provision are to provide security to the Employer against claims from creditors of the Contractor and, in the event that the Contract is terminated by the Employer for cause under Sub-Clause 15.2 [*Termination by Employer*],[186] by entitling the Employer to use these Plant and Materials to complete the Works through another contractor.

7.246 The circumstances upon which title of the Plant and Material transfers to the Employer under Sub-Clause 7.7 are set out in Table 7.3 below. This Sub-Clause states

183. Appendix to Tender (R/Y); Particular Conditions (S).

184. *FIDIC Guide*, p. 165.

185. Under the Laws of many jurisdictions, certain rights of ownership in items may also pass to the Employer on payment for them and before they are fixed. See *FIDIC Guide*, *ibid.*

186. "*Termination for Contractor's Default*" (G).

expressly that the title must be transferred "free from liens and other encumbrances". As will be seen from this Table, the Books differ as to whether property transfers on:

- delivery to Site or incorporation in the Works; and
- the Contractor's entitlement to payment or actual payment of the value of Plant and Materials under Sub-Clause 8.10 (9.9 (G)) in the event of suspension instructed by the contract administrator which suspends work on Plant or delivery of Plant and/or Materials for more than 28 days.[187]

7.247 In addition, in the Gold Book only, title also transfers in respect of Plant and Materials that are being shipped when the Contractor is paid the value of the Plant and Materials, by way of advance payment, under Sub-Clause 14.6.

Table 7.3: Comparison of circumstances in the FIDIC forms as to when title of Plant and Materials transfers to the Employer

Red, Yellow and Silver Books	MDB	Gold Book
(a) When delivered to the Site. (b) When Contractor is entitled to payment of the value of the Plant and Materials under Sub-Clause 8.10.	(a) When incorporated in the Works. (b) When Contractor is paid the value of the Plant and Materials under Sub-Clause 8.10.	(a) When delivered to Site. (b) When Contractor is paid the value of the Plant and Materials under Sub-Clause 9.9. (c) When Contractor is paid the value of Plant and Materials under Sub-Clause 14.6.

7.248 Sub-Clause 7.7 expressly states that its provisions apply only to the extent that they are consistent with the Laws of the Country, which may provide otherwise. Moreover, the governing law of the Contract may also be important in the interpretation of this Sub-Clause.

7.249 Notwithstanding the transfer of ownership under this Sub-Clause, the Contractor may still retain responsibility for the risk of damage to the transferred Plant and Materials under Clause 17. This allocation of responsibility may also be relevant in the proper interpretation of Sub-Clause 7.7 under the governing law of the Contract.

Vesting of Contractor's Equipment

7.250 Although not addressed in the General Conditions in the FIDIC forms, the Employer may require the ownership of the Contractor's Equipment to be vested in the Employer during the execution of the Works. An example provision is included to this effect in the Guidance for the Preparation of Particular Conditions in the Red, Yellow and

187. See Chapter 5, paras. 5.82–5.83.

Silver Books, which is to be added to the end of Sub-Clause 4.17 [*Contractor's Equipment*]. As with the transfer of ownership of Plant and Materials discussed above, the interpretation and effectiveness of such a vesting Clause, particularly as to the issue of whether property is actually transferred to the Employer[188] and the extent of the protection that such a Clause provides the Employer against claims from creditors or the liquidator of the Contractor, will be subject to the governing law and the applicable Laws of the Country where the Site is located. Consequently, such a provision must be drafted with care, taking these factors into account.

188. For example, the example provision in the FIDIC forms states that the Contractor's Equipment "shall be deemed to be the property of the Employer . . . ". However, under English Law, the Court of Appeal in *Re Cosslett (Contractors) Ltd* v. *Mid-Glamorgan County Council* [1998] Ch 495, has held that similar wording, as used in the ICE 5th Edition, did not transfer ownership to the Employer.

CHAPTER EIGHT

REMEDIES

INTRODUCTION

8.1 Chapters 3, 4 and 5 are concerned with the obligations of the Parties in respect of the product, price and time respectively. Chapter 6, *Contract Administration and Claims*, considers principles and procedures for operation of the Contract. Chapter 7, *Risk, Insurance and Securities*, sets out the contractual and other mechanisms by which the Parties allocate and manage certain risks. This chapter identifies the remedies available to the Parties under the FIDIC forms. 'Remedy' for the purposes of this chapter refers to a 'means of removing or counteracting or relieving any harm' accruing or potentially accruing to one of the Parties. The many contractual obligations and entitlements, therefore, do not come within the scope of this chapter because their purpose is not to set right or avoid some negative outcome. However, to obtain a full appreciation of the scope of the opportunities open to the Parties, an inclusive approach to the courses of action available to them under the FIDIC forms has been required.

8.2 Before considering the remedies expressly provided to the Parties under the FIDIC forms, it is acknowledged that every developed legal system has its own range of remedies available to parties. While the content of the rules and therefore the outcomes achieved under them will vary from jurisdiction to jurisdiction, sometimes markedly, it is a safe generalisation to say that certain types of remedy will be common to all modern legal systems. In a book on construction and engineering contracts, the most significant remedy at law (as opposed to under the Contract), at least statistically, will be that of damages for breach of contract. Whatever the provision, or absence of provision, in respect of breach contained within a specific contract, it will normally be possible to seek compensation for it, provided the relevant requirements, such as breach, damage and recoverable loss can be proved.[1] However, just as this book is not a textbook on the law of contract, so this chapter is not an account of the remedies available under the general law; and accordingly the emphasis of this chapter is very much on remedies available to the Parties under the Contract. Nevertheless, reference will be made to legal remedies and to the impact of the general law on the contract, for example, where judicial intervention might invalidate liquidated damages provisions.

8.3 Generally, a Party's right to a remedy under the Contract (as opposed to at law) arises in two circumstances:

(i) in the event of a failure by the other Party to comply with an obligation; and
(ii) when an event occurs for which the other Party bears the risk.

8.4 The first concerns the courses of action available to a Party when the obligations of the other Party are not complied with. For example, if the product does not comply with

1. Similarly, every major legal system will have the concept of an order of the tribunal to do or refrain from doing something, such as anticipated or continued breach of a contract, even if such orders are not always described as injunctions.

a contractual term as to quality or performance, the question arises as to what the Employer can do about it. It is one thing to have a right, and another to be able to enforce it so that the loss is made good. Conversely, the Contractor may be entitled to be paid for work done, but an entitlement is not cash and is of very limited value without the means to turn it into cash.

8.5 Here, a distinction must also be made between the Parties' remedies under the Contract and remedies for breach of the Contract at law. As stated above, a party's usual remedy at law for breach of contract will be damages. This remedy is supplemented by provisions in the FIDIC forms which govern the consequences of a Party's failure to carry out its obligations under the Contract. Many of these provisions identify expressly the financial remedy of the other Party, which may or may not be the same entitlement as available at law, depending on the particular provision (and the governing law). This provides a degree of certainty as to the extent of the compensation to which a Party is entitled under the Contract. For example, liquidated delay damages under Sub-Clause 8.7 (9.6 (G)) replace the Employer's entitlement to damages at law for the Contractor's failure to complete within the Time for Completion. Liquidated damages provisions are used to govern the Employer's remedy for such a breach of the Contract because among other reasons the general damages suffered by the Employer are often difficult to ascertain.

8.6 Similarly, the FIDIC forms, as is common in many construction contracts, also provide the Parties with additional remedies that may not be available at law following a breach of the Contract giving the Parties' respective rights to terminate the Contract for cause under Sub-Clause 15.2 (Employer) and Sub-Clause 16.2 (Contractor). Many of the breaches of the Contract or failures of the relevant Party identified in these Sub-Clauses giving rise to a contractual entitlement to terminate the Contract may not, if not otherwise prescribed, be sufficiently serious to attract a corresponding right to terminate at law; e.g., in Sub-Clause 16.2(c) in the Red Book, the Employer's failure to pay the amounts due under an Interim Payment Certificate within 42 days after the expiry of the time stated for payment under Sub-Clause 14.7 [*Payment*].

8.7 The second circumstance concerns situations in which a Party has a remedy where there is no fault on the part of the other Party. The principal example where this type of remedy is available under Clause 19 [*Force Majeure*] (18 (G) [*Exceptional Risks*]) is following the occurrence of a *Force Majeure* or, in the Gold Book, an Exceptional Event. Such an occurrence entitles the Contractor to an extension of time and, in many instances, payment of additional Cost resulting from his being prevented from performing his obligations under the Contract.

8.8 In the context of remedies, reference should also be made to para. 6.173 *et seq.* on claims in Chapter 6 and in particular to the procedures under Sub-Clauses 2.5 (20.2 (G)) [*Employer's Claims*] and 20.1 [*Contractor's Claims*] which must be followed by the Employer and Contractor respectively in order to exercise their entitlement to certain remedies, both under the Contract and at law. Furthermore, generally, the remedies available to the Parties are subject to the exclusion of liability for specific types of losses and the overall limitation of the Contractor's liability, under Sub-Clause 17.6 (17.8 (G)) [*Limitation of Liability*].[2]

8.9 Whether or not a Party is entitled to a remedy may become the subject of a dispute and this chapter is necessarily complementary to Chapter 9, *Dispute Resolution*. However,

2. See Chapter 7, para. 7.79 *et seq.*, *Limitation of Liability.*

remedies and disputes are by no means co-extensive. In many situations, the exercise of a contractual remedy will occur without becoming the subject of a dispute. To that extent, this treatment of remedies can be regarded as occupying the position between the obligations of the Parties to fulfil what they have undertaken in respect of product, price and time, on the one hand, and the situation where they have reached the point of actual conflict over entitlements and the right to enforce them, i.e. dispute resolution, on the other.

8.10 It will thus be seen that remedies have been deliberately defined more widely than might appear in a chapter in a general contract law textbook.

THE EMPLOYER'S REMEDIES

8.11 The Employer's remedies in the FIDIC forms far outnumber the remedies available to the Contractor. This apparent disparity does not indicate an imbalance in the treatment of the Parties but can principally be explained as being due to the facts that the Works are being constructed, and in the Gold Book operated, for the Employer, who ultimately will retain the product, and that the Contractor has the significantly more numerous obligations than the Employer. One particular type of remedy that is available to the Employer in a wider range of circumstances than for the Contractor is termination of the Contract. The rights of the Employer under the Contractor to terminate are considered separately in para. 8.152 *et seq.* below.

Exercise of remedies on behalf of Employer

8.12 Before considering the Employer's remedies under the FIDIC forms, it must be recognised that, in all the Books apart from the Silver Book, it is the Engineer or Employer's Representative (G) that is identified as the person who may exercise many of the remedies which benefit the Employer. Sub-Clause 3.1 [*Engineer's/Employer's Representative's (G) Duties and Authority*] provides that whenever the Engineer/Employer's Representative is "carrying out duties or exercising authority, specified in or implied by the Contract" he is deemed to act for the Employer. Consequently, when exercising the right to these remedies, the Engineer or Employer's Representative is acting as agent of the Employer. On the other hand, some remedies, for example, the right to give notice under Sub-Clause 15.2 [*Termination by Employer*][3] is expressly reserved to the Employer.

8.13 This allocation of the right to exercise a remedy between the Engineer/Employer's Representative, on the other hand, and the Employer, on the other, is important and should not be overlooked. If the Employer sought to exercise a remedy which was specifically expressed as being exercisable by the Engineer/Employer's Representative, such exercise might be invalid (and even, in certain circumstances, a breach of contract). Conversely, the scope of the Engineer's/Employer's Representative's authority is limited under Sub-Clause 3.1 to the powers which are identified as *his* powers and does not extend to the exercise of the remedies specifically reserved for the Employer.

8.14 Nevertheless, Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*] provides that the notice and particulars of a claim by the Employer may be given by either the Employer or

3. "*Termination for Contractor's Default*" (G).

the Engineer/Employer's Representative (G). This indicates that the Engineer/Employer's Representative has the authority to exercise the Employer's rights to the remedies which require compliance with that Sub-Clause, for example, claims for payment of cost, entitlement to liquidated damages and, in the Red, MDB and Yellow Books, extension of the Defects Notification Period.

8.15 Naturally, under the Silver Book, where there is no third party contract administrator, the position is somewhat different. The Employer's Representative, appointed in accordance with Sub-Clause 3.1 is "deemed to have the full authority of the Employer under the Contract" (unless the Contractor is notified otherwise), and this includes the exercise of remedies. However, a specific exception is made in respect of Clause 15, the right to exercise the remedies under which is reserved to the Employer alone.

Failures by the Contractor generally

8.16 The majority of the Employer's remedies under the FIDIC forms relate to specific events or circumstances. These are considered below. However, in addition, there are various general courses of action available to the Employer in the event of non-performance of the Contractor, which may be invoked to protect the Employer or encourage the Contractor's compliance with his obligations. These are as follows:

- Notice to correct: the contract administrator[4] giving notice[5] to the Contractor under the Sub-Clause 15.1 to make good and remedy a failure to carry out any obligation under the Contract.
- Suspension: the contract administrator may instruct the Contractor to suspend progress of the Works under Sub-Clause 8.8 (9.7 (G)). This provides a useful practical remedy to restrain the Contractor in order to, for example, prevent unsafe working, a breach of the local laws or a vitiation of the insurance.[6] In the Gold Book, the contract administrator has a similar power under Sub-Clause 10.6(c) in relation to the Operation Service.[7]
- Performance Security: under Sub-Clause 4.2(c) in the Red, Yellow, Silver and Gold Book, the Employer may give notice[8] to the Contractor requiring him to remedy a default, which, if the Contractor fails to remedy the default within 42 days after receiving the notice,[9] will then entitle the Employer under the Contract to make a claim under the Performance Security.[10]
- Withholding of amounts: under Sub-Clauses 14.6(a) and (b) (14.7(a) and (b) (G)), the contract administrator is entitled to withhold from an Interim Payment Certificate or, in the Silver Book, an interim payment, certain costs or amounts if the work done by the Contractor is not in accordance with the Contract or if the Contractor was or is

4. Note that, in the Silver Book, notice must be given by the Employer. This is because the Employer's Representative (if appointed) does not have the Employer's authority to act on his behalf in respect of Clause 15, which includes giving notice under Sub-Clause 15.1 (Sub-Clause 3.1).

5. "Notice" (G).

6. See Chapter, 5, para. 5.64 *et seq*.

7. See Chapter 3, paras. 3.90–3.93.

8. "Notice" (G).

9. "Notice" (G).

10. See Chapter 7, paras. 7.192–7.215.

failing to perform any work or obligation in accordance with the Contract, having been notified by the contract administrator of such failure.[11]

Notice to correct under Sub-Clause 15.1

8.17 Sub-Clause 15.1 of the Red, MDB and Yellow Books is headed "Notice to Correct" and provides:

"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".

This Sub-Clause is identical in the Silver Book, except that "Engineer" has been replaced with "Employer".

8.18 Sub-Clause 15.1 in the Gold Book is also almost identical to that in the other Books, apart from "Engineer" being replaced with "Employer's Representative" and "notice" with "Notice", and the time period for compliance with the Notice being changed to "within the time specified in the said Notice".

8.19 Despite being one of the shortest Sub-Clauses in the FIDIC forms, Sub-Clause 15.1 provides probably the most powerful general remedy for the Employer's benefit. This is because it applies where the Contractor fails to carry out *any* obligation under the Contract and a failure to comply with a notice[12] under this Sub-Clause entitles the Employer to terminate the Contract under Sub-Clause 15.2(a) upon giving 14 days' notice. This remedy is, however, exercisable only by the contract administrator and any purported notice[13] given by the Employer (except in the Silver Book)[14] under this Sub-Clause is likely to be invalid. The contract administrator is also under no duty to give notice[15] under this Sub-Clause.

8.20 Any notice[16] given by the contract administrator under Sub-Clause 15.1 must comply with the required formalities under Sub-Clause 1.3: it must be in writing and must be delivered in accordance with that Sub-Clause. Although only the Gold Book also requires that the Notice be identified as a Notice and include reference to Sub-Clause 15.1,[17] it is strongly recommended that any notice given under Sub-Clause 15.1 in the other Books should also specify these matters so that there is no doubt as to its status. This is particularly important if the Employer is considering the possibility of terminating the Contract under Sub-Clause 15.2(a) if the Contractor fails to comply with the notice.

8.21 The notice[18] should identify the obligation that the Contractor has failed to carry out and specify the time within which it must be remedied.[19] In all the Books apart from

11. See paras. 8.138–8.141 below.
12. "Notice" (G).
13. "Notice" (G).
14. In the Silver Book, the Employer is the contract administrator (in the sense that this term has been used in this book). In the Silver Book, the right to give notice under Sub-Clause 15.1 is reserved to the Employer alone, and may not be delegated to the Employer's Representative (see n. 3, above).
15. "Notice" (G).
16. "Notice" (G).
17. Sub-Clause 1.3(a) (G).
18. "Notice" (G).
19. FIDIC, *The FIDIC Contracts Guide*, (1st Edn, 2000, Fédération Internationale des Ingénieurs-Conseils), ("*FIDIC Guide*"), p. 258.

the Gold Book, this time must be a reasonable time. What would amount to 'reasonable' will depend on the particular facts. Moreover, before the Employer seeks to rely on a failure by the Contractor to comply with the notice as entitling him to terminate the Contract under Sub-Clause 15.2, it is critical that the period stated in the notice was reasonable. Indeed, more generally, the Employer's right to terminate under this Sub-Clause is predicated on valid notice[20] having been given under Sub-Clause 15.1. Consequently, any purported exercise by the Employer of his rights under Sub-Clause 15.2 [*Termination by Employer*][21] on the basis of an invalid notice[22] may amount to a repudiation[23] of the Contract.

8.22 Sub-Clause 15.1 in the Gold Book does not contain any requirement for the time period specified in the Notice to be reasonable. However, it is suggested that, under most jurisdictions, the governing law may nevertheless impose restrictions on the minimum time period that may be specified. For example, under English law, it may be implied that the period must be reasonable.

8.23 As the *FIDIC Guide*[24] notes, care should be exercised if such notice is to be given after the Time for Completion has passed. This is because, by requiring the Contractor to remedy any failure within a specified time after the Time for Completion has passed, this might be deemed to amount to a waiver by the Employer as to the Contractor's obligation to complete within the Time for Completion and thus might prejudice the Employer's entitlement to delay damages under Sub-Clause 8.7 (9.6 (G)). In these circumstances, the *FIDIC Guide* helpfully suggests that "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".[25]

8.24 For the Employer, the right to terminate the Contract under Sub-Clause 15.2(a) for a failure by the Contractor to comply with a notice[26] under Sub-Clause 15.1 provides an important possible ground for termination because, unlike for the Contractor,[27] the Employer has no other general contractual right to terminate for a fundamental breach.

8.25 Apart from termination under Sub-Clause 15.2(a), the giving of notice[28] under Sub-Clause 15.1 is not a condition precedent generally to the Employer's entitlement to terminate under Sub-Clause 15.2. However, it will still be worth considering routinely before so drastic a step as termination is taken. Above all, it gives the Contractor the opportunity to understand clearly how he has failed to meet his obligations and to put matters right without the disruption that almost inevitably accompanies termination and appointment of a replacement contractor.

Time

8.26 As stated in Chapter 5, *Time*, the Contractor's obligations in respect of time can be separated into two elements: an obligation to proceed with due expedition and without

20. "Notice" (G).
21. "*Termination for Contractor's Default*" (G).
22. "Notice" (G).
23. Or equivalent under the governing law.
24. *FIDIC Guide*, p. 258.
25. *Ibid.*
26. "Notice" (G).
27. Sub-Clause 16.2(d).
28. "Notice" (G).

delay,[29] and an obligation to complete the Works or Design-Build (G) and Sections (if any) within the Time for Completion.[30, 31] The Employer's remedies in respect of the Contractor's failure to comply with these time obligations are correspondingly considered in this chapter separately.

Failure to proceed

8.27 If the Contractor fails to proceed his obligation under Sub-Clause 8.1 (9.1 (G)) with due expedition and without delay, he will be in breach of contract and, in principle, the Employer will be entitled to recover damages from the Contractor in relation to losses that the Employer has incurred during the course of the execution of the Works as a result of the Contractor's slow progress. For example, the Employer may be entitled to recover the amount of a claim made by another contractor on the Employer for delay and disruption in circumstances where the other contractor has been delayed by the failure of the Contractor to proceed with due expedition and without delay.

8.28 Importantly, however, any losses recoverable for breach of this obligation to proceed with due expedition and without delay must be distinguished from the losses incurred as a result of the actual delay to the completion of the Works, for which the Employer is to be compensated by way of an entitlement to liquidated delay damages under Sub-Clause 8.7 (9.6 (G)), which are stated to be the only damages due from the Contractor for failing to complete within the Time for Completion.[32]

8.29 In circumstances where the Contractor is in breach of his obligation to proceed with due expedition and without delay, it is also likely to be the case that progress will have fallen behind the current programme and/or that actual progress is too slow for the Contractor to complete within the Time for Completion.[33] In either case, the contract administrator may give an instruction under Sub-Clause 8.6 (9.5 (G)) [*Rate of Progress*] for the Contractor to submit a revised programme and expedite progress at the Contractor's cost.[34]

8.30 Termination. The Employer has an express right to terminate under Sub-Clause 15.2(c)(i) (15.2(c) (S)),[35] upon 14 days' notice if the Contractor fails, "without reasonable excuse", to proceed with due expedition and without delay.[36]

8.31 It has already been suggested that the obligation to "proceed with due expedition" requires the Contractor to proceed with a degree of speed to progress the Works towards completion by the Time for Completion as required by Sub-Clause 8.2 (9.2 (G)).[37] Consequently, although not determinative, the Employer would likely refer to the Contractor's programme submitted under Sub-Clause 8.3 and the progress reports submitted under Sub-Clause 4.21 when considering whether the Contractor has failed to proceed with

29. See Chapter 5, paras. 5.59–5.63.
30. Time for Completion of Design-Build (G).
31. See Chapter 5, paras. 5.89–5.185.
32. See paras. 8.38–8.71 below.
33. Time for Completion of Design-Build (G).
34. See Chapter 5, paras. 5.186–5.200.
35. Sub-Clause 15.2(c)(i) (15.2(c) (S)) entitles the Employer to terminate if the Contractor "without reasonable excuse fails to proceed with the Works in accordance with [Clause 8/Sub-Clause 9.1 (G)]".
36. See paras. 8.185–8.188 below.
37. See Chapter 5, para. 5.60–5.61.

due expedition. Importantly, however, in the same way that the Contractor's obligation to proceed with due expedition and without delay should be considered as separate (although related) to the Contractor's obligation to complete within the Time for Completion, the Employer's entitlement to terminate under Sub-Clause 15.2(c)(i) (15.2(c) (S)) is not conditional upon the Contractor first having failed to comply with Sub-Clause 8.2 (9.2 (G)) [*Time for Completion*].[38]

8.32 The meaning of "without reasonable excuse" is uncertain and will depend upon the particular facts. It is suggested that whether the cause of any delay to the Contractor's progress entitles him to an extension of time under Sub-Clause 8.4 (9.3 (G)) will be a relevant factor (possibly even if the Contractor has lost that entitlement by failing to give the required notice under the first paragraph of Sub-Clause 20.1 (20.1(a) (G)) [*Contractor's Claims*]).

8.33 Ultimately, the qualification "without reasonable excuse" provides the DAB and arbitral tribunal with a wide discretion to decide whether the Employer's termination under this ground was valid.

8.34 The Employer would no doubt only seek to terminate the Contract in these circumstances as a last resort, for example where the extent of the delay was very serious and there was no real prospect of the Contractor completing the Works by the Time for Completion.

Failure to complete within the Time for Completion

8.35 If the Contractor fails to complete the whole of the Works [Design-Build (G)] or a Section within the applicable Time for Completion,[39] he will be in breach of Sub-Clause 8.2 (8.2 and 9.2 (G)) [*Time for Completion*].[40] The Employer's primary remedy for such breach is delay damages under Sub-Clause 8.7 (9.6 (G)).

8.36 However, such delay damages may not be the Employer's sole remedy under the FIDIC forms. The most significant additional remedy is found in the Gold Book whereby a prolonged delay in completion of the Works may expressly entitle the Employer to terminate the Contract.[41]

8.37 In addition, under the Red, MDB and Yellow Books,[42] a failure to complete the Works (but not Sections) within the Time for Completion will also impact on the Contractor's entitlement to price escalation amounts under Sub-Clause 13.8 [*Adjustments for Changes in Cost*], if this Sub-Clause applies.[43] Under this Sub-Clause, if the Contractor fails to complete the Works within the Time for Completion, any adjustment to prices after the Time for Completion are to be made using either "(i) each index or price applicable on

38. "*Time for Completion of Design-Build*" (G).
39. Time for Completion of Design-Build (G).
40. "*Time for Completion of Design-Build*" (G).
41. Sub-Clauses 9.13 and 15.2(h) (G). See paras. 8.73–8.77 below.
42. The Silver and Gold Books have been omitted from this list because, unlike the other Books, Sub-Clause 13.8 in the Silver and Gold Books, if applicable, does not contain detailed provisions in the General Conditions governing the adjustments for changes in cost. Instead, they envisage that the provisions relating to these adjustments will be set out in the Particular Conditions (S) or Schedules of cost indexation as contained in the Schedule of Payments (G). Note also that the Guidance for the Preparation of Particular Conditions in the Silver Book suggests that the wording of Sub-Clause 13.8 in the Yellow Book might be adopted, in which case the above comments will obviously apply.
43. See Chapter 4, paras. 4.104–4.115.

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*" (emphasis added). This Sub-Clause, therefore, expressly prevents the Contractor from obtaining the benefit due to an increase in the applicable adjustment indices or prices during his period of delay.

Delay damages

8.38 Liquidated damages[44] for delay are probably the best known of the remedies available to an employer under an engineering or construction contract. This remedy is called delay damages in the FIDIC forms. This terminology is helpful in differentiating between the Employer's entitlement to liquidated damages for delay and failure to meet a performance standard.[45] The Contractor's liability for delay damages is governed by Sub-Clause 8.7 (8.5 & 9.6 (G)). In the Gold Book, this liability relates only to a failure to complete the Design-Build.

8.39 Liquidated damages Clauses are valuable to an employer because, generally, they remove the burden of having to prove the requirements of an action for damages for breach of contract, such as actual loss. The contractor may also see benefit in them as an indication of a specific level of risk exposure. The legal effect and enforceability of the liquidated damages provisions are complicated and very dependent on the governing law of the contract. In common law jurisdictions in particular, it is essential to be aware of the potential dangers of the doctrine of penalties in fixing the amount and the prevention principle in operating the extension of time provisions. In some civil law jurisdictions, however, penalties are enforceable.

8.40 The first paragraph of Sub-Clause 8.7 of the Red and Yellow Books provides:

"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".

The MDB and Silver Books contain almost identical provisions, except that the reference to the Appendix to Tender is replaced by the Contract Data and Particular Conditions, respectively.

8.41 The equivalent provisions in the Gold Book are found in Sub-Clauses 8.5 and 9.6. Sub-Clause 9.6 is again almost identical to Sub-Clause 8.7 in the Red and Yellow Books, except the references to Sub-Clause 2.5, Sub-Clause 8.2, the Appendix to Tender and the Taking-Over Certificate are again replaced with Gold Book equivalents, namely Sub-Clause 20.2, Sub-Clause 9.2, the Contract Data and the Commissioning Certificate. Note that the reference to Time for Completion is unaltered in Sub-Clause 9.6 of the Gold Book, despite this not being a defined term: it must have been intended to read Time for Completion of

44. Often also known in England as liquidated and ascertained damages.

45. In the FIDIC forms, liquidated damages also feature in Sub-Clause 12.4 of the Yellow and Silver Books as non-performance damages due to the Contractor's failure to pass Tests after Completion (see paras. 8.114–8.115 below) and in Sub-Clause 10.7(b) of the Gold Book as performance damages due to the Contractor's failure to achieve the required production outputs during the Operation Service (see para. 8.133 below).

Design-Build. Sub-Clause 8.5 [*Delay Damages*] appears largely redundant and simply refers to Contractor's liability to pay delay damages as detailed in Sub-Clause 9.6.

8.42 The trigger, therefore, for the Contractor's liability to pay delay damages under all the Books is the Contractor's failure to complete the Works (Design-Build (G)) or Section within the relevant Time for Completion.[46] What is required for the Works (Design-Build (G)) or Section to be considered to have been completed for this purpose is discussed in Chapter 5, paras. 5.102–5.137.

8.43 These provisions apply equally to both a failure to complete the Works (Design-Build (G) and a Section. The particular issues relating to sectional completion and completion of parts of the Works (other than Sections) are considered at paragraphs 8.56–8.60.

Amount of delay damages

8.44 The amount payable as delay damages is the sum stated in the relevant contract document.[47] This amount is to be paid "for every day which shall elapse between the relevant Time for Completion" and the date stated in the Taking-Over Certificate (R/M/Y/S) or Commissioning Certificate (G). The FIDIC forms envisage that the amount will be stated as an amount payable per day.

8.45 The amount fixed for delay damages is a crucial question both in terms of the Contractor's risk exposure and as a matter of law. The latter is recognised in the Guidance for the Preparation of Particular Conditions.[48] The guidance on Sub-Clause 8.5 in the Gold Book, for example, observes that "Under many legal systems (notably in common law jurisdictions), the amount of these pre-defined damages must represent a reasonable pre-estimate of the Employer's probable loss in the event of delay". While in some civil law systems, at least, liquidated damages might be reduced as unreasonable, in the common law jurisdictions the issue can be more fundamental (see paragraphs 8.61 *et seq.* below).

8.46 In general, the sum should represent a reasonable estimate of the losses that the Employer will incur as a result of the delayed completion. If the Employer is a state entity, this may be difficult to determine. Careful thought should also be given to currencies in which the delay damages are to be paid.

8.47 The *FIDIC Guide*[49] suggests that the applicable Laws may require this sum to be calculated as a reasonable estimate of the Employer's losses, "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". In the authors' experience, it is very common for delay damages to be calculated so as not to be limited to financing costs but to include an element of loss of profit that would otherwise have been made if the Works or facility would have been completed on time.

8.48 The *FIDIC Guide* also suggests that the sum per day might be expressed as a percentage of the Contract Price, "unless this would not comply with applicable Laws".[50] This is the approach that is adopted in the example wording provided in the Guidance for

46. Time for Completion of Design-Build (G).
47. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).
48. In the Red, Yellow, Silver and Gold Books (Notes on the Preparation of Special Provisions (G)).
49. *FIDIC Guide*, p. 177.
50. *Ibid.*

the Preparation of Particular Conditions in the Silver Book.[51] On the other hand, the Guidance for the Preparation of Particular Conditions in the Red and Yellow Books suggests that, where the Accepted Contract Amount is expressed as a figure in more than one currency, "it may be preferable to define these damages (per day) as the percentage reduction which would be applied to each of these figures". The reference to a percentage "reduction" here is misleading. The Employer's entitlement to delay damages under Sub-Clause 8.7 (9.6 (G)) is a separate right to payment and does not operate as a reduction to the Accepted Contract Amount (or reduce the amounts payable to the Contractor for work done). It is suggested that the Guidance should be understood to mean that the daily sum may be made up of a percentage of each of the figures, expressed in different currencies, which make up the Accepted Contract Amount. In addition, the Guidance refers only to the daily sum being expressed as a percentage of the Accepted Contract Amount (or as a figure) and not the Contract Price.

8.49 However, notwithstanding the references to the daily sum being expressed as a percentage of the Contract Price or the Accepted Contract Amount, the example forms of Appendix to Tender in the Red and Yellow Books and the Contract Data in the Gold Book all express the amount of delay damages as a percentage of the *final* Contract Price per day.[52] If this example wording is adopted, it is suggested that this may be unenforceable for uncertainty, in some jurisdictions, because the final Contract Price will only necessarily be ascertainable at the conclusion of the project.

8.50 Cap on liability. All the Books provide for the possibility of an upper limit for the Contractor's liability to be specified: "the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated" in the relevant contract document.[53] Whilst a matter of negotiation, the *FIDIC Guide*[54] notes that this limit is usually 5–15% of the contract price in international contracts.

8.51 If no maximum amount is stated in the relevant contract document, there will be no cap on the Contractor's liability, which will continue to accrue until he has complied with his obligations under Sub-Clause 8.2 (9.2 (G)). In addition, whether or not the Contractor's liability for delay damages is capped, this liability falls within (and not in addition to) the overall limitation of liability under Sub-Clause 17.6 (17.8 (G)).

8.52 Delay damages are sole damages for delay. The delay damages under Sub-Clause 8.7 (9.6 (G)) are stated to be the only damages due from the Contractor for a failure to comply with his obligations under Sub-Clause 8.2 (9.2 (G)), unless the Employer terminates the Contract under Sub-Clause 15.2 (Clause 15 (G)) prior to completion of the Works. It should be noted that the restriction is only in relation to damages, and not other remedies that may be available at law.[55]

8.53 All the Books also confirm that these delay damages do not relieve the Contractor from his obligations under the Contract.

51. The Guidance for the Preparation of Particular Conditions, however, also suggests that the daily sum may be expressed as an amount or a percentage of the Contract Price.

52. In the example form of Contract Data in the MDB, it is expressed as percentage of the Contract Price per day.

53. Appendix to Tender (R/Y); Contract Data (M); Particular Conditions (S).

54. *FIDIC Guide*, p. 177.

55. See, for example, the English case of *Bath and North East Somerset District Council* v. *Mowlem plc* [2004] EWCA Civ 115; [2004] BLR 153.

Procedure

8.54 The Employer's entitlement to delay damages under Sub-Clause 8.7 (9.6 (G)) is subject to Sub-Clause 2.5 (20.2 (G)).[56] This Sub-Clause applies, not only to determine the amount of the delay damages, but also to the Employer's right to deduct or set off such amounts from sums otherwise due to the Contractor. In summary, under this Sub-Clause, the Employer (or contract administrator) is first required to give notice[57] and particulars of the claim for delay damages to the Contractor. The contract administrator is then required to proceed in accordance with Sub-Clause 3.5 [*Determination*] to agree or determine the amounts due to the Employer. Only once amounts have been agreed or determined as due to the Employer is he entitled to deduct or set off these amounts from other sums due to the Contractor and only in accordance with the provisions of Sub-Clause 2.5 (20.2 (G)). Sub-Clause 2.5 (20.2 (G)) is considered in detail in Chapter 6, paras. 6.283 *et seq*. In other words, the Employer has no unilateral right simply to set off delay damages.

8.55 One issue that arises from the drafting of Sub-Clause 8.7 (9.6 (G)) is the date on which the Employer is entitled to claim delay damages. This is because the delay damages are stated to be paid "for every day which shall elapse between the relevant Time for Completion and the date stated in the" Taking-Over Certificate (R/M/Y/S) or Commissioning Certificate (G). It might therefore be argued that no claim can be made prior to the issue of the Taking-Over Certificate or Commissioning Certificate (G) because, until that time, the date stated in the relevant Certificate cannot be ascertained. However, in the authors' view, Sub-Clause 8.7 (9.6 (G)) is intended to set out the period over which the Contractor is liable for delay damages and the amount of those delay damages, and does not govern the time at which the Employer may claim payment of such delay damages. In the absence of any express provision in the FIDIC forms as to when the Employer may claim delay damages, the authors consider that the better view is that the Employer may submit claims under Sub-Clause 2.5 (20.2 (G)) from time to time in relation to delay damages which have already accrued under Sub-Clause 8.7 (9.6 (G)), and any such delay damages become payable in the amount determined by the contract administrator, from time to time, in respect of each of these claims in accordance with Sub-Clauses 2.5 (20.2 (G)) and 3.5.

Sectional completion

8.56 As stated in Chapter 5, paragraphs 5.132–5.137, the FIDIC forms make provision under Sub-Clause 8.2 (9.2 (G)) to require the Contractor to complete Sections of the Works at different times from the whole of the Works (Design-Build (G)). If this option is adopted, not only must the Time for Completion of each Section be specified in the Contract, but separate delay damages must be specified for any Section in respect of which it is intended that delay damages are to be applicable. For this purpose, the example forms of the Appendix to Tender in the Red and Yellow Books and the Contract Data in the MDB and Gold Book all include spaces for the Time for Completion and delay damages to be

56. Although Sub-Clause 8.7 in the MDB states that the Employer's entitlement to delay damages is "subject to notice under Sub-Clause 2.5", it is clear that Sub-Clause 2.5 as a whole will apply.

57. "Notice" (G).

specified for each Section. In the Silver Book, this information is to be specified in the Particular Conditions.

8.57 The same considerations discussed above (in paragraphs 8.44–8.55) in relation to late completion of the Works (Design-Build (G)) apply to the amount of delay damages for a Section and the procedure that the Employer must follow to be entitled to payment from (or deduction from amounts otherwise payable by) the Contractor for these delay damages.

8.58 If no separate daily rate of delay damages is stated for each Section in the relevant contract document and the delay damages specified are to apply to the whole of the Works (Design-Build (G)) there is a serious risk, certainly in common law jurisdictions based on the principles discussed below, that the Employer will not be entitled to any liquidated delay damages under Sub-Clause 8.7 (9.6 (G)) if the Employer has taken possession of a Section before completion of the whole of the Works or, in the Gold Book, the Section has been put into use, and no other mechanism is specified in the Contract for reducing the daily rate to take account of the Section that has been taken over or put into use. As the FIDIC forms contemplate that separate delay damages will apply to each Section, they do not include a mechanism for the adjustment of delay damages applicable to the Works when Sections are taken over or put into use.

8.59 In addition, under Sub-Clause 10.2 of the Red, MDB and Yellow Books, the Employer has the right to take over and use a part of the Works (or Section) before the Works or Section have been completed. If the Employer exercises this right and a Taking-Over Certificate is issued for that part of the Works, Sub-Clause 10.2 includes a mechanism for reducing the delay damage for completion of the remainder of the Works (or Section). In these circumstances, the Engineer is required to proceed in accordance with Sub-Clause 3.5 to agree or determine a proportional reduction which is to be applied to the delay damages for the Works (or Section). This reduction is to be calculated on the basis of the proportional value of the part of the Works (or Section) taken over in relation to the value of the Works (or Section) as a whole.

8.60 The same principles apply to the Gold Book where the Employer's Representative issues a Commissioning Certificate for a part of the Works under Sub-Clause 11.6, at the request of the Contractor.

Common law position: penalties and the prevention principle

8.61 In brief, it is a general common law principle that, if the delay damages or liquidated damages Clause is regarded as a penalty, it will be unenforceable. The distinction between an invalid penalty Clause and an enforceable liquidated damages Clause was summarised in *Commissioner of Public Works* v. *Hills*:[58]

> " . . . the criterion of whether a sum—be it called penalty or damages—is truly liquidated damages, and as such not to be interfered with by the Court, or is truly a penalty which covers the damage if proved, but does not assess it, is to be found in whether the sum stipulated for can or cannot be regarded as a 'genuine pre-estimate of the creditor's probable or possible interest in the due performance of the principal obligation' . . . the circumstances must be taken as a whole and viewed as at the time the bargain was made."

58. [1906] AC 368 at 375–376, PC.

8.62 The burden of proof is on the contractor to prove that the sum specified is a penalty and not a genuine pre-estimate of loss.[59]

8.63 The best-known liquidated damages case, which is not merely known in English law, but quoted in most other common law jurisdictions, is *Dunlop Pneumatic Tyre Co. Ltd* v. *New Garage and Motor Company Ltd*,[60] where the English House of Lords sought to provide guidance on how to distinguish between liquidated damages and an unenforceable penalty.

8.64 The following propositions of Lord Dunedin in that case are often referred to:[61]

1) The term used—'penalty' or 'liquidated damages'—is suggestive, but not conclusive. The reality must be considered, rather than just the label.
2) "The essence of a penalty is a payment of money stipulated as *in terrorem*[62] of the offending party; the essence of liquidated damages is a genuine covenanted pre-estimate of damage".
3) The 'genuine pre-estimate' must be viewed at the time the contract was formed, not when the breach occurred.
4) "It will be held to be penalty [sic] if the sum stipulated for is extravagant and unconscionable in amount in comparison with the greatest loss that could conceivably be proved to have followed from the breach".
5) "There is a presumption (but no more) that it is penalty [sic] when 'a single lump sum is made payable by way of compensation, on the occurrence of one or more or all of several events, some of which may occasion serious and others but trifling damage' ".
6) On the other hand, it is "no obstacle to the sum stipulated being a genuine pre-estimate of damage, that the consequences of the breach are such as to make precise pre-estimation almost an impossibility. On the contrary, that is just the situation when it is probable that pre-estimated damage was the true bargain between the parties".

8.65 Although the danger posed by the penalty doctrine in construction (and other) contracts is a real one, in that an employer may lose his right to a remedy agreed between the parties, the courts are generally realistic. The Hong Kong Court of Appeal's decision in *Philips* v. *Attorney-General of Hong Kong* was upheld by the Judicial Committee of the Privy Council[63] with the following words of common sense:

"Except possibly in the case of situations where one of the parties to the contract is able to dominate the other as to the choice of the terms of the contract, it will normally be insufficient to establish that a provision is objectionably penal to identify situations where the application of the provision could result in a larger sum being recovered by the injured party than his actual loss. Even in such situations so long as the sum payable in the event of non-compliance with the contract is not extravagant, having regard to the range of losses that it could reasonably be anticipated it would have to cover at the time that the contract was made, it can still be a genuine pre-estimate of the loss that would be suffered and so a perfectly valid liquidated damages provision".[64]

59. See, for example, the English cases of *Robophone Facilities Ltd* v. *Blank* [1966] 1 WLR 1428, CA, confirmed by the Court of Appeal in *Jeancharm Ltd* v. *Barnet Football Club Ltd* [2003] EWCA Civ 58.

60. [1915] AC 79.

61. *Ibid.* at 86–88.

62. "*in terrorem*"—to frighten.

63. (1993) 61 BLR 41.

64. *Ibid.*, at 58–59 *per* Lord Woolf.

8.66 Most recently, in *Alfred McAlpine Capital Projects Ltd* v. *Tilebox Ltd*,[65] the English Technology and Construction Court upheld a liquidated damages provision of £45,000 per week, where the Employer would have to pay £20,000 per week liquidated damages to its tenant for non-delivery. The court's finding was that the Employer, through its representative "did make a genuine attempt to estimate the losses which would flow from future delay . . . perfectly sensibly, he took as his yardstick a conservative estimate of rental value".[66]

8.67 From the above discussion, it can be seen that, in common law jurisdictions in particular, care is needed in deciding on the daily rate of the delay damages. However, it must also be noted that there are in fact only a limited number of reported common law cases where the courts have held that a liquidated damages provision is unenforceable for being a penalty. Nevertheless, generally, where the Contract is to be governed by a common law jurisdiction, it would be unwise to quantify the delay damages payable as a single lump sum irrespective of the period of delay because this practice would fall within the fifth proposition of Lord Dunedin as set out above.

8.68 As noted above, the FIDIC forms adopt the safer course of a 'daily sum' and one approach suggested in the *FIDIC Guide* and in the example wording of the Appendix to Tender (R/Y), Contract Data (M/G) and Particular Conditions (S) is for this sum to be stated as a percentage of the Contract Price. However, in jurisdictions which require the amount of delay damages to be a 'genuine pre-estimate of loss', such a practice should be approached with care. This is because the Contract Price is not fixed and may be adjusted during the course of the project to include claims by the Contractor and Variations. Therefore, the amount of delay damages may increase through no fault of the Contractor and without any relation to the losses suffered by the Employer due to any delay by the Contractor. Moreover, as a practical problem, it may be difficult to ascertain what the Contract Price is at a particular time during the course of the project, and so the delay damages may be insufficiently certain to be enforceable. Where the percentage of the Contract Price specified is related to interest or other financing charges, i.e., the cost of money during the time overrun, such an approach may be appropriate. Moreover, the authors certainly do not go so far as to suggest that the specification of the amount of delay damages as a percentage of the Contract Price will necessarily mean that they would be unenforceable. Indeed, this remains a common, if uncertain, practice, which necessarily indicates that it may be defensible. Nevertheless, it is usually preferable for the daily amount to be specified as a sum per day. It would, of course, also be possible, subject to the governing law, to arrive at a genuine pre-estimate figure and then express it as a percentage of, for example, the Accepted Contract Amount or, in the Silver Book, the Contract Price stated in the Contract Agreement.

8.69 In the context of common law jurisdictions, the other aspect of the delay damages Clause that requires comment is its interdependence with the Contractor's entitlement to an extension of time under Sub-Clause 8.4 (9.3 (G)). This is because of the so-called 'prevention principle'. The concept is quite simple: if a contractor is prevented by the employer from performing his obligations by the contractual completion date, the contractor's obligation to complete by this date is replaced with an obligation to complete

65. [2005] EWHC 281 (TCC); [2005] BLR 271.
66. *Ibid.*, at para. 94.

within a reasonable time. The employer will also not be entitled to liquidated damages for delay as would otherwise have been the case, but instead will be entitled to general damages if the contractor then fails to complete within a reasonable time (i.e., recovery of actual losses which he proves he has suffered if the contractor fails to complete within a reasonable time).

8.70 It is therefore essential from the employer's perspective, as well as from the contractor's, that any delay for which the employer is responsible is dealt with in another way and does not cloud the question of the cause of any delay in achieving completion. The mechanism for doing this is, of course, the provision for extension of time. As the English Court of Appeal expressed it in the leading case of *Peak Construction (Liverpool) Ltd* v. *McKinney*:[67]

"If there is a Clause which provides for extension of the contractor's time in the circumstances which happen, and if the appropriate extension is certified by the architect, then the delay due to the fault of the contractor is disentangled from that due to the fault of the employer and a date is fixed from which the liquidated damages can be calculated".

8.71 The existence of a complete and functioning extension of time provision that entitles the Contractor to an extension of time if he is delayed due to acts (or omissions) of the Employer or his agents (i.e., the contract administrator) is essential to the Employer's right to claim delay damages. Such a provision is found in Sub-Clauses 8.4(a) and (e) of the Red, MDB and Yellow Books, Sub-Clause 8.4(c) of the Silver Book and Sub-Clause 9.3(a) and (e) in the Gold Book.

Termination for failing to complete

8.72 Generally, under all the Books apart from the Gold Book, the Employer has no right to terminate the Contract simply because of a failure by the Contractor to complete within a specified time, whether the Time for Completion or another date. Instead, in these Books, the Employer would have to rely on alternative grounds under the Contract for termination, which go to the underlying cause of the Contractor's delay in completion. Accordingly, the Employer may be able to rely on the provisions of Sub-Clauses 15.1 and 15.2(a), which entitle the Employer to terminate the Contract, after giving 14 days' notice, if the Contractor has failed to comply with a notice to correct given under Sub-Clause 15.1 by the contract administrator. Alternatively, Sub-Clause 15.2(c)(i) (15.2(c) (S)) may also be satisfied, although it will often be difficult for the Employer to establish the two elements required under this Sub-Clause, namely: (i) the Contractor's failure to proceed with due expedition and without delay, and (ii) absence of any reasonable excuse. Nevertheless, if these elements exist, Sub-Clause 15.2(c)(i) (15.2(c) (S)) potentially allows the Employer to terminate prior to the Time for Completion.

8.73 On the other hand, the Gold Book has addressed this difficulty by including an additional express right of the Employer under Sub-Clauses 9.13 [*Failure to Complete*] and 15.2(h). By these Sub-Clauses, the Employer is entitled, after giving not less than 14 days' Notice to the Contractor, to terminate the Contract if the Contractor fails to complete the

67. [1970] 1 BLR 111 at 127.

Design-Build prior to the "Cut-Off Date",[68] i.e., if the Contractor fails to complete the Design-Build within a specified period stated in the Contract Data after the expiry of the Time for Completion of the Design-Build. If no Cut-off Date is stated in the Contract Data, there is nevertheless a fall-back provision in Sub-Clause 15.2(h), which entitles the Employer to terminate the Contract if the Contractor has failed to complete the Design-Build within 182 days after the Time for Completion of the Design-Build, again after giving not less than 14 days' Notice to the Contractor.

8.74 Alternatively, under Sub-Clause 9.13, the Employer may permit the Contractor to continue the Design-Build for a further period specified by the Employer, essentially granting an extension to the Cut-Off Date, whilst retaining the right, if the Contractor fails then to complete the Design-Build before the expiry of this further period, either to permit the Contractor to continue for an additional specified period or to terminate the Contract under Sub-Clause 15.2(h).[69]

8.75 In either situation, the Employer is expressly entitled to recover from the Contractor any direct losses incurred, "including any loss resulting from the delayed operation of the Works", but expressly subject to "the limitations contained in Sub-Clause 9.6 [*Delay Damages Relating to Design-Build*] and Sub-Clause 17.8 [*Limitation of Liability*]". The limitation under Sub-Clause 9.6 is the cap (if any) on the amount of delay damages payable by the Contractor under that Sub-Clause.

8.76 The logic of this provision in Sub-Clause 9.13 is difficult to follow. If delay damages are specified in the Contract, they are always payable in this situation and so it is unclear why the Employer should be entitled to recover other direct loss incurred. The provision is also inconsistent with Sub-Clause 9.6, which provides that delay damages under that Sub-Clause are the only damages due for the Contractor's failure to complete the Design-Build within the Time for Completion of Design-Build. Moreover, Sub-Clause 9.13 contemplates that these direct losses may include "any loss resulting from the delayed operation of the Works", which would appear to be inconsistent with the exclusion of liability in Sub-Clause 17.8 for loss of use of any Works. Finally, it appears that the limitation in Sub-Clause 9.6 is intended to apply in the event that the Employer terminates the Contract under Sub-Clause 9.13(b)/15.2(h). In the authors' view, it is unlikely that this was what was intended by the draftsmen, although the limitation in Sub-Clause 17.8 would apply in that case. The Parties may wish to clarify this matter in the Particular Conditions.

8.77 This entitlement to terminate arises only in respect of the Contractor's failure to complete the whole of the Design-Build, and not Sections. After terminating the Contract on this ground, the Employer is then permitted to complete the work and subsequently execute the Operation Service himself or by engaging others.[70]

Remedies for defects in quality and performance

8.78 If the Contractor carries out any defective work, the Employer has available a number of specific remedies, both practical and financial, in addition to the general remedies

68. "Cut-Off Date" is defined as "the date, at the end of a specified period stated in the Contract Data, after the Time for Completion of the Design-Build or any extension thereto granted under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]" (Sub-Clause 1.1.26 (G)).

69. Sub-Clause 9.13(a).

70. Sub-Clause 9.13(b).

mentioned in paras. 8.16–8.25 above. In many instances, the practical remedies may be more attractive than the financial remedies from the point of view of actually getting the job done. They will also be more pragmatic than the Employer proceeding to exercise the right to terminate the Contract that is granted to him under the FIDIC forms in respect of specific failures by the Contractor. Given the fundamental difference in the obligations of the Contractor to provide the Operation Service, the Employer's remedies in respect deficiencies in the performance of the Works or facility during the Operation Service Period are considered separately in para. 8.126 *et seq*. below.

During the course of the Works

8.79 During the course of the execution of the Works, prior to completion, or, in the Gold Book, during the Design-Build, the two powerful practical remedies available for the benefit of the Employer in relation to defects in the Works are the powers of the contract administrator under Sub-Clauses 7.5 [*Rejection*] and 7.6 [*Remedial Work*]. These Sub-Clauses are considered generally in Chapter 3, paras. 3.379–3.384. The remedies under these Sub-Clauses may be the most commonly exercised of the Employer's contractual remedies on most projects.

8.80 Under Sub-Clause 7.5, the contract administrator has the power to reject any Plant, Materials, design (Y/S/G) or workmanship found to be defective or otherwise not in accordance with the Contract. After the contract administrator has rejected any such item of the Contractor's work, by giving notice[71] to the Contractor with reasons, the Contractor is required promptly to make good the defect. Under Sub-Clause 7.6, the contract administrator has the power, at any time, to instruct the Contractor to repair (G), remove from Site and replace any Plant and Materials and remove and re-execute any other work, which is not in accordance with the Contract. A failure by the Contractor to comply with the contract administrator's instruction under this Sub-Clause within a reasonable time then entitles the Employer to employ other persons, usually another contractor, to perform the instruction, at the Contractor's expense.

8.81 In all the Books apart from the Silver Book, these remedies are particularly powerful because, if the Contractor fails to comply with his obligations under Sub-Clause 7.5 or 7.6 "without reasonable excuse" within 28 days of receiving a notice[72] issued under either of these Sub-Clauses,[73] the Employer (under all the Books apart from the Silver Book) is entitled, upon giving 14 days' notice, to terminate the Contract under Sub-Clause 15.2(c)(ii). What will amount to a "reasonable excuse" will depend on the particular facts. It is suggested, for example, that the Contractor in the Red Book may have a reasonable excuse for failing to comply with a notice to rectify non-compliant workmanship in an item of Plant under Sub-Clause 7.5 within the 28-day period if he is unable to access that item of Plant during this period due to exceptionally adverse climatic conditions affecting the Site (for which the Contractor may be entitled to an extension of time under Sub-Clause 8.4(c)).

71. "Notice" (G).
72. "Notice" (G).
73. Although Sub-Clause 7.6 makes no express mention of any notices, it would seem that the instruction of the contract administrator under that Sub-Clause is intended to be construed as a "notice" for the purposes of Sub-Clause 15.2(c)(ii).

8.82 The right of the Employer to terminate the Contract in the event of the Contractor's failure to comply with a notice issued under Sub-Clause 7.5 or 7.6 is potentially problematic. This is because the stipulation that the Employer is entitled to terminate the Contract following a 28-day period of non-compliance by the Contractor from receipt of a notice under those Sub-Clauses might, in certain circumstances, conflict with the requirement of the Contractor under Sub-Clause 7.5 to "promptly make good the defect" or under Sub-Clause 7.6 to comply with the instruction "within a reasonable time", since the time allowed under these Sub-Clauses may be more than 28 days. It is suggested that if, under Sub-Clause 7.5 or 7.6, the Contractor is given a period greater than 28 days to carry out the required work, this may provide the Contractor with a "reasonable excuse" for failing to comply with the 28-day limit stipulated in Sub-Clause 15.2(c)(ii).

8.83 Gold Book. In addition to Sub-Clauses 7.5 and 7.6, it should also be noted that, in the Gold Book, the Contractor has a separate obligation during the Design-Build Period (i.e., before completion of the Design-Build) to remedy defects under sub-paragraph (a) of Sub-Clause 12.1 [*Completion of Outstanding Work and Remedying Defects*] and a failure to comply with the obligations under Sub-Clause 12.1(a) gives rise to several remedies exercisable by the Employer's Representative under the remainder of Clause 12 [*Defects*]. These provisions are similar to those that apply to the Contractor's obligations in the other Books to remedy defects or damage during the Defects Notification Period and are therefore considered together below.

Failure to pass Tests on Completion

8.84 Clause 9 of all the Books apart from the Gold Book[74] deals with Tests on Completion and Sub-Clause 9.4 addresses the situation where the Works (or a Section) fail to pass these Tests after having been repeated under Sub-Clause 9.3. In the Gold Book, the equivalent to these Tests are the Tests on Completion of Design-Build, which are governed by Sub-Clauses 11.1 and 11.4, with Sub-Clause 11.4 being the equivalent to Sub-Clause 9.4 in the other Books.

Red, MDB, Yellow and Silver Books

8.85 Sub-Clause 9.4 is identical in the Red, MDB and Yellow Books and the first paragraph in full provides:

"If the Works, or a Section fails to pass the Test on Completion repeated under Sub-Clause 9.3 [*Retesting*], the Engineer shall be entitled to:

(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 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 [*Failure to Remedy Defects*]; or
(c) issue a Taking-Over Certificate, if the Employer so requests".

74. The Gold Book equivalent, Tests on Completion of Design-Build, are found in Sub-Clauses 11.1 to 11.4 and are discussed separately at para. 8.95 below.

In the Silver Book, the wording of this provision is almost identical except that it is the Employer who is entitled to exercise these remedies, as opposed to the Engineer, and the reference to the Employer in sub-paragraph (c) has been deleted.

8.86 Under Sub-Clause 9.4, therefore, there are three potential remedies. The first is the right to order further tests under Sub-Clause 9.3. This is likely to be the most widely exercised remedy in practice. It is implicit that the whole of Sub-Clause 9.3 applies in this situation, including the application of Sub-Clause 7.5 requiring the Contractor to make good any defect notified by the contract administrator, and not just the right to require the relevant Tests on Completion to be repeated (which would obviously serve no practical purpose).[75] The other two remedies are much harsher and will result in potentially significant consequences both to the Employer and the Contractor. Thus, as will be seen, these are likely to be of last resort.

8.87 'Greenfield' remedy. Sub-paragraph (b) of Sub-Clause 9.4 applies if the failure "deprives the Employer of substantially the whole benefit of the Works or Section". By reference to the remedies under sub-paragraph (c) of Sub-Clause 11.4 [*Failure to Remedy Defects*], this represents a 'walk-away' or 'greenfield' remedy. This remedy and the meaning "substantially the whole benefit" are discussed further below in relation to Sub-Clause 11.4(c).[76] It nevertheless entitles the Employer to terminate the Contract in respect of the Works or relevant Section and contemplates the Works or relevant Section being fully dismantled, the Site cleared, and the Employer having the financial remedies against the Contractor as under Sub-Clause 11.4, which includes being entitled to recover all sums paid to the Contractor for the Works (or Section) and the costs of dismantling the Works (or Section).

8.88 This is clearly a significant remedy which, if validly exercised by the Engineer (R/M/Y) or Employer (S), will have serious consequences to both Parties. Furthermore, there is no time restriction as to when it may be exercised so long as the conditions of Sub-Clause 9.4(b) have been satisfied. Consequently, where the failure to pass the Tests deprives the Employer of substantially the whole benefit of the Works (or Section), the Employer is entitled to terminate the Contract as a whole (or in respect of that Section) even if the Time for Completion has not yet expired. Alternatively, the Employer may allow the Contractor the opportunity to remedy the Works (or Section) and recover delay damages under Sub-Clause 8.6 if the Time for Completion has passed.

8.89 Taking-Over Certificate and reduction of Contract Price. Under sub-paragraph (c) of Sub-Clause 9.4, the Employer can elect for a Taking-Over Certificate to be issued (by the Engineer in the Red, MDB and Yellow Books), following which 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". Once a Taking-Over Certificate has been issued, the Employer is permitted to use the Works (or Section).

8.90 It is envisaged that a mechanism may be included in the Contract for calculating the relevant reduction for this failure. The Guidance for the Preparation of Particular Conditions in the Yellow and Silver Books suggest that "If the reduction referred to in the final paragraph, based on the extent of the failure, is to be defined in the Particular Conditions

75. Under Sub-Clause 7.5, the Employer is entitled to recover from the Contractor the additional costs incurred as a result of the rejection and retesting, subject to Sub-Clause 2.5 (20.2 (G)).

76. Paras. 8.107–8.108.

or in the Employer's Requirements, minimum acceptable performance criteria should also be specified". This guidance contemplates that there will be a range in the reduction to be applied "based on the extent of the failure".

8.91 If there is no mechanism in the Contract for calculating the reduction, the Employer may require the reduction to be either (i) agreed with the Contractor and paid prior to the issue of the Taking-Over Certificate, or (ii) determined and paid under Sub-Clauses 2.5 and 3.5. The second option is problematic because the appropriate amount to cover the reduced value of the Works (or Section) to the Employer is uncertain. Under Sub-Clause 3.5, in the absence of agreement between the Parties, the contract administrator is required to make a "fair determination in accordance with the Contract, taking due regard of all relevant circumstances". This option will necessarily only apply where no criteria are specified in the Contract for the calculation of the reduction and so the contract administrator will be left to speculate, when making his fair determination, as to the appropriate amounts.

8.92 Generally, the expression "the reduced value to the Employer" is unclear. It must refer to the reduced value of the *Works or Section* to the Employer. However, by the inclusion of the words "to the Employer", this might suggest that the reduced value is intended to take into account, not only the value of the Works or Section as physical structures, but also, for example, the value of these as revenue- or profit-generating assets. In the authors' view, such loss of revenue and profit is more usually compensated directly by way of performance liquidated damages and it is noticeable that the guidance in the Yellow and Silver Books uses the expression "minimum acceptable performance criteria", which is commonly used in relation to such performance damages. Moreover, if the reduced value of the Works (or Section) is intended to take account of their value as an asset to the Employer, this does not sit easily with the exclusion of liability under Sub-Clause 17.6 for loss of use of the Works.[77]

8.93 Bespoke contracts often do not include this remedy, but instead include performance liquidated damages where the performance of the works on testing fails to achieve the performance guarantees, but falls within a specified range. A common example in power projects is requiring the works to perform within a specified range of the performance guarantees for power output and heat consumption, with the contractor being liable for liquidated performance damages if the works do not achieve the performance guarantees but fall within the specified range. At the same time, absolute performance guarantees, for example on emissions and compliance with law, must be achieved before the works can be taken over. If the absolute guarantees are not achieved, the contractor may be liable for liquidated damages for delay. In this situation, the need for a reduction in the contract price does not arise.

8.94 In any event, the specified measure for the reduction of the Contract Price must mean that, in essence, it is envisaged that the Employer is willing to take over the Works (or Section) which do not perform as required under the Contract. It is also suggested that the contract administrator will also not be able to then instruct repeated tests under sub-paragraph (a), and require the Contractor to carry out further Tests on Completion.

77. See para. 8.106 below in relation to the reduction in the Contract Price following a failure to remedy defects in the Red, MDB, Yellow and Silver Books.

Gold Book

8.95 The remedies set out in Sub-Clause 11.4 of the Gold Book if the Works or a Section fail to pass the Tests on Completion of Design-Build, after they have been repeated under Sub-Clause 11.3 for a previous failure, are more limited than in the other Books. Under this Sub-Clause, the Employer's Representative may either order further repetition of the Tests under Sub-Clause 11.3 or issue a Notice to correct under Sub-Clause 15.1.

Extension of Defects Notification Period

8.96 Sub-Clause 11.3 of the Red, MDB, Yellow and Silver Books entitles the Employer to an extension of the Defects Notification Period for the Works or a Section "if and to the extent that the Works, Section or a major item of Plant . . . cannot be used for the purposes for which they are intended by reason of a defect or damage". This is considered a remedy for the purposes of this chapter because it entitles the Employer to additional rights, namely an extension of the Contractor's obligation generally in respect of defects under Clause 11 [*Defects*].

Entitlement to an extension

8.97 The Employer's entitlement to an extension of the Defects Notification Period only arises if the Works, Section or a major item of Plant "cannot be used for the purposes for which they are intended by reason of a defect or damage". Therefore, the defect or damage must prevent the Works, Section or major item of Plant from performing its intended function. A defect which affects the performance of the Works but which is not so significant as to mean that the Works cannot be used for their intended purpose would not entitle the Employer to an extension of the Defects Notification Period. The Employer is further only entitled to an extension "to the extent that the Works, Section or a major item of Plant" cannot be used due to a defect or damage. Consequently, for example, if, during a one-year Defects Notification Period, a part of a major item of Plant fails monthly such that it cannot be used, but takes only one day to rectify, the Employer is entitled only to an extension of the Defects Notification Period of 12 days.

8.98 The *FIDIC Guide*[78] suggests that the period during which the Plant or Section cannot be used need not be during the Defects Notification Period, and may in fact have occurred before taking over. In the authors' view, this guidance must be questioned, since the Contractor's obligations under Clause 11 commence upon taking over. If there are defects before taking over, the relevant remedies of the Employer are set out in Sub-Clauses 7.5 [*Rejection*] and 7.6 [*Retesting*].

8.99 The Employer's entitlement to an extension of the Defects Notification Period arises so long as the conditions of the first paragraph of Sub-Clause 11.3 are satisfied and are not dependent on the Contractor being responsible for the defect or damage.

8.100 Long-stop period. The Employer's entitlement to an extension of the Defects Notification Period is subject to two 'sunset dates':

78. *FIDIC Guide*, p. 197.

- a Defects Notification Period, whether in relation to a Section or the Works, cannot be extended by more than two years (first paragraph of Sub-Clause 11.3); and
- where delivery and/or erection of Plant and/or Materials was suspended under Sub-Clauses 8.8 [*Suspension of Work*] or 16.1 [*Contractor's Entitlement to Suspend Work*], the Contractor's obligations under Clause 11 generally do not apply "to any damage or defects occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired".

8.101 In relation to the second of these long-stop periods, it is suggested that the reference to the "Defects Notification Period for the Plant and/or Materials" must be intended to mean the Defects Notification Period of the Works or Section (as appropriate) of which the Plant or Materials form part. This will require a calculation to determine the extent to which the suspension delayed the issue of the Taking-Over Certificate for the Works or relevant Section. Interestingly, while Sub-Clause 16.1 deals only with matters attributable to the Employer, the contract administrator's power to instruct the Contractor to suspend under Sub-Clause 8.8 includes circumstances where the cause of the suspension is the responsibility of the Contractor. Indeed, although Sub-Clauses 8.9 to 8.11, which grant the Contractor certain additional rights, are stated not to apply if the cause of the suspension is the responsibility of the Contractor, there is no similar prohibition on the application of Sub-Clause 11.3. Consequently, the Contractor will benefit from this sunset date on the relevant Defects Notification Period where the cause of the suspension instructed under Sub-Clause 8.8 was his responsibility.

Procedure

8.102 The Employer's entitlement to an extension of the Defects Notification Period is expressly subject to Sub-Clause 2.5. Consequently, the Employer cannot unilaterally extend the Period but must first make a claim for an extension in accordance with the requirements of Sub-Clause 2.5, with the period of extension being agreed or determined under Sub-Clause 3.5. Moreover, Sub-Clause 2.5 makes it clear that the Employer must claim for an extension to the Defects Notification Period before the current (unextended) Period has expired.

Failure to remedy defects

Red, MDB, Yellow and Silver Books

8.103 As stated in Chapter 3, paras. 3.487–3.488, under Sub-Clause 11.4, if the Contractor fails to remedy any defect or damage within a reasonable time, the Employer's initial remedy is to require the Contractor, by notice, to remedy the defect or damage by a further fixed but reasonable date. Other remedies are triggered if the Contractor then fails to remedy the defect or damage by this notified date and if the remedial work is to be executed at the cost of the Contractor under Sub-Clause 11.2:

- The Employer may carry out the work himself or engage others to carry out this work. This can be described as a 'self-help' remedy (sub-para. (a)).

- The Employer may require the contract administrator to agree or determine a "reasonable reduction in the Contract Price" in accordance with Sub-Clause 3.5 [*Determinations*] (sub-para. (b)).
- If the defect or damage deprives the Employer of "substantially the whole benefit of the Works or any major part of the Works", the Employer has the right to a 'greenfield' remedy whereby he may terminate the Contract and recover all sums paid to the Contractor, together with the cost of dismantling the affected element of the Works and other related matters (sub-para. (c)).

8.104 Self-help. If the Employer chooses to carry out the work himself, which will usually be by engaging other contractors, he is entitled to recover from the Contractor the reasonable costs incurred in the remedying of the defect or damage, subject to Sub-Clause 2.5. The practical advantages of this right of the Employer to carry out such remedial work at the Contractor's cost are obvious. If the Employer had no such right, the fact that the Contractor is obliged to carry out this work might provide little practical comfort to the Employer. However, the Contractor is not responsible for any such remedial work carried out by the Employer or by others.

8.105 Note also that under Sub-Clause 14.9 the contract administrator is entitled to withhold the estimated cost of any work required in remedying any defects or damage under Clause 11 from the certification or, in the Silver Book, from payment of any portion of the Retention Money due to be released under that Sub-Clause. This provides security for the Employer's costs in carrying out any remedial work himself if the Contractor fails to do so.

8.106 Reduction in Contract Price. If the Employer chooses the second option under Sub-Clause 11.4, it is implicit that the Employer is deemed to have waived his right to require the defect or damage to be remedied in return for a reduction in the Contract Price. No guidance is provided as to the reduction apart from that it should be "reasonable". It would seem that the reduction is intended to represent the diminution in value of the Works due to the defect or damage, given that the Employer may claim the costs of rectification under Sub-Clause 11.4(a). Nevertheless, the diminution in value would be very difficult to assess.[79]

8.107 'Greenfield' remedy. For the Employer to be entitled to the remedy under Sub-Clause 11.4(c), the defect or damage must be such that it substantially deprives the Employer of "the whole benefit of the Works or any major part of the Works". This may be very difficult to determine with any certainty. Although the expression 'substantially deprives a party of the whole benefit of a contract' is used to describe, under English law, a fundamental breach which entitles the innocent party to terminate a contract at law,[80] it is suggested that this provides only limited assistance in the interpretation of the similar expression used in the FIDIC forms because, in this context, it relates to the Works and not to the Contract as a whole. Consequently, the Employer will take a great risk in exercising the remedy because, if he is wrong, he may be considered to have repudiated the Contract.[81]

79. See paras. 8.89–8.94, in relation to a reduction in the Contract Price following a failure to pass Tests on Completion in the Red, MDB, Yellow and Silver Books.

80. *Hongkong Fir Shipping Co. Ltd* v. *Kawasaki Kisen Kaisha Ltd* [1962] 2 QB 26.

81. See paras. 8.87–8.88, in relation to the 'greenfield' remedy following a failure to pass Tests on Completion.

8.108 If the Employer validly elects to terminate the Contract under Sub-Clause 11.4(c), he may do so in relation to the Works as a whole, or in respect of any major part of the Works. The consequences that follow are particularly severe to the Contractor. The effect of the remedy is, in essence, to place the Employer in the same position that he would have been in had the Contract not been entered into: the Employer is entitled to recover all sums paid to the Contractor for the Works (or the major part), plus financing costs and the costs of dismantling the Works (or major part) if the Employer so chooses. These remedies are stated to be "without prejudice to any other rights, under the Contract or otherwise" and thus the Contractor's other liabilities under the Contract or under the governing law are likely to be preserved. It would also appear that the Contractor's liability in such a situation would be caught by the exclusions and limitations of liability found in Sub-Clause 17.6.[82]

Gold Book

8.109 Sub-Clause 12.3 of the Gold Book is drafted in broadly similar terms as to Sub-Clause 11.4 of the Yellow and Silver Books but with the self-help remedy omitted. It also applies during both the Design-Build Period and Operation Service Period. There are, however, other differences, primarily in relation to the Employer's entitlement to terminate. After an initial failure to remedy any defect or damage within a reasonable time, if the Contractor fails to remedy any damage or defect within a reasonable date, fixed by Notice given by the Employer's Representative and the necessity for the work was "due to the Contractor subject to Sub-Clause 12.2", the Employer may:

- require the Employer's Representative "to determine and certify a reasonable reduction in the Contract Price or the Rates and Prices submitted for the Operation Service Period" in accordance with Sub-Clause 3.5 (sub-paragraph (a)); or
- "if the defect or damage is such that the Contractor has been unable to commission the Works or continue providing the Operation Service and the Employer has been deprived of substantially the whole of the benefit of the Works or parts of the Works", the Employer is entitled to terminate the Contract in accordance with Clause 15 in respect of the part of Works that cannot be put to the intended use. If the Contract is terminated during the Design-Build Period, the Employer essentially has the choice of the same 'greenfield' remedy as under Sub-Clause 11.4(c) of the Yellow and Silver Books or to avail himself of the consequences following termination under Sub-Clause 15.2, including completing the Works himself and recovering from the Contractor the extra costs that this would involve. On the other hand, if the Contract is terminated during the Operation Service Period, the Employer can suspend payments to the Contractor until the costs of the operation and maintenance and remedying the defects have been established.

8.110 Reduction in Contract Price or Rates and Prices. This remedy is essentially the same as under Sub-Clause 11.4(b) of the Yellow and Silver Books and the same

82. See Chapter 7, para. 7.79 *et seq.*

principles will apply.[83] The reference to Rates and Prices reflects the Contractor's additional obligations under this Book to provide the Operation Service and the Employer's associated payment obligations in return.

8.111 Termination. The grounds upon which the Employer may terminate the Contract under the Gold Book due to a failure by the Contractor to remedy defects or damage introduce an additional element not found in the Yellow and Silver Books, namely that the defect or damage must be such that the Contractor is unable to commission the Works or continue providing the Operation Service. It would appear that these additional elements are intended to reflect the different obligations of the Contractor during the different phases of the Contract. Although it is not certain, it would seem that "commissioning" the Works is intended to mean achieving completion for the purposes of Sub-Clause 11.5/11.7 and 9.12.

8.112 Unlike the Yellow and Silver Books where, it is suggested, the right to terminate is fully contained within Sub-Clause 11.4(c), Sub-Clause 12.3 of the Gold Book states that the Employer may terminate "in accordance with the provisions of Clause 15". This blanket reference to Clause 15 makes the operation of this provision potentially uncertain. It might be argued that the reference to Clause 15 should be read as Sub-Clause 15.2. However, there is no mention of such a right to terminate in that Sub-Clause, nor is it particularly easy to read that Sub-Clause as extending to other grounds for termination not expressly listed within it. In any event, it is suggested that the practical solution is for the Employer's Representative to give Notice to correct under Sub-Clause 15.1 at the same time as Notice is given under Sub-Clause 12.3. If the Contractor then fails to comply with both Notices and the other conditions stated in Sub-Clause 12.3(b) have been satisfied, the Employer would then be entitled to the specific remedies following termination set out in Sub-Clause 12.3(i) or (ii).

Failure to pass Tests after Completion: Yellow and Silver Books

8.113 In the Yellow and Silver Books, the consequences following a failure to pass the Tests after Completion are set out in Sub-Clauses 12.3 [*Retesting*] and 12.4 [*Failure to Pass Tests after Completion*]. Sub-Clause 12.3 and the second paragraph of Sub-Clause 12.4 concern the carrying out of remedial work to the Works or Section, and retesting. This is discussed further in Chapter 3, para. 3.433.

8.114 Apart from the practical remedy of requiring the Contractor to carry out remedial work, the other 'remedy' is found in first paragraph of Sub-Clause 12.4, which essentially sets out a mechanism by which the Employer is compensated for poor performance if the Works or a Section fail to pass any or all of the Tests after Completion. This is through the payment by the Contractor of non-performance damages specified in the Contract, but this remedy is available only if a relevant sum payable as non-performance damages for this failure is stated (or a method for calculating this sum is defined) in the Contract.

8.115 Importantly, whether or not the Contractor pays the Employer the relevant non-performance damages is for the Contractor to decide. He is under no obligation to pay them, nor is the Employer entitled to claim for them, for example under Sub-Clause 2.5.

83. See para. 8.106 above.

If the Contractor does pay these performance damages, "the Works or Section shall be deemed to have passed these Tests after Completion".

8.116 Under Sub-Clause 12.3(a) (by reference to Sub-Clause 11.1(b)), the Employer can require the Contractor, by notifying him of the defect or damage that has caused the Works (or Section) to fail the Tests after Completion, to carry out all work required to remedy the defect (or damage). Either Party may then require the failed Tests to be repeated "under the same terms and conditions" that applied to when the Works (or Section) failed the previous Tests. Either Party may, under Sub-Clause 12.3(b), also require the Tests after Completion on any related work to be repeated. The Employer is further entitled to payment from the Contractor, subject to Sub-Clause 2.5, of any additional costs incurred by the Employer to the extent that they were incurred as a result of the initial failure and retesting, and that the initial failure and retesting are attributable to any of the matters listed in Sub-Clauses 11.2(a) to (d).

8.117 At this time, the Works (or Section) will have been taken over by the Employer and thus any investigations into the cause of the failure of a Test after Completion, or any work to be carried out by the Contractor to remedy this failure, might disrupt the Employer's use of the Works. This includes any work required under Sub-Clause 12.3(a). Accordingly, if the Contractor proposes to make adjustments or modifications to the Works or Section that have failed to pass a Test after Completion, under the second paragraph of Sub-Clause 12.4, the Employer has the right to instruct the Contractor that it is not convenient to give him access to the Works (or Section) at that time and instead to notify him of the time that it is convenient. The Contractor is then required to carry out the adjustments or modifications and to satisfy the failed Test within a reasonable period of receiving this notice. However, if access is unreasonably delayed, the Contractor is entitled to recover, subject to Sub-Clause 20.1, any additional Cost incurred as a result of this unreasonable delay. Moreover, if the Contractor does not receive notice of a convenient time from the Employer during the Defects Notification Period, the Contractor is relieved of his obligation to carry out the adjustments or modifications and to satisfy the failed Test. In these circumstances, the Works or Section are also deemed to have passed the relevant Test after Completion.

Failure to carry out maintenance: Gold Book

8.118 Under Sub-Clause 10.1 of the Gold Book, the Contractor is responsible for ensuring that the Works remain fit for the purpose for which they are intended during the Operation Service. This will inevitably require the Contractor to carry out maintenance on the Works during the Operation Service Period. Certain maintenance requirements are also likely to be set out in the Operation and Maintenance Plan, which the Contractor is also obliged to follow under Sub-Clause 10.1.

8.119 If the Contractor fails to carry out maintenance required under the Contract, the Employer is entitled under Sub-Clause 14.19 to carry out such maintenance himself after giving "due Notice" to the Contractor. It is suggested that the requirement for "due Notice" simply requires the Employer to give Notice that the Contractor has failed to carry out the required maintenance and does not convey any time restriction or require the Contractor to be given an opportunity to carry out the maintenance. Nevertheless, the Notice given to the Contractor under this Sub-Clause must comply with the formalities

required for Notices under Sub-Clause 1.3, including that it must be in writing, be identified as a Notice and state that it is given under Sub-Clause 14.19.

8.120 To provide security against the cost of the Employer carrying out any such maintenance under Sub-Clause 14.19, the same Sub-Clause provides for the creation of a Maintenance Retention Fund (or its replacement with a Maintenance Retention Guarantee, if the Contractor chooses).[84] If the Employer does exercise the right to carry out maintenance, he is then entitled to:

(i) "apply any amounts standing to the credit of the Maintenance Retention Fund" to the cost of carrying of this maintenance;
(ii) if there are insufficient amounts in the Maintenance Retention Fund to cover the Employer's costs of carrying out the maintenance, "the unrecovered costs shall be set off against any payment due to the Contractor under the Contract"; or
(iii) "to the extent that no such payment is due, shall become a debt due by the Contractor to the Employer."

Failure to pass Tests Prior to Contract Completion: Gold Book

8.121 Sub-Clause 11.11 in the Gold Book applies where the Works or a Section fail to pass the Tests Prior to Contract Completion under Sub-Clause 11.9. Under Sub-Clause 11.9, these Tests are to be carried out "towards the end of the Operation Service Period". If any of the Works or a Section fails to pass any of these Tests, the Employer's Representative can exercise a range of powers on behalf of the Employer. The Employer's Representative may:

- order repetition of Tests under Sub-Clause 11.12 (sub-para. (a));
- reject the Works or Section (as the case may be), "in which event the Employer shall have the same remedies against the Contractor as provided under Clause 15 [*Termination by Employer*]" (sub-para. (b)); and/or
- "issue a Contract Completion Certificate, if the Employer so requires", after which the Contract Price is to be reduced by an amount agreed between the Parties (sub-para. (c)).

8.122 The remedies provided by sub-paragraphs (a) and (c) are broadly equivalent to those found in the same sub-paragraphs of Sub-Clause 9.4 of the Yellow and Silver Books following a failure to pass Tests on Completion. The repetition of Tests under Sub-Clause 11.12 are considered in Chapter 3, paras. 3.452–3.453.

8.123 Termination. The intended consequence of Sub-Clause 11.11(b) is not clear. In particular, the phrase "the same remedies against the Contractor as provided under Clause 15" is problematic.[85] It seems highly unlikely that it is a reference to the Employer's right to terminate for convenience under Sub-Clause 15.5, since the Employer has this right in any event. Is this instead intended to be a reference to the power of the Employer's Representative to give Notice to correct under Sub-Clause 15.1, or is its intended effect to

84. See Chapter 7, para. 7.239.
85. This is different from the wording used in Sub-Clause 12.3(b), which provides that the Employer is entitled "to terminate the Contract . . . in accordance with the provisions of Clause 15 [*Termination by the Employer*]". See para. 8.111 above.

entitle the Employer to terminate the Contract under Sub-Clause 15.2? It would seem that the latter was the more likely remedy contemplated by the draftsmen, given that under Sub-Clause 15.1 the power to give Notice to correct is available to the Employer's Representative at any time. However, there must be doubt as to whether these words are sufficiently clear to invoke the Employer's right to terminate under Sub-Clause 15.2, in the absence of any express reference in that Sub-Clause back to Sub-Clause 11.11. Consequently, the safest option would be for the Employer, if considering termination, to pursue the procedure under Sub-Clause 15.1 [*Notice to Correct*].

8.124 Note also that, although sub-paragraph (b) refers to the rejection of the Works or Section, it does not state that, if a Section is rejected, the right to terminate is limited only in respect of that Section. There is also no right to terminate under Sub-Clause 15.2 in respect of a Section. This should be contrasted with Sub-Clause 9.4(b) in the Yellow and Silver Books. It would therefore seem that, notwithstanding the uncertainty surrounding the drafting, any termination based upon the rights under Sub-Clause 11.11(b) would relate to the Contract as a whole.

8.125 Issue of Contract Completion Certificate. After the issue of the Contract Completion Certificate under Sub-Clause 11.11(c), provision similar to that under Sub-Clause 12.4 of the Yellow Book is made where the Contractor proposes to make adjustments or modifications to the Works or a Section that have failed any of the Tests Prior to Contract Completion: the Contractor's access to the Works or Section may be restricted until a time that is convenient to the Employer and the Contractor remains liable to carry out the adjustments or modifications and to satisfy this Test within a reasonable period of receiving Notice of the convenient time. The final paragraph of Sub-Clause 11.11 then entitles the Contractor to be paid additional Cost Plus Profit (determined or agreed under Sub-Clause 3.5) if he incurs any unreasonable delay by the Employer in permitting access after issue of the Contract Completion Certificate, either to investigate the causes of a failure to pass any of the Tests or to carry out any adjustments or modifications.

Operation Service

Delays or interruptions in Operation Service

8.126 In the Gold Book, under sub-paragraph (a) of Sub-Clause 10.6 [*Delays and Interruptions during the Operation Service*], if there are delays or interruptions to the Operation Service either "caused by the Contractor or by a cause for which the Contractor is responsible", the Contractor is obliged to compensate the Employer "for any losses including loss of revenue, loss of profit and overhead losses".

8.127 This Sub-Clause then states that the compensation is to be agreed or determined in accordance with Sub-Clause 3.5 and the Employer is entitled to recover the amount due "by making a corresponding deduction from the next payment due to the Contractor". However, it is suggested that the Employer's entitlement to such compensation and, perhaps more importantly, to deduct any amounts from the next interim payment, is subject to Sub-Clause 20.2.

8.128 The Contractor's total liability for compensation payable under this Sub-Clause is to the amount (if any) stated in the Contract Data.

Suspension of the Operation Service

8.129 Under Sub-Clause 10.6(c), the Employer's Representative has a wide power to instruct the Contractor to suspend progress of the Operation Service in a similar way that he may instruct a suspension under Sub-Clause 9.7 [*Suspension of Work*] in respect of part or all of the Works in relation to the Design-Build. The decision to instruct the suspension is entirely for the Employer's Representative and there is no requirement for the suspension to be necessary. When exercising the power to instruct a suspension, the Employer's Representative is acting as the direct agent of the Employer and thus it is likely that any decision on whether to issue such an instruction will be made after consultation with the Employer.

8.130 Nevertheless, if the "need to suspend the Operation Service by the Employer is due to any failure of the Contractor or circumstances for which the Contractor is responsible under the Contract", the Employer is entitled to the same compensation as under Sub-Clause 10.6(a), again subject, it is suggested, to Sub-Clause 20.2. However, it is unclear whether the Contractor's liability in respect of such a suspension is intended also to fall within the cap on liability under Sub-Clause 10.6(a). In the example form of Contract Data in the Gold Book, a space is included for inserting the "Maximum compensation payable by Contractor" with reference only to Sub-Clause 10.6(a). It is therefore certainly arguable that this cap only relates to the Contractor's liability under that sub-paragraph of Sub-Clause 10.6. On the other hand, Sub-Clause 10.6(c) states that the "provisions of paragraph (a) of this Sub-Clause shall apply" and does not only refer to the Employer's *entitlement to compensation* under that sub-paragraph (a). Thus, conversely, it could be argued that the cap on liability also covers the Contractor's liability under sub-paragraph (c).

Failure to reach production outputs where the cause lies with the Contractor

8.131 The consequences of the Contractor failing to achieve the production outputs required by the Contract are set out in Sub-Clause 10.7.

8.132 Under this Sub-Clause, and unlike the delay/interruption provisions in Sub-Clause 10.6(a) and (b), where the Contractor fails to achieve the requisite outputs, the first step is for the Parties to "jointly establish the cause of such failure". While no procedure is specified, it may be appropriate for a jointly-appointed expert to be appointed to provide an independent assessment of the cause of the failure, to minimise the risk of a potential dispute. Once the cause has been established, the procedure that then applies depends on whether it 'lies' with the Employer or the Contractor.

8.133 If the cause of the failure 'lies' with the Contractor, Sub-Clause 10.7(b) applies. This requires the Contractor, after "due consultation" with the Employer, to "take all steps necessary to restore the output to the levels required under the Contract". If the Employer suffers "any loss" as result of the failure to achieve product outputs or the measures taken by the Contractor to restore the output to the levels required, the Employer is entitled to liquidated performance damages, which are specified in the Contract Data. This entitlement is expressly stated to be subject to Sub-Clause 3.5 but will also be subject, it is suggested, to Sub-Clause 20.2. The reference to the requirement for the Employer to establish that he has suffered "any loss" to trigger his right to performance damages is, in

the authors' view, unusual (certainly from a common law perspective) since one principal purpose of specifying liquidated damages is to avoid the need to prove loss.

8.134 The Employer may also acquire remedies other than liquidated performance damages for a failure by the Contractor to achieve the required production output. Unless otherwise stated in the Contract Data, if the Contractor's failure in this respect lasts for more than 84 days, the Employer may choose between two remedies. The first is the option to continue with the Operation Service at a reduced level of compensation determined in accordance with Sub-Clause 3.5. Alternatively, where the production outputs fail to reach the minimum performance values required, as stated in the Contract Data, the Employer may, after giving not less than 56 days' Notice, terminate the Contract under Sub-Clause 15.2.

Entitlement to payment of costs from the Contractor

8.135 Throughout the FIDIC forms, various Sub-Clauses provide that the Employer is entitled to recover from the Contractor costs incurred as a result of specific matters which can be broadly described as being the responsibility of or attributable to the Contractor. The particular circumstances which give rise to such an entitlement and the extent of costs that are recoverable are discussed elsewhere in this book but are summarised in Table 8.1 below. Although, in most cases, the Employer's right to payment of these costs is stated, in the particular Sub-Clause, as being expressly subject to Sub-Clause 2.5 (20.2 (G)), it is suggested that this Sub-Clause will apply to all such claims.

Table 8.1: Summary of Employer's express entitlement to payment from the Contractor of costs

Sub-Clause	Entitlement
5.2 (Y/S/G)	Cost incurred in the review (and, if specified, approval) of a Contractor's Document which has previously been rejected by the administrator on the basis that it failed to comply with the Contract.
7.5	Additional costs incurred by the Employer due to rejection by the contract administrator of any item of Plant, Materials, design or workmanship found to be defective and consequent retesting.
7.6	Employer's costs arising from failure by Contractor to comply with contract administrator's instructions under Sub-Clause 7.6 [*Remedial Work*] and the Employer employs and pays other persons to carry out this work.
8.6 (9.5 (G))	Additional costs incurred by Employer due to adoption of revised methods to expedite progress.
9.2 (11.2 (G))	Costs of Employer's Personnel incurred when carrying out Tests on Completion after undue delay by Contractor.

Sub-Clause	Entitlement
9.3/9.4(a) (11.3/ 11.4(a) (G))	Additional costs incurred by the Employer due to failure/retesting after failure to pass the Tests on Completion (by reference to Sub-Clause 7.5).
11.4(a) (R/M/Y/S)	Costs reasonably incurred by the Employer in remedying defects or damage after the Contractor has failed to do so within a reasonable time despite being notified.
11.12/ 11.11(a) (G)	Additional costs incurred by Employer as a result of failure of the Works or Section to pass Tests Prior to Contract Completion and consequent retesting, where the cause of the failure and retesting is a default of the Contractor.
11.10 (G)	Cost incurred by Employer as a result of any unreasonable delay by Contractor to carry out Tests Prior to Contract Completion.
11.10 (G)	Costs associated with undertaking of Tests Prior to Contract Completion by others as ordered by Employer's Representative after unreasonable delay by Contractor to carry out these Tests.
11.12 (G)	Costs of the Employer's Personnel carrying out any additional tests deemed necessary for the purpose of remedying any damage, defect or failure to meet standards that are the responsibility of the Contractor under the Contract.
12.3 (Y/S) (11.11(a)/ 11.12 (G))	Additional costs incurred by the Employer as a result of failure of the Works or Section to pass Tests after Completion, and consequent retesting, where the cause of the failure and retesting is a matter in which the Contractor would be responsible for remedying any defect or damage at his own cost under Sub-Clause 11.2.
14.19 (G)	Cost of carrying out maintenance required under the Contract during the Operation Service Period but which the Contractor fails to carry out.

Indemnities by the Contractor

8.136 The FIDIC forms contain significant indemnities by each of Parties in favour of the other Party. The scope and effect of these indemnities will depend on their treatment under the particular governing law, as well as the particular wording that is used. The Contractor's indemnification obligations to the Employer are considered further elsewhere in this book, but, in summary, are as follows:

- Sub-Clause 1.13(b): (1.14(b) (G)) — Against and from the consequences of the Contractor failing to give all notices, pay all taxes etc. obtain all permits, licences and approvals, as required by the applicable Laws in relation to his obligations in respect of the Works.

- Sub-Clause 4.14: Against and from all damages, losses and expenses resulting from any unnecessary or improper interference with the convenience of the public or with access to, use and occupation of roads and footpaths.
- Sub-Clause 4.16: Against and from all damages, losses and expenses resulting from the transport of Goods.
- Sub-Clause 17.1: (17.9 (G)) Against and from all claims, damages, losses and expenses in respect of personal injury and certain damage to property. In the Red, MDB, Yellow and Silver Books, the exclusion and limitation of the Contractor's liability under Sub-Clause 17.6 does not apply to this indemnity. In the Gold Book, this indemnity is also an exception to the exclusion of liability for particular types of loss under Sub-Clause 17.8.
- Sub-Clause 17.5: (17.12 (G)) Against and from any claim alleging infringement of intellectual or industrial property against which the Employer does not indemnify the Contractor. In the Red, MDB, Yellow and Silver Books, the limitation of the Contractor's liability under Sub-Clause 17.6 does not apply to this indemnity. In the MDB and Gold Book, this indemnity is also an exception to the exclusion of liability for particular types of loss under Sub-Clause 17.6 (M) / 17.8 (G).
- Sub-Clause 17.9 (Gold Book only): Against "all errors in the Contractor's design of the Works and other professional services which result in the Works not being fit for purpose or result in any loss and/or damage for the Employer."
- Sub-Clause 19.1 (Gold Book only): Against all losses and claims arising from the Contractor failing to comply with the conditions attaching to the insurances effected pursuant to the Contract.

Withholding and set-off

8.137 The FIDIC forms provide, for the Employer's benefit, limited rights to withhold or set off against payments otherwise due to the Contractor. The practical consequences of these rights are essentially the same: the Employer is not obliged to pay the Contractor the full amount of a payment that would otherwise be due. However, the circumstances in which these separate rights can be exercised and the person who can exercise these rights are different.

Withholding

8.138 Sub-Clause 14.6 (14.7 (G)) provides the contract administrator (i.e., the Employer in the Silver Book) with an express right to withhold certain amounts from Interim Payment Certificates or, in the Silver Book, from amounts otherwise due as interim payments. This

Sub-Clause provides that an Interim Payment Certificate (payments (S)) shall not be withheld although:[86]

> "(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 the 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 [contract administrator], the value of this work or obligation may be withheld until the work or obligation has been performed."

8.139 Sub-paragraph (a) grants a right to withhold cost of remedial work on a temporary basis until the non-compliance with the Contract has been rectified.

8.140 On the other hand, sub-paragraph (b) is less straightforward. To be empowered to exercise this right, the contract administrator must have given notice[87] to the Contractor of the work or obligation that the Contractor is or was failing to perform.[88] Once such notice has been given, it would seem that the right to withhold the 'value' of the work or obligation is not subject to the Employer proceeding in accordance with Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*], which otherwise governs the Employer's right of set-off (see below).

8.141 In addition, the contract administrator is also entitled to withhold from the certification (or equivalent in the Silver Book) of the release of Retention Money under Sub-Clause 14.9 [*Payment of Retention Money*] (not G) for the cost of rectification of defects.[89]

Right of set-off: general principles

8.142 Set-off is sometimes spoken of as a defence to a claim, although whether it provides a full defence or only a partial one depends on the respective amounts of the claims in question, assuming that they are successfully made out. However, set-off meets the criteria used to define remedies for the purpose of this chapter, in that it provides a course of action which is capable of restoring loss or harmful consequences accruing to the Employer. The right of set-off, generally, will be dependent on the applicable Laws, including the governing law.

8.143 In some common law jurisdictions there has, from time to time, been doubt about the extent to which a party was entitled to set off claims against sums owed. In the early 1970s, in *Dawnays Ltd* v. *Minter and Trollope Colls*,[90] the English Court of Appeal regarded cash flow as the 'life-blood' of the construction industry: "An interim certificate is to be regarded virtually as cash . . . It must be honoured. Payment must not be withheld on account of cross-claims, whether good or bad, except so far as the contract specifically provides". This view was taken up in a number of other common law jurisdictions, such as Malaysia, where in *Bandar Raya Developments Bhd* v. *Woon Kan and Sons Sdn Bhd*,[91] the Federal Court refused to allow developers to set off against sums certified by their engineer

86. "except" (S).
87. "Notice" (G).
88. Although the Sub-Clause refers only to the failure being "notified" to the Contractor, as stated in Chapter 6, paras. 6.165–6.167, it is suggested that the formalities under Sub-Clause 1.3 relating to notices (Notices (G)) must nevertheless still be complied with.
89. See Chapter 7, paras. 7.216–7.238.
90. [1971] 1 WLR 1205.
91. [1972] 1 MLJ 75.

as payable to the contractor, amounts claimed against the developer by third parties in respect of the alleged negligent work by the contractor.

8.144 Since then, however, the position has changed, such that there is a general right of set-off at law available to employers, which can nevertheless be reduced or removed, but only by clear contractual provision to that effect. The English House of Lords authority to that effect is *Gilbert-Ash (Northern) Ltd* v. *Modern Engineering (Bristol) Ltd*[92] and the principle is accepted in other common law jurisdictions, for example Brunei: *Chung Syn Kheng Electrical* v. *Region Construction*.[93] It is however not an unqualified right and cannot be used fraudulently. In the Singapore case of *Hua Khian Ceramic Tile Supplies* v. *Torie Construction*,[94] the court observed that judges should be robust in not allowing dubious claims for set-off or counterclaims to prevent the enforcement of a claim based on a certificate.

8.145 In some jurisdictions, this right of set-off has further been modified by statute. For example, section 111 of the Housing Grants, Construction and Regeneration Act 1996 in Britain provides that "A party to a construction contract may not withhold payment after the final date for payment of a sum due under the contract unless he has given an effective notice of intention to withhold payment". Australia, New Zealand, Singapore and, imminently, Malaysia, have comparable, although not identical payment regimes. Under such a regime, it is not permissible simply to withhold sums on the ground of a set-off.

Right of set-off under the FIDIC forms

8.146 The FIDIC forms, by Sub-Clause 2.5 (20.2 (G)) [*Employer's Claims*], seek to place significant limits on the Employer's right of set-off. The operation of this Sub-Clause is considered in detail in Chapter 6, para. 6.304 *et seq*.

Red, MDB, Yellow and Gold Books

8.147 In all the Books apart from the Silver Book, the Employer is not entitled to set off or deduct any amounts from payments due to the Contractor, but is required to submit a claim under Sub-Clause 2.5 (20.2 (G)). The contract administrator is then required to proceed in accordance with Sub-Clause 3.5 to agree or determine the amount due to the Employer. Once this amount has been agreed or determined, the contract administrator may include this amount in a deduction in a Payment Certificate.

8.148 The authors consider that the draftsmen intended that any right of set-off that may exist under the governing law would be excluded by operation of Sub-Clause 2.5 (20.2 (G)). For example, Sub-Clause 2.5 of the Red, MDB and Yellow Books provides: "The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate . . . in accordance with this Sub-Clause".

8.149 It was, in addition, the apparent intention of the draftsmen that the Employer in these Books should have no right of set-off himself and that the only deductions that could

92. [1974] AC 689.
93. [1987] 2 MLJ 763.
94. [1992] 1 SLR 884.

be made from Payment Certificates are deductions by the contract administrator included in the Payment Certificate. Thus, the *FIDIC Guide* provides:[95]

> "The Employer is . . . 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".

Silver Book

8.150 Under the Silver Book, the position is different because there are no payment certificates and the Employer is charged with the contract administrator's role. Under this Book, the Employer's right to make deductions from any amounts due to the Contractor is also expressly subject to Sub-Clause 2.5. Under this Sub-Clause, having given notice and particulars to the Contractor of his claim in accordance with Sub-Clause 2.5, the Employer is required to proceed in accordance with Sub-Clause 3.5 to agree or determine the amount due. Once the amount has been agreed or determined in accordance with Sub-Clause 3.5, the Employer may then deduct this amount from any moneys due, or to become due, to the Contractor.

Other practical remedies

8.151 Embedded within the rights and obligations of the respective Parties in the FIDIC forms are certain other specific practical measures that can be taken, or which apply, for the Employer's protection as a means of enforcing rights when the Contractor is in breach of his obligations under the Contract. These measures are discussed in more detail elsewhere in this book. They can nevertheless be regarded as contractual remedies and are set out below:

- If the Contractor fails to comply with his obligations in respect of the Performance Security under Sub-Clause 4.2 [*Performance Security*], the Employer's obligations in respect of payment and access are suspended and the Employer may be entitled to terminate the Contract under Sub-Clause 15.2(a).
- Under Sub-Clause 18.1 [*General Requirements for Insurances*] of all the Books apart from the Gold Book, if the Contractor is the insuring party but fails to effect or maintain the required insurance cover, the Employer can place the insurance himself and recover the premium from the Contractor or, if he chooses not to place the cover himself, the Contractor is liable for "any moneys which should have been recoverable under this insurance".
- In all the Books apart from the Gold Book, if the Contractor fails to comply with his Site clearance obligations under Sub-Clause 11.11 [*Clearance of Site*] after receiving the Performance Certificate, the Employer can take advantage of a 'self-help' remedy and sell or dispose of the remaining items that should have been cleared, at the Contractor's expense, and use the proceeds (if any) to defray the cost and any balance

95. *FIDIC Guide*, p. 245. Almost this entire passage is also repeated in the commentary to Sub-Clause 14.7 on p. 247.

or shortfall is dealt with by a payment between the Parties. The Employer's remedy in the Gold Book for the equivalent failure is found in Sub-Clause 4.23 [*Contractor's Operations on Site*] and permits him to withhold the Contract Completion Certificate, which is required before the Contractor is entitled to submit the Final Statement Operation Service, until the Contractor has complied with his Site clearance obligations under that Sub-Clause.

TERMINATION BY EMPLOYER

8.152 Termination of a contract is always a serious step to take because it will almost inevitably have significant consequences, both practical and legal, for the parties. In this respect, it is common for most commercial contracts to grant one or both parties certain rights to terminate the contract in certain circumstances. At the outset, however, an important distinction must be between a party's right to terminate the contract as set out in the contract and the right to terminate at law.

8.153 As stated above, the general remedy that is available to one party where the other party is in breach of contract is a right to recover damages from that other party to compensate the first party for the losses suffered as a result of the breach. However, the law of most jurisdictions will, to a greater or lesser extent, also grant a party the right to terminate a contract in limited circumstances due to the other party being in breach of the contract.

8.154 The precise circumstances in which a party is entitled to treat itself as being discharged of its future obligations due to breach of the contract by the other party, and the consequences that follow such a termination, are heavily dependent on the governing law. Generally, under common law jurisdictions, a party will be entitled to terminate a contract at law immediately where the other party commits a fundamental breach or demonstrates an intention not to be bound by the contract. Depending on the governing law, this may be a breach of a critical term of the contract or where the effect of the breach of a term 'goes to the root of the contract'. It may also be a series of breaches, which, individually, are not sufficiently serious to entitle a party to terminate, but cumulatively are so serious as to allow the party to terminate.

8.155 However, generally, the grounds upon which a party may terminate the contract at law are usually very narrow. For this, amongst other reasons, the contract may grant the parties express rights to terminate under the contract. The grounds for termination under the contract often do not replicate the grounds for termination at law. For example, they may entitle a party to terminate the contract where the other party has failed to comply with a particular provision, breach of which at law would not be considered sufficiently serious as to give rise to a right to terminate, but which the parties have nevertheless agreed should be afforded this particular status. They may also entitle a party to terminate the contract even where an event occurs which does not place the other party in breach of contract but is considered to be sufficiently serious as to attract the same consequences. A common example of such a ground is where one party becomes insolvent.

8.156 Contractual termination provisions will also often specify both the practical and financial consequences that follow the exercise of a right to terminate under the contract.

This may permit the party that exercised the right to greater or different remedies than are available under the governing law.

8.157 The right to terminate under a contract does not necessarily exclude the right to terminate at law,[96] although, where an express right to terminate has been negotiated, this may have the effect, under certain jurisdictions, of excluding the right to terminate at law on the basis of the same breach or circumstances which the express right addresses.

8.158 Generally, contractual termination provisions will be construed strictly, particularly where they grant a party with greater rights than it would otherwise have at law. They also often require a particular procedure to be followed, compliance with which is a condition precedent to the right to terminate.

Employer's right to terminate under the FIDIC forms

8.159 The FIDIC forms grant the Employer the right to terminate the Contract in several circumstances. The principal provisions governing termination by the Employer are found in Clause 15 [*Termination by Employer*], with Sub-Clause 15.2 [*Termination by Employer*][97] setting out the principal grounds for termination for cause. However, in addition, the following Sub-Clauses also give the Employer to right to terminate in specific circumstances:

- Sub-Clause 9.4(b) (not G): Failure to pass Tests on Completion (sub-para. (b));
- Sub-Clause 10.7(G): Failure to Reach Production Outputs (sub-para. (b));
- Sub-Clause 11.4 (12.3 (G)): Failure to Remedy Defects (sub-para. (c) ((b) (G)));
- Sub-Clause 11.11 (G): Failure to Pass Tests Prior to Contract Completion (sub-para. (b));
- Sub-Clause 15.6 (M): Corrupt or Fraudulent Practices;
- Sub-Clause19.6 (18.5 (G)): Optional Termination, Payment and Release (Force Majeure/ Exceptional Events);
- Sub-Clause 19.7 (18.6 (G)): Release from Performance under the Law.

8.160 Note that, in some civil law jurisdictions, termination of a contract requires the approval of the court.

Termination for Employer's convenience

8.161 Sub-Clause 15.5 of all the Books gives the Employer the right to terminate the Contract 'for his convenience'. This Sub-Clause is identical in the Red, MDB, Yellow and

96. See, for example, under English law: *Stocznia Gdynia SA* v. *Gearbulk Holdings Ltd* [2009] EWCA Civ 75, [2009] BLR 196; *Lockland Builders Ltd* v. *Rickwood* (1996) 77 BLR 38.

97. "*Termination for Contractor's Default*" (G).

Silver Books and provides that "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."

8.162 The wording of Sub-Clause 15.5 in the Gold Book contains significant differences but, it is suggested, that the effect is intended to be similar. It provides:

> "If at any time the Employer elects to terminate the Contract for reasons other than those specified in Sub-Clause 15.2 [*Termination for Contractor's Default*], and subject to the applicable Law of the Contract, he shall notify the Contractor in writing, with a copy to the Employer's Representative. Such termination shall be deemed to be a termination for the convenience of the Employer."

8.163 The purpose of termination for convenience provisions such as these is to permit an Employer to terminate the Contract at any time and for any reason, whether financial, political or otherwise, where the Contractor is not in default. In essence, termination for convenience provisions are primarily intended to be used where the project is abandoned. These provisions are, however, also sometimes used where an Employer considers that the Contractor is performing badly but does not wish to take the risk of terminating for cause and having the Contractor dispute the validity of that termination.

8.164 As the principal purpose of termination for convenience Clauses is to enable the Employer to terminate where the project is abandoned, these provisions may seek to restrict or exclude the circumstances in which the Employer may terminate for convenience and then seek to have the work completed by another contractor.[98] Indeed, all the Books[99] expressly prohibit the Employer from terminating under Contract under Sub-Clause 15.5 "in order to execute [or operate (G)] the Works himself or to arrange for the Works to be executed by another contractor".[100] If the Employer exercises his right to terminate for convenience, all the Books provide that the Contractor is entitled to payment.

8.165 The terms of this payment differ as between the Books. This is found in Sub-Clause 15.5 of all the Books apart from the Gold Book; in the Gold Book, the provisions relating to payment are found in Sub-Clauses 15.6 and 15.7. A right to payment for work done is common to all the Books, but importantly, they adopt different positions as to whether the Contractor is entitled to recover the loss of profit he would have otherwise made had the Contract not been terminated.

8.166 Applicable Laws. The new drafting introduced in the Gold Book provides a useful reminder that, notwithstanding the Employer's contractual entitlement to terminate for convenience, such a unilateral right to terminate without reason may be restricted or affected by the governing law of the Contract or other applicable Laws. Indeed, a number of jurisdictions have legal principles which can affect the operation of termination for convenience Clauses. In France, for example, Article 1134 of the *Code Civile* comprises a restriction on absolute contractual freedom, since it only allows for agreements to be revoked by mutual assent or for causes which the law authorises. However, if the Employer does terminate the Contract under Sub-Clause 15.5, Article 1794 of the *Code Civile* will

98. This also reflects the position under common law, which prohibits employers from omitting work from the contractor's scope in order to give them to another contractor for a cheaper price. See Chapter 3, para. 3.305.

99. Note that in the Gold Book, both references to the Works in this provision are followed by parenthetical "(or part thereof)".

100. In the MDB, the Employer is also prohibited from terminating under Sub-Clause 15.5 "to avoid a termination of the Contract by the Contractor under Sub-Clause 16.2".

apply, which requires the Employer to compensate the Contractor for losses and lost profit.[101]

8.167 Other jurisdictions also place restrictions on the employer's freedom to terminate for convenience. For example, in Austria "if the client terminates the contract without reason, the contractor would have the right of compensation for losses", and in Germany "if the termination is not justified on substantial grounds, which are the responsibility of the contractor, then the employer alone will bear the financial consequences of the termination with notice: the contractor should not suffer adverse financial consequences".[102]

8.168 Although Article 700 of the Greek Civil Code authorises an employer to terminate a contract for work at any time up to its completion, which could extend to cases where the contractor is not at fault, the employer may not exercise this right abusively and in a manner contrary to the principles of good faith.[103] Similarly, even in the United States, where termination for convenience Clauses have been routinely used in defence procurement contracts to provide freedom to terminate on cessation of hostilities, the courts (notably the Court of Claims) have developed principles requiring good faith in the exercise of their power, for example, not "simply to acquire a better bargain from another source".[104]

8.169 In addition, in respect of the termination for convenience during the Operation Service Period in the Gold Book, Wade comments that some jurisdictions also prohibit a party from terminating for convenience under what is, in effect, a service contract.[105]

8.170 Whether this restriction and the drafting of the last part of Sub-Clause 15.5 are sufficient to give the Employer the power to terminate the Contract for convenience, i.e., without specifying any reason, will be a matter of the substantive law of the individual jurisdiction in question; it is certainly not possible to generalise on its enforceability or on consequent rights of the Contractor to be compensated if it is exercised.

Procedure

8.171 Under all the Books, the Employer exercises his right to terminate at convenience under Sub-Clause 15.5 by giving notice[106] of such termination to the Contractor. This notice[107] must comply with the formalities in Sub-Clause 1.3 and thus must be in writing and delivered in accordance with the requirements. In the Gold Book, the Notice must also be identified as such and include reference to Sub-Clause 15.5. In the Red, MDB and Yellow Books, this notice must be copied to the Engineer;[108] in the Gold Book, it must be copied to the Employer's Representative.

101. Anthony Lavers, "Ethics in Construction Law—European Society of Construction Law study: responses from eight member countries", [2007] 24(3) ICLR 435 at 450–451; Götz-Sebastian Hök, "Difficulties encountered in the English-French translation of FIDIC's Standard Form Contracts", [2007] 24(3) ICLR 271 at 273.

102. Lavers, *op. cit.*, n. 101 at 450.

103. *Ibid.*

104. John Tackaberry, "Termination for Convenience", April 2002 Society of Construction Law Paper 104.

105. Christopher Wade, "FIDIC introduces the DBO Form of Contract—the new Gold Book for Design, Build and Operate Projects", [2008] 23(1) ICLR 14 at 23–24.

106. "Notice" (G).

107. "Notice" (G).

108. Sub-Clause 1.3.

8.172 The termination takes effect 28 days after the Contractor receives the notice[109] or after the Employer has returned the Performance Security, whichever is later.

8.173 After the termination has taken effect, the Contractor is required to proceed in accordance with Sub-Clause 16.3 [*Cessation of Work and Removal of Contractor's Equipment*], which requires him to cease all further work, hand over Contractor's Documents, Plant and Materials and remove all Goods from the Site.

8.174 However, in the Gold Book, it is suggested that the position relating to the Contractor's Document is not straightforward. Notwithstanding the Contractor's obligation under Sub-Clause 16.3 to hand them over to the Employer, Sub-Clause 15.5 expressly provides that, on issuing a Notice under that Sub-Clause to terminate the Contract, "the Employer shall immediately cease to have any right of use of any of the Contractor's Documents, and shall forthwith return all and any such Contractor's Documents to the Contractor". Moreover, there is a further conflict between Sub-Clause 15.5 and Sub-Clause 1.11 which provides that, by signing the Contract, the Contractor is deemed to have given the Employer "a non-terminable . . . licence" to use the Contractor's Documents. These conflicting provisions should be reconciled in the Particular Conditions.

Contractor's entitlement to payment

8.175 The Contractor's entitlement to payment on termination for convenience differs as between the Books. Probably the most important difference between the Books is whether the Contractor is entitled to recover loss of profit that he would otherwise have made if the Works had been completed. Under the Red, Yellow and Silver Books, there is no such entitlement. On the other hand, under the Gold Book and the MDB, the Contractor is entitled to recover loss of profit.

8.176 Red, Yellow and Silver Books. Under the Red, Yellow and Silver Books, the Contractor is entitled to the same payment as if the Contract had been terminated under Sub-Clause 19.6 as a result of Force Majeure. The Contractor's entitlement under this Sub-Clause is discussed at paragraphs 8.354–8.356 below. However, in essence, the Contractor is entitled to recover the value of work done and any other Cost or liability that he has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff. However, there is no provision to compensate the Contractor for the loss of profit that he would otherwise have made had the Works been completed.

8.177 MDB. Under the MDB, the Contractor is entitled to payment in accordance with Sub-Clause 16.4 [*Payment on Termination*] and, therefore, termination for convenience under this Book is effectively treated as if the Contractor had terminated the Contract for cause under Sub-Clause 16.2 [*Termination by Contractor*]. Sub-Clause 16.4 entitles the Contractor to recover the same amounts as under the Red, Yellow and Silver Books (sub-para. (b)) but also "any loss or damage sustained by the Contractor as a result of this termination" (sub-para. (c)). Sub-Clause 17.6 further states expressly that the exclusion of liability for loss of use of any Works, loss of profit or any other indirect or consequential loss does not apply to Sub-Clause 16.4.

109. "Notice" (G).

8.178 Gold Book. Under Sub-Clause 15.7 in the Gold Book, the Contractor is entitled to payment in accordance with Sub-Clause 16.4, which is the same as under the MDB.[110] Moreover, the Contractor's entitlement to recover loss of profit is expressly recognised in Sub-Clause 16.4(c).

8.179 There is no limit on the Employer's liability under the FIDIC forms. Accordingly, if the Employer in the MDB or Gold Book terminates for convenience under Sub-Clause 15.5, the Employer may be exposed to a claim for loss of profit without any applicable limit of liability.

Employer's termination for cause

8.180 Sub-Clause 15.2 [*Termination by Employer*][111] sets out the principal[112] grounds on which the Employer is entitled to terminate the Contract for cause and the procedure that must be followed to exercise this entitlement. This Sub-Clause, as well as Sub-Clauses 15.3 and 15.4, then set out the practical and financial consequences following such a termination.

Grounds for termination

8.181 The grounds entitling the Employer to terminate under Sub-Clause 15.2 differ between the Books: they are the same in the Red, MDB and Yellow Books; the Silver Book contains one less ground; and, in the Gold Book, there are additional grounds, reflecting some of the additional provisions found in that Book, as well as minor drafting changes to the otherwise common grounds. Table 8.2 below contains a comparison of the grounds found in the different Books. Given that contractual termination for cause provisions such as these will generally be construed strictly, the precise wording of the different grounds is important.

110. Note that Sub-Clause 16.4(b) in the Gold Book refers to payment to the Contractor "in accordance with Sub-Clause 18.6 [*Optional Termination, Payment and Release*]". It is suggested that this is an inadvertent drafting error and was intended to read Sub-Clause 18.5, which is the appropriate Sub-Clause dealing with payment to the Contractor and is headed "Optional Termination, Payment and Release".

111. "*Termination for Contractor's Default*" (G).

112. The Employer has an additional entitlement to terminate the Contract under various other Sub-Clauses. See paras. 8.159–8.160 above.

Table 8.2: Summary of grounds entitling the Employer to terminate the Contract as set out in Sub-Clause 15.2 in the different Books

Sub-para.	Red, MDB and Yellow Books	Silver Book	Gold Book
(a)	Contractor fails to comply with Sub-Clause 4.2 [*Performance Security*].		
(a)	Contractor fails to comply with a notice[113] to correct under Sub-Clause 15.1.		
(b)	Contractor abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract.		
(c)(i)/ (c) (S)	Contractor fails, without reasonable excuse, to proceed with the Works in accordance with Clause 8.		Contractor fails, without reasonable excuse, to proceed with the Works in accordance with Sub-Clause 9.1 or Sub-Clause 10.2.
(c)(ii)	Contractor fails, without reasonable excuse, to comply with a notice issued under Sub-Clause 7.5 (to make good defects) or Sub-Clause 7.6 (to carry out remedial work), within 28 days after receiving the notice.		Contractor fails, without reasonable excuse, to comply with a Notice issued under Sub-Clause 7.5 (to make good defects) or Sub-Clause 7.6 (to carry out remedial work), within 28 days after receiving the Notice.
(d)	Contractor sub-contracts the whole of the Works or assigns the Contract without the required agreement.		Contractor sub-contracts the whole of the Works or assigns the Contract without the required agreement or sub-contracts the Operation Service or any parts of the Works in breach of Sub-Clause 4.4.

113. "Notice" (G).

Sub-para.	Red, MDB and Yellow Books	Silver Book	Gold Book
(e) (G)			Where Employer reasonably concludes that the Contractor will be unable to complete or fulfil his obligations under the Contract due to the Contractor's financial situation.
(e)/ (f) (G)	Contractor becomes bankrupt, insolvent etc.		
(f)/ (g) (G)	Contractor gives or offers bribes etc.		
(h)			Contractor fails to complete the Design-Build by the Cut-Off Date, or if no such date, within a period of 182 days after the Time for Completion of Design-Build.

8.182 Failure to comply with Sub-Clause 4.2 [*Performance Security*]. The reference in Sub-Clause 15.2(a) to Sub-Clause 4.2 as a whole means that the Employer will be entitled, if Sub-Clause 4.2 applies, to terminate the Contract if Contractor fails to provide the Performance Security within the required time, fails to ensure that it is valid and enforceable for the period required or fails to extend its validity as required.[114]

8.183 Failure to comply with a notice[115] under Sub-Clause 15.1 [*Notice to Correct*]. Under Sub-Clause 15.1, if the Contractor fails to carry out *any* obligation under the Contract, the contract administrator may notify the Contractor that he is required to "make good" and "remedy" the failure within a reasonable time (R/M/Y/S) or the time specified in the Notice (G). A failure by the Contractor to then make good the failure and remedy it within the time period would then entitle the Employer to terminate under Sub-Clause 15.1(a). This is considered further at para. 8.16 *et seq*. above.

8.184 "abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract". Sub-Clause 15.2(b) sets out the general ground entitling the Employer to terminate for cause, in that it does not relate to a specific failure of the Contractor to comply with or breach of a

114. See Chapter 7, para. 7.192 *et seq*. for a discussion on the Contractor's obligations under Sub-Clause 4.2 in relation to the Performance Security.

115. "Notice" (G).

particular Sub-Clause.[116] It is, however, of limited application: it is available only where the Contractor has abandoned the Works or otherwise plainly demonstrates an intention not to *continue* performance of his obligations under the Contract. In some instances, it may be obvious when the Contractor has abandoned the Works. However, whether or not the Contractor's actions are such as to amount to a plain demonstration not to continue performance of his obligations under the Contract is less clear. Although not certain, it is suggested, by the words "or otherwise", that this alternative circumstance entitling the Employer to terminate under that sub-paragraph is intended to apply where the Contractor demonstrates an intention not to continue performance of his obligations *as a whole* under the Contract, but not necessarily where the Contractor refuses to carry out a particular obligation unless, perhaps, that obligation went to the root of the Contract. In this way, there are clear similarities between Sub-Clause 15.2(b) and the common law right to terminate by one party accepting the 'repudiation' of the other, where such repudiation represents acts evincing an intention no longer to be bound by the Contract.[117] Where the Contractor has failed to carry out a particular obligation under the Contract, the safer option would be for the contract administrator to give notice[118] under Sub-Clause 15.1, and for the Employer to rely upon his right to terminate under Sub-Clause 15.2(a). This is considered further at para. 8.16 *et seq.* above.

8.185 Failure to proceed with the Works. In the Red, MDB, Yellow and Silver Books, Sub-Clause 15.2(c)(i) (15.2(c) (S)) refers to a failure to proceed with the Works "in accordance with Clause 8 [*Commencement, Delays and Suspension*]". From a review of the Sub-Clauses in clause 8, the specific obligation to "proceed with the Works" is only found in Sub-Clause 8.1: "the Contractor shall proceed with the Works with due expedition and without delay". This might suggest that this ground relates only to a failure to comply with this particular obligation under Sub-Clause 8.1. The Employer's right to terminate due to the Contractor's failure to proceed with the Works with due expedition and without delay is discussed at paragraphs 8.30–8.34 above.

8.186 However, Sub-Clause 15.2(c)(i) (15.2(c) (S)) refers to Clause 8 as a whole and not only to Sub-Clause 8.1, which suggests that it may be intended to be of wider application. Indeed, several of the obligations found in the Sub-Clauses in Clause 8, including the obligation to commence the Works under Sub-Clause 8.1, to proceed in accordance with the programme under Sub-Clause 8.3 and to adopt measures to expedite progress under Sub-Clause 8.6 could all be construed, albeit at a more general level, to relate to the Contractor's obligation to proceed with the Works. It is therefore at least arguable that the Contractor's failure to proceed with the programme under Sub-Clause 8.3 would entitle the Employer to terminate the Contract if the Contractor has no reasonable excuse. The success of such an argument will depend on the proper interpretation of Sub-Clause 15.2(c)(i) (15.2(c) (S)) under the governing law of the Contract.

116. Sub-Clause 15.2(b) should be contrasted with general Contractor-termination for cause provision, found in Sub-Clause 16.2(d), which entitles the Contractor terminate, upon 14 days' notice, if "the Employer substantially fails to perform his obligations under the Contract".

117. See, for example, *Rice* v. *Great Yarmouth Borough Council* [2003] TCLR 1; *Alan Auld Associates* v. *Rick Pollard Associates* [2008] EWCA Civ 655; [2008] BLR 419. Indeed, in the 4th Edition of the Red Book, Sub-Clause 63.1(a) provided that the Employer was entitled to terminate upon 14 days' notice if the Engineer certifies that the Contractor "has repudiated the Contract". Given that repudiation is likely to have a particular meaning (if one at all) under the governing law, the wording of Sub-Clause 15.2(b) must be considered to be an improvement.

118. "Notice" (G).

8.187 The uncertainty as to the scope of Sub-Clause 15.2(c)(i) is clarified in the Gold Book. Sub-Clause 15.2(c)(i) in this Book refers to a failure, without reasonable excuse, to proceed with the Works in accordance with:

- Sub-Clause 9.1, which requires the Contractor to "commence the design and execution of the Works within 28 days of the Commencement Date", and thereafter to "proceed with the Design-Build with due expedition and without delay"; or
- Sub-Clause 10.2, which requires the Contractor, after the commencement of the Operation Service, to "provide the Operation Service in compliance with the Operation Management Requirements and in accordance with Sub-Clause 5.5 [*As-Build Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*]."

8.188 As to "without reasonable excuse", see paragraphs 8.32–8.33 above.

8.189 Failure to comply with a notice under Sub-Clause 7.5 [*Rejection*] or Sub-Clause 7.6 [*Remedial Work*]. Sub-Clause 15.2(c)(ii) of all the Books apart from the Silver Books entitles the Employer to give notice[119] under Sub-Clause 15.2 if the Contractor fails, without reasonable excuse, to comply with a notice[120] issued under Sub-Clause 7.5, which relates to the rectification of defects, and Sub-Clause 7.6, which empowers the contract administrator to instruct the Contractor to take remedial actions or carry out urgent work required for the safety of the Works. The Employer's entitlement to terminate under this sub-paragraph is considered further at paragraphs 8.81–8.82 above.

8.190 Sub-contracting the whole of the Works or assigning the Contract without the required agreement. Although not expressly stated in Sub-Clause 15.2(d) of any of the Books apart from the Gold Book, this sub-paragraph relates directly to the prohibitions in Sub-Clauses 1.7 (1.8 (G)) and 4.4 against the Contractor assigning the whole or any part of the Contract without the prior agreement of the Employer, and against subcontracting the whole of the Works (and, in the Gold Book, the provision of the Operation Service unless otherwise agreed), respectively.

8.191 Contractor's bankruptcy, insolvency, entering liquidation etc. Sub-Clause 15.2(e) (15.2(f) (G)) is very widely drafted and covers a variety of insolvency-related matters. By its inclusion in Sub-Clause 15.2, the Contractor's insolvency is essentially treated as a Contractor default. The operation of this sub-paragraph will depend on the governing law and other applicable Laws. Most jurisdictions have some form of insolvency law, albeit with some more developed than others. It is therefore suggested that, if appropriate, the Parties would be wise to check the potential application of this provision under the particular applicable Laws for their project prior to the award of the Contract.

8.192 Contractor giving, or offering to give, bribes. Sub-Clause 15.2(f) (15.2(g) (G)) is widely drafted and includes not only bribery, but also the Contractor's giving of any "gift, gratuity, commission or other thing of value", as an inducement or reward for doing any action or showing favour, in relation to the Contract. It is nevertheless suggested that this provision is clearly intended to address bribery and corruption. It also extends to the giving of bribes or these other matters by the Contractor's Personnel, agents or Subcontractors. Consequently, the Employer may be able to terminate under this Sub-Clause

119. "Notice" (G).
120. "Notice" (G).

as a result of the actions of an individual or a sub-contractor over whom the Contractor has no total control.[121]

8.193 Importantly, however, "lawful inducements and rewards" to the Contractor's Personnel are excluded such that they do not entitle the Employer to terminate. The word 'lawful' here raises two issues. First, there is no such qualification in relation to inducements and rewards to persons who do not fall within the definition of the Contractor's Personnel and thus, even though that may not be illegal under the applicable Laws, such inducements and rewards may entitle the Employer to terminate the Contract under this sub-paragraph. Second, there is no explanation as to which laws should be considered to determine whether the inducement or reward is 'lawful'. For example, the paying of commission to a supplier in a country other than where the Site is located may be legal under the governing law and the law of the supplier's country, but may be illegal under the law of the Country. Consequently, the Parties may wish to clarify in the Contract the meaning of 'lawful' in this context.

8.194 The MDB further contains detailed separate provisions, in Sub-Clause 15.6 [*Corrupt or Fraudulent Practices*], governing the right of the Employer to terminate, after giving 14 days' notice, if he determines that the Contractor has been engaged in corrupt, fraudulent, collusive or coercive practices.[122]

8.195 Inability to complete or fulfil his obligations under the Contract due to the Contractor's financial situation (Gold Book). Sub-Clause 15.2(e) of the Gold Book relates to the Contractor's obligation under Sub-Clause 4.25 [*Changes in the Contractor's Financial Situation*], which is found only in this Book, to give Notice and details to the Employer immediately after the Contractor becomes aware of any change in his financial situation which will or could adversely affect his ability to complete and fulfil his obligations under the Contract. Sub-Clause 15.2(e) entitles the Employer to terminate the Contract if the Contractor either gives Notice under Sub-Clause 4.25 or fails to give such Notice, and the Employer "reasonably concludes that the Contractor will be unable to complete and fulfil his obligations under the Contract" due to his financial situation. This represents a significant extension to Sub-Clause 15.2(f), which entitles the Employer to terminate only if the Contractor becomes insolvent (or similar). The rationale behind sub-paragraph (e) is, however, understandable in the context of a long-term contract. In such a case, the Employer will not necessarily want to wait until the Contractor has become insolvent before being entitled to appoint a replacement contractor. If the Employer has to wait until it is clear that the Contractor has become insolvent, there will be inevitable interruptions and delay, whether to the Design-Build or the Operation Service.

8.196 Failure to complete the Design-Build by the Cut-Off date (Gold Book). Sub-Clause 15.2(h) of the Gold Book entitles the Employer to terminate the Contract under Sub-Clause 15.2 if the Contractor has not completed the Design-Build within a specified period after the Time for Completion of Design-Build (including any extensions under Sub-Clause 9.3). This period is to be specified in the Contract Data and

121. EIC, *EIC's Contractor's Guide to the FIDIC Conditions of Contract for Construction* (2002, European International Contractors), p. 21. The EIC suggest that, in relation to the actions of sub-contractors, the Employer should not be entitled to terminate the Contract and instead the Contractor should be required to terminate the sub-contract.

122. The provisions of Sub-Clause 15.6 are specific to the particular Multi-Lateral Development Bank, containing different definitions of the fraudulent practices etc.

is used to calculate the Cut-Off Date.[123] The rights in this sub-paragraph are triggered if completion is not achieved by this date. Alternatively, if no date is stated in the Contract Data, the Employer's entitlement under Sub-Clause 15.2(h) arises 182 days after the Time for Completion of Design-Build. See also paragraph 8.73 above.

Procedure

Notice

8.197 If any of the grounds set out in Sub-Clause 15.2 are satisfied, the Employer is entitled to terminate the Contract upon giving the required notice[124] to the Contractor. For bribery and bankruptcy, no period of notice must be given and the Employer can terminate by notice immediately. For the other grounds, the Employer is required to give 14 days' notice.

8.198 The notice[125] must comply with the formalities required under Sub-Clause 1.3: it must be in writing, delivered in accordance with that Sub-Clause and a copy must be sent to the contract administrator. In the Gold Book, the Notice must also be identified as a Notice and include reference to Sub-Clause 15.2. However, apart from these standard formalities, the FIDIC forms do not prescribe any particular form for the notice. Nevertheless, such a notice requires careful drafting. Given that the Employer's entitlement to terminate is conditional upon proper notice being given, it follows that an invalid notice will not give the Employer this remedy.[126] Indeed, giving an invalid notice may amount to a repudiatory breach of the contract, for example in common law jurisdictions.

8.199 In any event, under the Red, MDB, Yellow and Silver Books[127] it is advisable that the notice clearly states that it is given under Sub-Clause 15.2 so that there can be no uncertainty as to its intended effect. Further, it would also be preferable, in practice, for the notice[128] to identify the event or circumstance on which the Employer is relying to entitle him to serve the notice. At the very least, this would include, for example, either details of the specific failures of the Contractor or the individual sub-paragraph(s) of Sub-Clause 15.2 on which the Employer is relying, and, preferably, both.

Election to terminate

8.200 The second paragraph of Sub-Clause 15.2 can probably be considered to be the key provision in this Sub-Clause because it is by this paragraph that the Employer is entitled to terminate. The wording of this paragraph is subtly different in the Gold Book and these changes in the drafting from that in the other Books address two areas of potential

123. See n. 67.
124. "Notice" (G).
125. "Notice" (G).
126. The issue as to whether strict compliance with the formalities for giving notice of termination under a contract differs as between jurisdictions. Compare the stricter approach adopted by the courts in Singapore (*Central Provident Fund Board* v. *Ho Bock Kee* (1981) 17 BLR 21 (Singapore CA)) and Australia (*Eriksson* v. *Whalley* [1971] 1 NSWLR 397), with the less strict, more commercial approach shown by the English courts (for example, *Goodwin & Sons* v. *Fawcett* (1965) 195 Estates Gazette 27; *Architectural Installation Services Ltd* v. *James Gibbons Windows Ltd* (1989) 46 BLR 91; *Ellis Tylin Ltd* v. *Co-Operative Retail Services Ltd* [1999] BLR 205).
127. This is a requirement in the Gold Book only under Sub-Clause 1.3(a).
128. "Notice" (G).

ambiguity or uncertainty in relation to termination by the Employer on the basis of any of the grounds which requires 14 days' notice to be given.

8.201 Does the notice have automatic effect? The first area of ambiguity is whether the Contract is terminated automatically 14 days after a valid notice has been given under Sub-Clause 15.2 or whether anything further is required from the Employer on the expiry of the 14-day period to terminate the Contract. The *FIDIC Guide*[129] suggests the former but, in the authors' view, this cannot be stated with such certainty. This is unfortunate, given the significant unintended consequences that can follow a wrongful or disputed termination.

8.202 Sub-Clause 15.2 in the Red, MDB, Yellow and Silver Books provides that, in any of the events or circumstances listed in Sub-Clause 15.2 entitling the Employer to terminate, "the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract". Read in isolation, it is suggested that, by the words "the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract", the termination is not automatic and a two-stage process is anticipated: firstly, the Employer must give notice to the Contractor that he will terminate the Contract at the end of 14 days; then, after 14 days, the Employer must elect to terminate, preferably by giving a second notice.

8.203 However, Sub-Clauses 15.3 and 15.4 are stated to apply "after a notice of termination under Sub-Clause 15.2 [*Termination by Employer*] *has taken effect*" (emphasis added). These words would suggest that a notice under Sub-Clause 15.2 has the effect of terminating the Contract. Yet, apart from the 14-day notice, no other references to 'notice' in Sub-Clause 15.2 can be construed to be a 'notice of termination' and this Sub-Clause does not refer to a 'notice of termination' in the sense of a physical document. The reference in Sub-Clauses 15.3 and 15.4 to a notice of termination taking effect, therefore, would suggest that it is contemplated that only one notice is required under Sub-Clause 15.2 to effect the termination, introducing an unwelcome uncertainty, notwithstanding the wording of Sub-Clause 15.2. In any event, it is suggested that, to avoid any doubt, the Employer should give the Contractor the second notice after the 14-day period to demonstrate that the Employer has unequivocally elected to terminate the Contract.

8.204 The drafting of Sub-Clause 15.2 in the Gold Book has introduced changes to the wording found in the other Books to the effect that a second notice is expressly required. The second paragraph of this Sub-Clause states that, if any of the grounds set out in Sub-Clause 15.2 is satisfied, "the Employer may, *not less than 14 days after giving Notice to the Contractor*, terminate the Contract . . . unless the Contractor cures the event or circumstance within the said 14 days" (emphasis added). By prescribing a minimum notice period, as opposed to a defined notice period as in the other Books, and by allowing the Contractor a period to cure the event or circumstance providing the ground for the Employer's right to terminate, it is suggested that a second notice is required.

8.205 However, the clarification provided by the 'amendments' in Sub-Clause 15.2 in the Gold Book have not been followed through in Sub-Clauses 15.3 and 15.4, which retain the references to "after a Notice of termination has taken effect". These references are

129. *FIDIC Guide*, p. 261, which states "If the Employer gives notice 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 . . . "

confusing, since there are two Notices required and there is no period between a Notice being given and its taking effect.

8.206 Cure period. The second potential uncertainty relates to whether the Employer's right to terminate is lost after giving the required 14 days' notice if, during that period, the Contractor cures the 'event or circumstance' which provided the ground(s) for the Employer's right to terminate. Only the Gold Book makes the Employer's right to terminate expressly conditional upon the Contractor not curing the 'event or circumstance' within the 14-day period.

8.207 On the other hand, the other Books are silent on the effect of the Contractor curing the 'event or circumstance'. In these Books, the Employer's entitlement to terminate is framed in absolute terms. Consequently, it is suggested, on the face of the wording, that the Employer's entitlement to terminate is dependent on one of the grounds for termination being satisfied at the time of giving notice and not whether it continues to exist after the end of the 14-day period. The Parties may, however, wish to clarify the position in the Particular Conditions.

Consequences following termination

8.208 Sub-Clauses 15.2 to 15.4 set out the practical and financial consequences that follow if the Employer validly exercises his entitlement to terminate under Sub-Clause 15.2. These include both obligations of the Contractor and rights and remedies of the Employer. Sub-Clause 15.2 makes it clear that the exercise of the remedy of termination by the Employer is not a 'stand alone' remedy which brings to an end all the Employer's rights and remedies: the Employer's election to terminate the Contract is stated expressly not to "prejudice any other rights of the Employer, under the Contract or otherwise".

Practical consequences of termination

8.209 On termination, the Employer is entitled, under Sub-Clause 15.2, to expel the Contractor from the Site. This Sub-Clause additionally sets out several obligations on the part of the Contractor which flow from the Employer's termination.

8.210 Contractor's obligations following termination. The Contractor is required to leave the Site[130] and to deliver "any required Goods, all Contractor's Documents, and other design documents made by or for him" to the contract administrator (i.e. the Employer in the Silver Book). The obligation in respect of delivery of the Goods only relates to those that are "required" and this would seem to be intended to mean any Goods required by the Employer or the contract administrator. This obligation could be particularly onerous for the Contractor in that Goods[131] not only includes Plant and Materials, but also Temporary Works and Contractor's Equipment. The definition of Contractor's Equipment[132] is sufficiently broad that it most likely extends to apparatus, machinery etc.

130. Note that the definition of the "Site" means, not only the places where the Permanent Works are to be executed, but also "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" (Sub-Clause 1.1.6.7 (R/M/Y/S); Sub-Clause 1.1.72 (G)).

131. Sub-Clause 1.1.5.2 (R/M/Y/S); Sub-Clause 1.1.45 (G).

132. "Contractor's Equipment" is defined as "all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects" (Sub-Clause 1.1.5.1 (R/M/Y/S); Sub-Clause 1.1.18 (G)).

owned by Subcontractors or, for example, on hire from other third parties. Consequently, it may be practically and legally difficult, if not impossible, for the Contractor to comply with an instruction to deliver certain items of Contractor's Equipment. These factors, practically, if not legally, will need to be taken into account by the Employer or contract administrator when deciding what items of Goods he requires the Contractor to deliver.

8.211 The Contractor is also required to use his best efforts to comply with any reasonable instructions immediately: (i) for the assignment of any subcontract, and (ii) to make the Works safe.[133]

8.212 The provision in Sub-Clause 15.2 refers to instructions being included "in the notice", which, in the context of that Sub-Clause, seems to mean the notice given by the Employer under the second paragraph of Sub-Clause 15.2. Indeed, the *FIDIC Guide*[134] seems to suggest that such instructions could be given in this notice. However, for the reasons stated above, the Contract may not necessarily be terminated at the end of the 14-day notice period, where applicable. Therefore, the Employer should be careful not to give premature instructions in the notice if it does not take effect at the end of the notice period. Such instructions could be considered to be an election to terminate under the Contract or, in certain circumstances, may even amount to a repudiatory or material breach of the Contract under the governing law.

8.213 The assignment of a subcontract is an area of potential difficulty because it may, depending on law governing the subcontract, require the agreement of a third party, the Subcontractor.[135] Only the Red Book and the MDB require, under Sub-Clause 4.4(d), that each subcontract must include provisions for its assignment to the Employer in the event of termination. The potential difficulties involved are implicitly acknowledged in the drafting because the Contractor's obligations are not stated in absolute terms: he is only required to use his "best efforts". In any event, the Employer may prefer to make his own direct arrangements with the Subcontractors.[136]

8.214 Employer's practical remedies. The principal practical remedy of the Employer following termination for cause under Sub-Clause 15.2, is that, after termination, he can complete the Works, either himself or by engaging other "entities" to do so, and that the Employer is entitled to use "any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor". This right to complete the Works should be contrasted with the prohibition in Sub-Clause 15.5 against terminating for convenience in order for the Employer to complete the Works by other means.[137]

8.215 In relation to the Contractor's Documents, under Sub-Clause 1.10 (1.11 (G)) [*Employer's Use of Contractor's Documents*], by signing the Contract, the Contractor is deemed to have granted a non-terminable licence to use the Contractor's Documents, which applies throughout the working life of the relevant part of the Works and permits use of the Contractor's Documents for the purposes of, amongst other matters, completing,

133. The Country's safety laws may require the Works to be made safe (*FIDIC Guide*, p. 261).

134. *Ibid*.

135. Under English law, for example, the assignment of a party's obligations under a contract (the "burden") to a third party generally requires the agreement of the other party to the contract, whereas the assignment of the rights of a party (the "benefit") does not.

136. *FIDIC Guide*, p. 261.

137. See para. 8.163 above.

operating and maintaining the Works.[138] Consequently, in the authors' view this licence clearly survives termination by the Employer under Sub-Clause 15.2.

8.216 In the event of termination under Sub-Clause 15.2, the licence extends, by Sub-Clause 1.10(b) (1.11(b) (G)), to the disclosure of the Contractor's Documents to a replacement contractor who has commenced work because such a person is likely to be "in proper possession of the relevant part of the Works". The position, however, is unclear in all the Books apart from the Gold Book as to whether the Contractor's Documents may be disclosed to *potential* contractors for the purpose of their submitting an offer to the Employer to complete the Works. This matter is dealt with expressly in Sub-Clause 1.11(d) of the Gold Book, which provides that the licence applies to "enable the Employer to relet the Contract as provided for under Sub-Clause 15.2 [*Termination for Contractor's Default*]".

8.217 If, by the time that the Employer releases the Contractor's Equipment and Temporary Works back to the Contractor after use as permitted under Sub-Clause 15.2, the Contractor has failed to make a payment due to the Employer, the Employer is entitled to sell these items to make good the payment, paying any remaining balance to the Contractor.[139] Both practically and legally, the Employer's ability to enforce this right to sell these items will be subject to whether the Contractor owns them. If the items are owned by third parties (for example, where items of the Contractor's Equipment are hired by the Contractor) but the Employer nevertheless sells them, depending on the applicable Laws, the Employer may be exposed to claims by the true owners for conversion (or the equivalent under the relevant law).

Financial consequences of termination

8.218 The financial consequences following termination by the Employer under Sub-Clause 15.2 are principally set out in Sub-Clauses 15.3 [*Valuation at Date of Termination*][140] and 15.4 [*Payment after Termination*].[141] In summary:

- As soon as practicable after the notice[142] of termination has taken effect under Sub-Clause 15.2, the contract administrator is required to proceed in accordance with Sub-Clause 3.5 to agree or determine "the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract" (Sub-Clause 15.3).
- The Employer is not obliged to pay any further amounts to the Contractor until the "costs of completing the [design, (Y/S/G)] execution, completion and remedying any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established" (Sub-Clause 15.4(b)).

138. Sub-Clause 1.10 (1.11 (G)), sub-paragraphs (a) and (b).

139. Note that in England, for example, this right to retain and sell the Contractor's Equipment is a registrable charge, which, if not registered, will be void as against the liquidator, administrator and creditor of the Contractor under s. 874 of the Companies Act 2006 (in force 1 October 2009, replacing s. 395 of the Companies Act 1985); *Smith (as Administrator of Cosslett (Contractors) Ltd)* v. *Bridgend County Borough Council* [2001] UKHL 58; [2002] BLR 160.

140. "*Valuation at Date of Termination for Contractor's Default*" (G).

141. "*Payment after Termination for Contractor's Default*" (G).

142. "Notice" (G).

- The Employer may recover from the Contractor "any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any due to the Contractor under Sub-Clause 15.3", and then is required to pay any balance to the Contractor (Sub-Clause 15.4(c)).
- The Contractor is required immediately to repay any amount of the advance payment under Sub-Clause 14.2 that has not been paid (Sub-Clause 14.2).

8.219 These provisions are largely self-explanatory. The first stage in the process is the valuation under Sub-Clause 15.3 to determine the total amount due to the Contractor for work carried out prior to termination. If the Employer intends to withhold further payments to the Contractor under Sub-Clause 15.4(b), no further calculation is necessary until the costs of completion, damages for delay in completion and other costs incurred by the Employer have been established under that Sub-Clause. Moreover, these costs and damages may only be established when the Works have been completed by another contractor and, in such a case, the Employer, in principle, is entitled to withhold any further payment to the Contractor until that time.

8.220 Only when these costs and damages have been established is the Employer obliged to account to the Contractor for any balance between the total amounts due to him and the extra costs incurred in completion and other losses claimed by the Employer. Any Retention Money retained by the Employer will be factored into such a calculation. In practice, repayment of any part of the Retention Money will be made only if the extra costs of completing the Works and the Employer's losses and damages claimed are less than the amounts due to the Contractor (excluding Retention Money).

8.221 Note that, in the Gold Book, Sub-Clause 15.4(b) does not refer to the costs of operating and maintaining the Works/facility. Irrespective of whether this omission was intentional, it is suggested that it is appropriate given that otherwise the Contractor in that Book may, in principle at least, have had to wait until the completion of the Operation Service Period, potentially in excess of 20 years later if the Contract was terminated during the Design-Build Period, before he would be entitled to the reconciliation of amounts due.

8.222 In addition to the provisions for valuation and payment found in Sub-Clauses 15.3 and 15.4, Sub-Clause 15.4(a) provides that "the Employer *may* . . . proceed in accordance with Sub-Clause 2.5 [20.2 (G)] [*Employer's Claims*]" (emphasis added). The word 'may' here is potentially confusing, because it could suggest that compliance with the requirements set out in Sub-Clause 2.5 (20.2 (G)) is optional.[143] Furthermore, the Employer's rights to withhold further payment and to recover losses and damages from the Contractor under Sub-Clauses 15.4(b) and (c) respectively are not expressly stated to be subject to Sub-Clause 2.5 (20.2 (G)). In this way, there is a potential conflict between these provisions and those of Sub-Clause 2.5 (20.2 (G)), in particular in relation to the Employer's right of set-off.[144] It is, however, suggested that, reading the Conditions as a whole, the most pragmatic

143. Indeed, Sub-Clause 1.2(f) in the Gold Book states that "may" in the Contract "means that the Party or person referred to has the choice of whether to act or not in the matter referred to", except where the context requires otherwise.

144. For example, Sub-Clause 2.5 (20.2 (G)) in the Red, MDB, Yellow and Gold Books provides that "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". See Chapter 6, para. 6.304 *et seq.*

interpretation of these provisions is that, on termination under Sub-Clause 15.2, the Employer's obligation to pay is generally suspended, but that his entitlement to claim any losses and damages is nevertheless still intended to be subject to Sub-Clause 2.5 (20.2 (G)). However, it would seem that the Employer does not have to submit particulars or substantiate the claim until the losses and damages incurred have been established.

8.223 Finally, it should be noted that, in all the Books apart from the MDB, the Contractor's liability for loss of use of the Works, loss of profit, loss of contract and indirect losses are excluded under Sub-Clause 17.6 (17.8 (G)). Furthermore, in all the Books, the Contractor's total liability to the Employer is capped under this Sub-Clause to the sum stated in the Particular Conditions or, if no sum is stated, the Accepted Contract Amount (R/M/Y/G) or the Contract Price stated in the Contract Agreement (S).[145]

THE CONTRACTOR'S REMEDIES

8.224 The Contractor's remedies are fewer in number than the remedies available to the Employer. This is not a criticism of the FIDIC forms, nor a suggestion that they are hostile to the interest of the Contractor. It is chiefly a reflection of the fact that the party undertaking to supply the product, in this case the Works, is likely to have more obligations which need to be enforced by the Contract than the 'paying party', the Employer. However, self-evidently such remedies as are available are of the greatest importance to the Contractor in protecting his entitlements under the Contract.

Delayed or non-payment by the Employer

8.225 Late payment or non-payment by the Employer will obviously be a serious matter for the Contractor, whose ability to meet its ongoing commitments during the running of the Contract will usually be dependent on maintaining his cash flow.

8.226 The ability to enforce payment by recourse to the courts or arbitration would often be of limited practical benefit, since the delay, further cost and uncertainty of such action would mean that no help was available in dealing with the immediate problem. Some jurisdictions, including England and Wales, Scotland, Singapore, New Zealand and various Australian States,[146] have introduced statutory adjudication, operated within very short time limits, to resolve summarily disputes over payment (in England/Wales and Scotland adjudication can extend to other disputes as well).

8.227 The FIDIC forms recognise the importance of timely payments to the Contractor by providing various remedies to the Contractor in the event of late or non-payment by the Employer, which are as follows:

- financing charges for delayed payment under Sub-Clause 14.8 (14.9 (G)) [*Delayed Payment*];
- entitlement to suspend work under Sub-Clause 16.1; and
- entitlement to terminate the Contract under Sub-Clause 16.2.

145. See Chapter 7, para. 7.81 *et seq*.
146. And, imminently, Malaysia.

8.228 The nature of these remedies increases in severity as the period of delay (or non-payment) increases. The Contractor's entitlement to suspend and terminate are considered at paragraphs 8.286 *et seq.* below.

8.229 In a similar vein, the Contractor has additional remedies if there are concerns as to the Employer's ability to pay the Contract Price at the required time: a failure by the Employer to provide reasonable evidence of such ability within 28 days of a request from the Contractor under Sub-Clause 2.4 may entitle the Contractor to suspend work under Sub-Clause 16.1 and to terminate the Contract under Sub-Clause 16.2(a). In addition, in the MDB, in recognition that at least part of the funding for the project will come from the Bank, these remedies are also available (under Sub-Clauses 16.1 and 16.2(h) respectively) in certain circumstances where the Bank suspends the loan or credit from which payments are being made to the Contractor.

Financing charges

8.230 Sub-Clause 14.8 (14.9 (G)) entitles the Contractor to receive financing charges if he "does not receive payment in accordance with Sub-Clause 14.7 [14.8 (G)]". Although highly specific, this entitlement to compensation as a result of late payment of sums due from the Employer is probably one of the remedies of the greatest practical importance to the Contractor on a day-to-day level.

8.231 Commencement of entitlement. The Contractor's entitlement to these financing charges is "deemed to commence on the date for payment specified in Sub-Clause 14.7 [14.8 (G)]". The date for payment specified in Sub-Clause 14.7 (14.8 (G)) depends on whether the payment relates to the advance payment, an interim payment or a final payment, and further differs between the Books, most notably between the Red, MDB, Yellow and Gold Books, on the one hand, and the Silver Book, on the other.[147] The difference in approach in the Silver Book can primarily be explained on the basis that there are no Payment Certificates in this Book.

8.232 Importantly, in the Red, MDB, Yellow and Gold Books, where the Contractor's entitlement to interim payments is conditional on the contract administrator issuing an Interim Payment Certificate, Sub-Clause 14.8 (14.9 (G)) expressly provides that the Contractor is entitled to receive these financing charges irrespective of the date upon which any Interim Payment Certificate is issued. Consequently, in these Books, by the deeming provision in Sub-Clause 14.8 (14.9 (G)), the Contractor is entitled to financing charges in relation to interim payments from 56 days after the contract administrator receives the Statement and supporting documents from the Contractor,[148] even if no Interim Payment Certificate has been issued. This does, however, give rise to a practical difficulty in establishing the unpaid amounts to which the financing charges should be applied until and unless the amounts that should have been certified in the Interim Payment Certificate themselves have been established.[149]

147. See Chapter 4, paras. 4.177 *et seq.*
148. Sub-Clause 14.7(b) (14.8(b) (G)).
149. *FIDIC Guide*, p. 248.

8.233 Amount of financing charges. The financing charges due are to be compounded monthly on the unpaid amount during the period of delay[150] and 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 [(or currencies (G))] of payment" unless otherwise stated in the Particular Conditions.[151]

8.234 Payment of financing charges. The Contractor's entitlement to financing charges arises automatically. Sub-Clause 14.8 (14.9 (G)) expressly provides that the Contractor is not required to give any notice[152] and that, under the Red, MDB, Yellow and Gold Books, payment of these financing charges does require formal certification in a Payment Certificate. Accordingly, it seems clear that financing charges are not considered to be 'additional payment' for the purposes of Sub-Clause 20.1, and thus the procedure that applies to claims falling within that Sub-Clause does not apply. Indeed, the Contractor is not obliged to take any steps to activate his entitlement to financing charges.

8.235 Nevertheless, for both practical and accounting reasons, it may be expedient for payment of financing charges to be dealt with on a monthly basis as part of the interim payment process, with the charges due in this respect identified in Payment Certificates. In any event, it is suggested that, in accordance with Sub-Clause 14.3(f) (R/M/Y), 14.3(e) (S) or 14.3(j) (G), the Contractor is required to include the financing charges he considers are due to him in each Statement that he submits as part of the interim payment process.

Extension of Time

8.236 The entitlement to an extension of time under the Contract is one of the most important of the Contractor's remedies. This entitlement is principally governed by Sub-Clause 8.4, or Sub-Clause 9.3 in the Gold Book. The importance of these provisions to the Contractor is obvious. Inextricably linked to the Contractor's obligation under Sub-Clause 8.2 (9.2 (G)) to complete the Works (Design-Build (G)) and each Section within the Time for Completion[153] is his liability to pay delay damages under Sub-Clause 8.7 (9.6 (G)) if he fails to complete within time.[154] Any delay, therefore, in the Contractor's progress of the work may have seriously adverse financial consequences.

8.237 A significant measure of protection is provided for the Contractor by entitling him to an extension of time if completion is or will be delayed as a result of certain events which are outside of the Contractor's control. The effect of a successful claim for an extension of time is to extend the Time for Completion,[155] being the point at which the Contractor

150. An express entitlement to compound financing charges is significant. The absence of such a contractual provision would throw into doubt, at least in some jurisdictions, the Contractor's ability to claim compound interest. For example, under English law, the court in *Sectretary of State for Transport* v. *Birse-Farr Joint Venture* [1993] 62 BLR 36 held that compound interest can only be awarded upon the basis of a contractual provision to pay compound interest.

151. It should also be noted that interest on money lent, for example, is repugnant to Sharia which informs the legal systems in many Middle Eastern states. Consequently, although the term 'interest' is not used in Sub-Clause 14.8 (14.9 (G)), the basis for calculating the amount of financing charges under this Sub-Clause may nevertheless be construed as such and thus, depending on the particular governing law, may be unenforceable in certain countries.

152. "Notice" (G).

153. "Time for Completion of Design-Build" (G).

154. See Chapter 5, para. 5.89 *et seq.*

155. "Time for Completion of Design-Build" (G).

becomes liable to pay delay damages. In other words, the Contractor's obligation to complete within the Time for Completion under Sub-Clause 8.2 (9.2 (G)) remains unchanged, it is just the period within which he is required to complete that is extended.[156]

8.238 It should also be understood that the extension of time provisions in the FIDIC forms are not only for the Contractor's benefit. Extensions of time, and the related concept of liquidated damages for delay, have their roots solely in the common law[157] and, as stated above, in common law jurisdictions, the existence of a functioning extension of time provision that entitles the Contractor to an extension of time if he is delayed due to acts of the Employer is essential to preserve the Employer's right to claim liquidated delay damages.

8.239 Under the FIDIC forms, the Contractor's obligation under Sub-Clause 8.2 (9.2 (G)) to complete within the Time for Completion and liability to pay delay damages under Sub-Clause 8.7 (9.6 (G)) relate both to the completion of the whole of the Works (Design-Build (G)) and to individual Sections (if any). As with those provisions which relate to completion, Sub-Clause 8.4 (9.3 (G)) applies equally to any such Sections as to the Works.

8.240 Unlike the previous editions of the Red and Yellow Books,[158] the same provisions that apply to the Contractor's claims for additional payment, as set out in Sub-Clause 20.1, apply to claims for an extension of time.

Grounds for entitlement to extension of time

8.241 The grounds upon which the Contractor is entitled to extensions of time under Sub-Clause 8.4 (9.3 (G)) are significantly different as between the Red, MDB, Yellow and Gold Books, on the one hand, and the Silver Book, on the other. This reflects the difference in risk allocation in the Silver Book.

8.242 Under Sub-Clause 8.4 (9.3 (G)), the Contractor is entitled to extensions to the Time for Completion "if and to the extent that completion for the purposes of Sub-Clause 10.1 [11.5 (G)] . . . is or will be delayed by any of the following causes":

- a Variation or, in the Red Book and MBD only, "other substantial change in the quantity of an item of work included in the Contract";
- "a cause of delay giving an entitlement to extension of time under a Sub-Clause in the Conditions";
- "exceptionally adverse climatic conditions" (not Silver);
- "Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions" (not Silver); or

156. By definition, the Time for Completion (R/M/Y/S) or Time for Completion of Design-Build (G) is not fixed by the period stated in the Appendix to Tender (R/Y), Contract Data (M/G) or Particular Conditions (S) but includes "any extension under Sub-Clause 8.4 [9.3 (G)]" (Sub-Clause 1.1.3.3 (R/M/Y/S); Sub-Clause 1.1.78 (G)).

157. Dr Götz-Sebastian Hök, "Difficulties Encountered in the English-French Translation of FIDIC's Standard Form Contracts", [2007] 24(3) ICLR 271 at 272.

158. Clause 44 of the 4th Edition of the Red Book; Sub-Clause 26.1 of the 3rd Edition of the Yellow Book. See also Sub-Clause 8.3 of the Orange Book.

- "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."[159]

8.243 Variation. Unless an adjustment to the Time for Completion[160] has been agreed under Sub-Clause 13.3 [*Variation Procedure*], the Contractor is entitled to an extension of time under Sub-Clause 8.4 (9.3 (G)).[161]

8.244 "or other substantial change in the quantity of an item of work" (Red Book and MDB). This ground reflects the fact that, due to the nature of the Red Book and MDB, the Contractor may be required to carry out more or less work than as set out in the Bill of Quantities[162] without such a change in the quantity of work amounting to a Variation. Although not stated, it is suggested that the change in quantity in question is intended to be a change in quantity as set out in the Bill of Quantities or other Schedule. It is further suggested that the purpose behind this provision is similar to that of sub-paragraph (a) of Sub-Clause 12.3 [*Evaluation*],[163] namely to provide the Contractor with relief where it would be inappropriate, due to a substantial change in the quantity of work involved, to require the Contractor to complete the Works (or Section) on the same terms as he had agreed to carry out the Works as set out in the tender documents. This is, however, a difficult provision to operate in practice with any certainty because it is unclear when a change in the quantity of an item of work becomes a *substantial* change such as to entitle the Contractor to an extension of time. Reference can be made to the thresholds set out in Sub-Clause 12.3(a) in relation to the change in quantity of an item of work and other consequences which, if met, render a new rate or price for that item as appropriate. However, such reference is indicative only, and it cannot be stated that a change in quantities which justifies a new rate or price will automatically be a 'substantial' change for the purpose of Sub-Clause 8.4(a).

8.245 Entitlements under Sub-Clauses in the Conditions. The sub-clauses which expressly entitle the Contractor to an extension of time are set out in Table 8.3 on p. 465 below. As will be seen from this table, the primary differences between the Books are found in the Silver Book.

8.246 "exceptionally adverse climatic conditions". To be entitled to an extension of time under this ground, the climatic conditions must not only be adverse but "exceptionally adverse". It is therefore suggested that the Contractor would not be entitled to an extension of time if the climatic conditions were atypical, for example where rainfall over a month is higher than the average rainfall for the same month in the previous year. The *FIDIC Guide*[164] helpfully suggests that, to establish whether the climatic conditions were exceptionally adverse:

> "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)".

159. In the MDB, the words "on the Site" are omitted.
160. "Time for Completion of Design-Build" (G).
161. See Chapter 3, paras. 3.285 *et seq.*
162. Sub-Clause 14.1(c).
163. See Chapter 4, paras. 4.73–4.94.
164. *FIDIC Guide*, p. 174.

8.247 Note, however, that the test is whether the climatic conditions are exceptionally adverse and not whether they were Unforeseeable.

8.248 It is suggested that the reference to climatic conditions, as opposed to only weather, relates the conditions experienced to the particular geographical location of the Site.[165]

8.249 "Any delay, impediment or prevention caused by or attributable to the Employer . . . ". The definition of Employer's Personnel includes the Engineer (R/M/Y) or Employer's Representative (G). Consequently, this ground extends to the actions generally of the contract administrator when carrying his function under the Contract.

8.250 This provision is necessary from the Employer's point of view where the Contract is governed by a common law jurisdiction for the extension of time provisions to operate in the event of an act of prevention, in order to preserve the Time for Completion upon which the Employer's delay damages remedy depends.

Associated entitlement to payment of Cost

8.251 Many of the sub-clauses which specifically entitle the Contractor to an extension of time also include an express entitlement to recover additional Cost. However, an entitlement to an extension of time under the FIDIC forms is not necessarily accompanied by an entitlement to Cost. Table 8.3 below identifies the grounds and sub-clauses that give rise to an entitlement to an extension of time, as well as whether they entitle the Contractor to Cost or Cost plus profit. The Contractor's specific entitlement to payment of Cost under the individual sub-clauses is discussed elsewhere in this book.

165. The Oxford English Dictionary defines "climate" as "The characteristic weather conditions of a country or region; the prevalent pattern of weather in a region throughout the year, in respect of variation of temperature, humidity, precipitation, wind, etc., esp. as these affect human, animal, or plant life".

Table 8.3: Summary of grounds in the FIDIC forms which expressly entitle the Contractor to an extension of time

			Red Book/MDB		Yellow Book		Silver Book		Gold Book	
Sub-Clause	**Heading**	**Grounds**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**
1.9 (R/M)	Delayed Drawings or Instructions	Failure of the Engineer to issue the drawing or instruction within notified reasonable time	Y	Cost+						
1.9 (Y)/ 1.10 (G)	Errors in the Employer's Requirements	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			Y	Cost+			Y	Cost+
2.1	Right of Access to Site	Failure by the Employer to give right of access to, or possession of, the Site within required time unless and to extent Employer's failure was caused by any error or delay by the Contractor	Y	Cost+	Y	Cost+	Y	Cost+	Y	Cost+
4.6	Co-operation	Instruction by contract administrator to allow specified others appropriate opportunities to carry out work	Y (under 8.4(a))	As part of valuation under Sub-Clause 13.3	Y (under 8.4(a))	As part of valuation under Sub-Clause 13.3	Y (under 8.4(a))	As part of valuation under Sub-Clause 13.3	Y (under 8.4(a))	As part of valuation under Sub-Clause 13.3

			Red Book/MDB		Yellow Book		Silver Book		Gold Book	
Sub-Clause	Heading	Grounds	EoT	Additional payment	EoT	Additional payment	EoT	Additional payment	EoT	Additional payment
4.7	Setting-out	Execution of work which was necessitated by an error in items of reference and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost	Y	Cost+	Y	Cost+			Y	Cost+
4.12	Unforeseeable Physical Conditions	Encountering physical conditions which are Unforeseeable	Y	Cost	Y	Cost			Y	Cost
4.24	Fossils	Compliance with contract administrator's instructions following discovery of fossils etc. on the Site	Y	Cost	Y	Cost	Y	Cost	Y	Cost
7.4	Testing	Compliance with contract administrator's instructions or as a result of a delay for which the Employer is responsible	Y	Cost+	Y	Cost+	Y	Cost+	Y	Cost+
8.4(a)/ 9.3(a) (G)	Extension of Time for Completion [of Design-Build (G)]	Variations	Y	As part of valuation under Sub-Clause 13.3	Y	As part of valuation under Sub-Clause 13.3	Y	As part of valuation under Sub-Clause 13.3	Y	As part of valuation under Sub-Clause 13.3

			Red Book/MDB		Yellow Book		Silver Book		Gold Book	
Sub-Clause	**Heading**	**Grounds**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**
8.4(a)	Extension of Time for Completion	Other substantial change in the quantity of an item of work included in the Contract	Y	N						
8.4(c)/ 9.3(c) (G)	Extension of Time for Completion [of Design-Build (G)]	Exceptionally adverse climatic conditions	Y	N	Y	N			Y	N
8.4(d)/ 9.3(d) (G)	Extension of Time for Completion [of Design-Build (G)]	Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions	Y	N	Y	N			Y	N
8.4(e) (R/M/ Y)/ 8.4(c) (S)/9.3 (G)	Extension of Time for Completion [of Design-Build (G)]	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* (not M)	Y	N	Y	N	Y	N	Y	N
8.5/ 9.4 (G)	Delays caused by Authorities	Unforeseeable delay or disruption to the Contractor's work by authorities	Y	N	Y	N	Y	N	Y	N

			Red Book/MDB		Yellow Book		Silver Book		Gold Book	
Sub-Clause	Heading	Grounds	EoT	Additional payment	EoT	Additional payment	EoT	Additional payment	EoT	Additional payment
8.9/ 9.8 (G)	Consequences of suspension	Compliance with contract administrator's instructions to suspend and in resuming work	Y	Cost	Y	Cost	Y	Cost	Y	Cost
9.2/ 11.2 (G)	Delayed Tests [on Completion Design-Build (G)]	Undue delay by Employer to Tests on Completion	Y	Cost+	Y	Cost+	Y	Cost+	Y	Cost+
10.3	Interference with Tests on Completion	Delay in carrying out Tests on Completion by a cause for which the Employer is responsible	Y	Cost+	Y	Cost+	Y	Cost+		
13.7/ 13.6 (G)	Adjustments for Changes in Legislation	Changes in Laws, which affect the Contractor in the performance of his obligations under the Contract	Y	Cost	Y	Cost	Y	Cost	Y	Cost
16.1	Contractor's Entitlement to Suspend Work	Suspension (or reduction in rate of work) by Contractor	Y	Cost+	Y	Cost+	Y	Cost+	Y	Cost+

			Red Book/MDB		Yellow Book		Silver Book		Gold Book	
Sub-Clause	**Heading**	**Grounds**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**	**EoT**	**Additional payment**
17.4 / 17.6 (G)	Consequences of Employer's Risks [of Damage (G)]	Rectification of loss or damage to the Works, Goods or Contractor's Documents due to Employer risks	Y	Cost/Cost+	Y	Cost/Cost+	Y	Cost	Y	Variation or Cost+
19.4/ 18.4 (G)	Consequences of Force Majeure [an Exceptional Event (G)]	Force Majeure/Exceptional Event (G) preventing Contractor from performing any of his obligations [substantial obligations (M)]	Y	Cost (depending on event)	Y	Cost (depending on event)	Y	Cost (depending on event)	Y	Cost (depending on event)

Notes:

Cost+ indicates where the Contractor has an entitlement to Cost plus profit: "Cost plus reasonable profit" (R/Y/M); "Cost plus profit" (M); "Cost Plus Profit" (G).

Procedure and entitlement

8.252 The Contractor's entitlement to an extension of time is subject to Sub-Clause 20.1 and thus the procedure under that Sub-Clause must be followed. This procedure is considered in detail in Chapter 6, para. 6.201 *et seq.*

8.253 The procedure commences with the Contractor giving notice[166] to the contract administrator of an event or circumstance giving rise to an entitlement to an extension of time.[167] Although it is unnecessary due to the Contractor's entitlement being stated to be subject to Sub-Clause 20.1 in the first paragraph of Sub-Clause 8.4 (9.3 (G)), the requirement to give notice under Sub-Clause 20.1 is also repeated in the second paragraph of the Sub-Clause 8.4 (9.3 (G)). A strict 28-day period applies for the giving of this notice, which commences when the Contractor becomes aware, or should have become aware, of the event or circumstance giving rise to the claim. As discussed above, the Contractor's entitlement arises if completion for the purposes of Sub-Clause 10.1 (11.5 (G)) "is or will be delayed" by a qualifying ground. Consequently, by the words "will be delayed", it is suggested that the Contractor's notice obligation may commence before he has suffered any actual delay but considers (or ought to consider) that, as a result of the qualifying ground, completion will nevertheless be delayed.

8.254 The giving of notice within the 28-day period is drafted in terms indicating that it is a condition precedent to the Contractor's entitlement. If the Contractor fails to give this notice within the required time, the Employer is stated to be discharged of all liability in respect of the claim. However, whether this condition precedent is enforceable to exclude the Contractor's entitlement to extension of time will depend on the governing law. This is discussed further at Chapter 6, paras. 6.205 *et seq*. In addition, irrespective of when the Contractor gives notice under Sub-Clause 20.1, he is required under that Sub-Clause to keep contemporary records necessary to substantiate his claim for an extension of time.[168]

8.255 The procedure under Sub-Clause 20.1 then contemplates the Contractor submitting a fully detailed claim to the contract administrator, leading to the Contractor's entitlement to an extension being agreed or determined in accordance with Sub-Clause 3.5.

8.256 Under Sub-Clause 8.3, the Contractor is required to submit a revised programme whenever the previous programme "is inconsistent with actual progress or with the Contractor's obligations". Whilst it is arguable whether the grant of an extension of time would strictly mean that the previous programme fell within either of the grounds triggering the submission of a revised programme, it is suggested that the Contractor should submit a revised programme in any event, not only as a matter of good practice but also because both the Contractor's planned sequence and timing of work will no doubt be modified to reflect this additional time (such that the previous programme would not then reflect actual progress) and the contract administrator has the power to require the Contractor to submit a revised programme if the previous programme fails "to be

166. "Notice" (G).
167. First paragraph of Sub-Clause 20.1 (20.1(a) (G)).
168. See Chapter 6, paras. 6.240–6.247 for examples of contemporary records that may be required for an extension of time claim.

consistent with actual progress and to be consistent with the Contractor's stated intentions".[169]

Period of extension of time

8.257 If one of the qualifying grounds discussed above entitling the Contractor to an extension of time has arisen, Sub-Clause 8.4 (9.3 (G)) provides that the Contractor is entitled to an extension of time "to the extent that completion for the purposes of Sub-Clause 10.1 [*Taking Over of the Works and Sections*] [11.5 (G) [*Completion of the Works and Sections*] . . . is or will be delayed".[170] This makes it clear that the Contractor is only entitled to an extension of time to the extent that the qualifying delaying event causes completion to be delayed, and not only causes delay to the Contractor's progress. In this way, the delaying event must delay the completion of work on the 'critical path', which is used here to mean the sequence of activities to completion where any delay to the activities on this path will cause a delay to completion. If work on the critical path is delayed, the Contractor is then entitled to an extension of time to the extent to which this delays completion (which may or may not be the same as the delay to completion of that element of work). If work which is not on the critical path but is pushed onto the critical path due to the delaying event, the Contractor's entitlement is not the period by which completion of that element of work is delayed, but the period by which that item, when on the critical path only, delays completion for the purposes of Sub-Clause 10.1 (11.5 (G)).

8.258 Generally, the Contractor is under no express duty to mitigate the effect of any qualifying delaying event.[171] His entitlement is dependent on the period by which completion is or will be delayed and not whether he could have adopted mitigating or accelerative measures to reduce the delaying effect. The one exception to this general principle is in relation to any delays to completion as a result of the Contractor being prevented from performing any of his obligations under the Contract due to Force Majeure, or, under the Gold Book, an Exceptional Event. Under the Sub-Clause 19.4 (18.4 (G)), the Contractor is entitled to an extension of time for such delays but, by Sub-Clause 19.3 (18.3 (G)) is also under an express duty at all times to use reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure or an Exceptional Event (G).

8.259 Under the final paragraph of Sub-Clause 8.4 (9.3 (G)), when determining each extension of time under Sub-Clause 20.1, the contract administrator is required to "review previous determinations and may increase, but shall not decrease, the total extension of time".

8.260 "is or will be delayed". The question as to the extent to which completion *will be* delayed requires a prospective assessment of the effect of the delaying event. It will

169. Sub-Clause 8.3, final paragraph.

170. See Chapter 5, paras. 5.105–5.118 for a discussion on completion for the purposes of Sub-Clause 10.1 in the Red, MDB, Yellow and Silver Books, and Chapter 5, paras. 5.119–5.131 for completion for the purposes of Sub-Clause 11.5 of the Gold Book.

171. Note, however, that in the MDB only it would appear that the Engineer is empowered to instruct the Contractor to adopt measures, including accelerative measures, to reduce delays resulting from a cause for which the Contractor would otherwise be entitled to an extension of time under Sub-Clause 8.4. See Chapter 5, para. 5.186 *et seq.*

obviously not be possible to determine the actual extent of such a delay because it relates to the future, which itself is inherently uncertain. Nevertheless, it is suggested that, where the delaying event has a future delaying effect, the Contractor is entitled to a prospective extension of time to the extent that he can prove it is likely that completion will be delayed.

8.261 The assessment of this period of extension of time will necessarily be based upon proof of the Contractor's intentions, at the time of assessment, as to the sequence and timing of the execution of the remaining work required for completion. So long as the Contractor has regularly and accurately updated the programme in accordance with Sub-Clause 8.3, this programme will provide the starting point for any assessment of the impact of the delaying event on the time when completion will be achieved. However, this programme is only the starting point and will only be of value if it has been updated regularly to reflect actual progress and changes to the planned sequence and timing of the remaining element of works (including additional work that may have been instructed as a Variation) if they have been affected by supervening events occurring during the course of the project. In addition, the programme must also importantly be realistic.

8.262 On the other hand, whether completion *is* delayed imports an assessment of actual, past events.

8.263 By expressing the Contractor's entitlement in this alternative, i.e., is *or* will be delayed, gives rise to the question as to whether an extension of time assessed prospectively can be reviewed later and modified to reflect actual events; or, in other words, whether any grant of an extension of time should only considered to be interim until the actual consequences are known. One commentator has suggested that the effect of this alternative is "to give to [the Employer] the benefit of any post-event re-sequencing or other accelerative measures put in hand that were not expressly or impliedly instructed by [the Employer]".[172] In the authors' view, this is broadly correct but subject to some very important qualifications.

8.264 It is suggested that the answer would seem to depend on whether the Contractor submits any further claims for an extension of time or further interim claims where the delaying event has a continuing effect. If the Contractor does not submit any further claims, the contract administrator has no authority unilaterally to modify the agreement or determination of an extension of time. If it therefore subsequently comes to light that the prospective assessment of the effect of a delaying event on when completion will be achieved did not reflect the actual effect of that delaying event but no dispute had arisen as to the correctness of the period of extension of time determined by the contract administrator, it is suggested that the Parties are bound by the prospective assessment.

8.265 However, if the Contractor submits a further claim for an extension of time or further interim claims where the delaying event has a continuing effect, the contract administrator is expressly required to review previous determinations of extensions of time. This obligation arises only if a further claim or interim claim is submitted. In these circumstances, it is suggested that, in the absence of agreement between the Parties, the

172. Keith Pickavance, "Delay and Disruption in Construction Contracts", (3rd Edn, 2005, Informa Professional), pp. 512–513, para. 14.88.

contract administrator is permitted to take into account whether the previous prospective assessments reflected actual events. This is nevertheless subject to one further important qualification. Following such a review, the contract administrator may only increase, and not decrease, the total extension of time. Therefore, to take an extreme example, even if the actual delaying effect of all the grounds on which the Contractor has been granted an extension of time are discovered, once completion has been achieved, to has been minimal or non-existent, the Contractor is nevertheless entitled to the extension of time that has been granted.

8.266 Continuing effect. Sub-Clause 20.1 sets out a specific procedure that applies if the event or circumstance giving rise to the Contractor's claimed entitlement has a continuing effect. On one reading, it could be argued that all qualifying delaying events giving rise to an entitlement to an extension of time prior to completion have a 'continuing effect' in that a delaying event for which the Contractor is entitled to an extension of time at the outset of the project, for example, will necessarily affect the timing of every subsequent activity on the critical path until completion is achieved. It is the authors' view, however, that this is not the intention of these provisions.

8.267 Instead, the 'continuing effect' procedure is intended to apply to delaying events which have a continuing effect in the sense that the delaying event either continues over a period of time or has knock-on consequences which continue over a period of time.[173] For example, if the consequences are continuing, it will obviously not be possible to assess the effect of the consequences until they have stopped and thus, at the time when the Contractor submits his initial claim for an extension of time, it will not be possible to assess the full extent to which completion is or will be delayed.

8.268 Concurrent delay and float. In practice, two (or more) events will often occur which can be said to have caused completion to be delayed, one of which entitles the Contractor to an extension of time and the other does not. Where there are two or more delaying events, there is commonly said to be concurrent delay. The FIDIC forms, however, do not address this situation and thus it can give rise to difficult questions as to whether the Contractor is entitled to an extension of time despite also being in delay. In the majority of instances, the answer will depend on the particular facts and the principles of causation under the governing law to determine which of the events caused completion to be delayed. The fact that the Contractor either would or would not have been entitled to an extension of time if only one of the causes had occurred is not determinative, nor necessarily is the order in which the events occurred. In many instances, although quite often difficult, it will be *possible* to identify one of the causes as being the effective cause of the delay.

8.269 However, a particular difficulty arises where what can be called true concurrent delay occurs. This is where there are two concurrent causes of at least equal causative effect which simultaneously cause completion to be delayed, one of which entitles the contractor to an extension of time and the other does not such that it may not be possible to attribute the delay to completion to one event. In these circumstances, whether the contractor is entitled to an extension of time will depend on the governing law. For example, the generally accepted position under English law is that, in this situation and where the

173. Edward Corbett, "FIDIC 4th—A Practical Legal Guide" (1991, Sweet & Maxwell), p. 259.

contract is silent, the Contractor would be entitled to an extension of time notwithstanding the concurrent effect of the delaying event for which he is responsible.[174]

8.270 Given the frequency with which arguments arise over the Contractor's entitlement to an extension of time where there is concurrent delay, the Parties may wish to amend the FIDIC forms to make express provision to address the Contractor's entitlement in such a situation. For example, in the General Conditions of Contract published by the Abu Dhabi Executive Affairs Authority, which is an amended form of the Red Book, Sub-Clause 8.4 has been amended to provide that the Contractor's entitlement to an extension of time under any of the grounds in that Sub-Clause is subject to the proviso that "any such delay which is concurrent with another delay for which the contractor is responsible shall not be taken into account".

8.271 Another issue that often arises in relation to claims by the contractor for an extension of time is the 'ownership' of float. 'Float' is a term that is used to describe a wide variety of matters, but, for the present purposes, it is sufficient to confine it to meaning (i) any periods in a Contractor's programme between the planned completion of one activity and the commencement of another activity, and (ii) the period between when the Contractor plans to achieve completion and the time for completion. When planning the Works, the first type of float will be included in a Contractor's programme as a result of the planned sequence of work. Contractors will also invariably factor in both types of float as a contingency against unplanned events occurring which delay progress. The question then arises as to whether, and to what extent, this float should be taken into account when assessing a Contractor's entitlement to an extension of time. The answer again depends on the specific terms of the contract and the governing law.

8.272 In the FIDIC forms, the Contractor's entitlement to an extension of time is to be determined by reference to the extent that completion is or will be delayed. As discussed above, therefore, for the Contractor to be entitled to an extension of time there must be a delay to an activity on the critical path. As a result, it is suggested that, on the wording of Sub-Clause 8.4 (9.3 (G)) but subject to the governing law, any delays to the Contractor's progress caused by a qualifying delaying event which uses up the first type of float but does not delay completion may not entitle the Contractor to an extension of time. On the other hand, in respect of the second type of float, it is suggested that on the wording of Sub-Clause 8.4 (9.3 (G)), but again subject to the governing law, the Contractor may have the benefit of this float. This is because the Contractor's entitlement to an extension of time is determined by the extent to which *completion* is or will be delayed for the purposes of Sub-Clause 10.1 (11.5 (G)) and not to the extent that completion is or will be delayed *beyond the relevant Time for Completion*.

174. *Henry Boot Construction (UK) Ltd* v. *Malmaison Hotel (Manchester) Ltd* [1999] 70 Con LR 32; *Royal Brompton Hospital National Health Trust* v. *Hammond (No. 7)* 76 Con LR 148; Society of Construction Law, *Delay and Disruption Protocol,* October 2002 (www.eotprotocol.com). See also John Marrin QC, "Concurrent Delay", (2002) 18 Const LJ 436 for an informative commentary on the position under English Law. See also *City Inn Ltd* v. *Shepherd Construction Ltd* [2007] CSOH 190, [2008] 1 BLR 269, Outer House, Ct. of Session, where, although a judgment of the Scottish court, Lord Drummond Young provides a useful summary of relevant case law on concurrent delay from various jurisdictions. Note that Lord Drummond Young concluded in this case that, on the particular wording of the contract in question, a 'dominant cause' approach should be applied, but this has been doubted as representing the position under English law. *Keating on Construction Contracts—First Supplement to the Eighth Edition* (2008, Sweet & Maxwell), para. 8–021; Jeremy Winter, "How should delay be analysed—Dominant and its relevance to concurrent delay", paper presented at the Society of Construction Law International Conference, London, 6–7 October 2009.

Early completion bonus

8.273 Although the Contractor's primary obligation is to complete the Works within the Time for Completion, the Employer may also wish to include a provision for bonus payments to be made to the Contractor for earlier completion. Although probably not strictly a remedy (even within the wide definition adopted for the purposes of this chapter), the Contractor's entitlement to an early completion bonus is included in this chapter because frequently, from a risk perspective, the Parties analyse the inclusion of an early completion bonus together with delay damages.

8.274 The FIDIC General Conditions do not include any such provision and so it should be included in the Particular Conditions[175] if required.[176] Careful thought should be given to the drafting of an early completion bonus provision. Firstly, it must be decided whether the bonus will be paid for early completion of specific Sections or the whole of the Works. Secondly, it must be decided whether it will be paid simply for completion earlier than the Time for Completion or for completion before a specified date and, if the latter, whether this date is to be subject to any extension granted to the Time for Completion. Thirdly, the provision should be drafted so that it is complementary to, and does not interfere with, the other completion provisions. It is therefore suggested that the extent of completion for these purposes would usually be the same as that required to be achieved in the FIDIC forms within the Time for Completion. The provision should address the mechanism and timing for the payments. In addition, it will also be necessary for the amount or rate of the bonus payment to be stated in the relevant contract document. Finally, consideration should be given as to the extent to which the Employer and the contract administrator will be required to co-operate and assist the Contractor in achieving early completion. For example, early completion may require the Employer or contract administrator to perform their obligations or duties at an earlier time or with additional resources than would otherwise be required for the Contractor to complete within the Time for Completion and thus, unless expressly addressed, the ability of the Contractor to achieve early completion may be limited.

8.275 The notes included in the Red, Yellow and Silver Books set out an example wording for such a provision requiring completion by a fixed date, unaffected by any extensions of time, to entitle the Contractor to a bonus payment. However, this suggested wording relates only to early completion of Sections and not of the whole of the Works. Furthermore, if the Contract otherwise provides for sectional completion, the suggested terms are potentially inconsistent with the Contractor's other obligations to complete the Sections within the Time for Completion (or at the very least are confusing in this regard).[177] It is therefore suggested that this wording should not be used without first carefully reviewing it to ensure that it achieves the intended purpose and is consistent with

175. In Part B of the Particular Conditions in the MDB and Gold Books.

176. For clarity, it is probably better to set such a provision out in an additional Sub-Clause in Clause 8 (9 (G)).

177. The suggested wording in the FIDIC forms provides that the Sections are "required" to be completed by specified dates and that the "details of the work required to be executed" to entitle the Contractor to bonus payments is also specified. Taking into account the provisions of Sub-Clause 8.2, this would suggest that the Contractor is under two different obligations with regard to completion of Sections, with different dates by which completion is required and (potentially) involving different tests of completion. In the authors' experience, this approach is unusual; it is more common for the contractor not to be under any *obligation* to complete the Works by the date required to earn the early completion bonus.

the other provisions of the Contract, taking into account the governing law. This may require the example provisions to be amended.[178]

Contractor's entitlement to payment of Cost and other financial entitlements

8.276 Many of the Sub-Clauses in the FIDIC forms entitle the Contractor to compensation for costs incurred or to other amounts (or financial remedies), in addition to the amounts payable for executing the Works. Some of these entitlements are stated in express terms, others more implicit.[179] A summary of the Contractor's entitlement to payment of cost and other financial remedies is set out in Table 8.4 on p. 478 below.

8.277 The majority of these provisions express the Contractor's entitlement as an entitlement to payment of "Cost", which is defined as "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*" (emphasis added).[180] The *FIDIC Guide* advises that "Overhead charges may include reasonable financing costs incurred by reason of payment being received after expenditure".[181]

8.278 'Cost' however excludes profit and whether or not the Contractor is further entitled to an element of profit is dependent on the wording of the particular provision. In this respect, the Books adopt different wording and approaches:

- The Red, Yellow and Silver Books use the expression "Cost plus reasonable profit" and thus the extent of profit to which the Contractor is entitled is subject to the test of reasonableness. Nevertheless, the Guidance for the Preparation of Particular Conditions in these Books contains suggested wording that could be incorporated into Sub-Clause 1.2 if the Parties wish to specify more precisely the extent of profit allowed on Cost.
- The MDB uses the expression "Cost plus profit", which is further defined in Sub-Clause 1.2 as requiring "this profit to be one-twentieth (5%) of this Cost unless otherwise indicated in the Contract Data".[182]
- The Gold Book uses the expression "Cost Plus Profit", which is defined as "Cost plus the applicable percentage agreed and stated in the Contract Data. Such percentage shall only be added where the Sub-Clause states that the Contractor is entitled to Cost Plus Profit".[183] The example Contract Data included in this Book provides a space for inserting "percentage profit to be added to the Cost".

178. An alternative starting point might be the example wording found in the notes for the preparation of the Particular Conditions in the Orange Book, which provides for a bonus for early completion on the basis of a daily rate for each day between completion and the Time for Completion. Amended to reflect the provisions of the FIDIC forms, this would read: "If the Contractor achieves completion of the Works or Section (if any) in accordance with Sub-Clause 8.2 [Time for Completion] prior to the Time for Completion, the Employer shall pay to the Contractor the relevant sum stated in the Appendix to Tender (as bonus for early completion) for every calendar day which shall elapse between the date stated in the Taking-Over Certificate in respect of the Works or Section (as the case may be) issued in accordance with Sub-Clause 10.1 [Taking Over of the Works and Sections] and the Time for Completion".

179. See, for example, Sub-Clause 11.6 (12.4 (G)).

180. Sub-Clause 1.1.4.3 (R/M/Y); Sub-Clause 1.1.4.2 (S); Sub-Clause 1.1.23 (G).

181. *FIDIC Guide*, pp. 53–54.

182. i.e., the MDB has essentially adopted the suggested wording in the Guidance for the Preparation of Particular Conditions in the Red Book.

183. Sub-Clause 1.1.24.

8.279 The *FIDIC Guide* explains the general policy of the FIDIC forms adopted by the draftsmen as to the Contractor's entitlement to an element of profit on Cost as follows: "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. [Red and Yellow Books] 4.12)".[184]

8.280 The Contractor's entitlement to payment of Cost, and where applicable, profit as expressly provided for in various sub-clauses is subject to Sub-Clause 20.1.

8.281 As an alternative means of valuing the Contractor's entitlement, a few Sub-Clauses provide that work or other matters by the Contractor is to be either valued under Sub-Clause 13.3 or deemed to be a Variation, although not strictly falling within the definition of a Variation.[185] These matters are included listed in Table 8.4 at p. 473 below.

184. *FIDIC Guide*, p. 54.

185. "Variation" is defined as a "any change to [the Employer's Requirements or (Y/S/G)] the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*]" (Sub-Clause 1.1.6.9 (R/M/Y); Sub-Clause 1.1.6.8 (S); Sub-Clause 1.1.81 (G)).

Table 8.4: Summary of Contractor's entitlement to payment of Cost incurred and other financial remedies in the different Books

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
1.9 (R/M)	Delayed Drawings or Instructions	Failure of the Engineer to issue drawing or instruction within notified reasonable time	Cost plus reasonable profit	Cost plus profit			
1.9 (Y)/ 1.10 (G)	Errors in the Employer's Requirements	Error in the Employer's Requirements, where an experienced contractor exercising due care would not have discovered the error when scrutinising the Employer's Requirements under Sub-Clause 5.1			Cost plus reasonable profit		Cost Plus Profit
2.1	Right of Access to Site	Failure by the Employer to give right of access to, or possession of, the Site within required time unless and to extent Employer's failure was caused by any error or delay by the Contractor	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit	Cost plus reasonable profit	Cost Plus Profit

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
3.1	Engineer's Duty and Authority	Work instructed by the Engineer in the event of an emergency necessary, in the opinion of the Engineer, to abate or reduce risk to safety of life of the Works or adjoining property		Addition to Contract Price in respect of such instruction in accordance with Clause 13			
4.6	Co-operation	Instruction by contract administrator to allow specified others appropriate opportunities to carry out work	Valued as a Variation	Valued as a Variation	Valued as a Variation	Valued as a Variation	Valued as a Variation
4.7	Setting-out	Execution of work which was necessitated by an error in items of reference and an experienced contractor could not reasonably have discovered such error and avoided this Cost	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit		Cost Plus Profit
4.12	Unforeseeable Physical Conditions	Encountering physical conditions which are Unforeseeable	Cost	Cost	Cost		Cost
4.24	Fossils	Discovery of fossils etc. on the Site	Cost	Cost	Cost	Cost	Cost

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
7.4	Testing	Compliance with contract administrator's instructions in relation to the tests or as a result of a delay for which the Employer is responsible	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit	Cost plus reasonable profit	Cost Plus Profit
8.6	Rate of Progress	Instruction by Engineer to adopt revised methods, including acceleration measures, to reduce delays resulting from the causes listed under Sub-Clause 8.4		Payment of additional costs of revised methods without generating any other additional payment benefit to the Contractor			
8.10/ 9.9 (G)	Payment for Plant and Materials in event of Suspension	If work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days and Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Engineer's/Employer's/ Employer's Representative's instructions	Payment of value (as at date of suspension) of Plant and/or Materials not delivered to Site	Payment of value (as at date of suspension) of Plant and/or Materials not delivered to Site	Payment of value (as at date of suspension) of Plant and/or Materials not delivered to Site	Payment of value (as at date of suspension) of Plant and/or Materials not delivered to Site	Payment of value (as at date of suspension) of Plant and/or Materials not delivered to Site

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
8.9/ 9.8 (G)	Consequences of Suspension	Compliance with contract administrator's instructions under Sub-Clause 8.8 (9.7 (G)) and/or resumption of work to extent that cause notified (if any) (not G) under Sub-Clause 8.8 (9.7 (G)) is not the responsibility of the Contractor and not due to Contractor's faulty design, workmanship or materials or failure to protect, store or secure Works	Cost	Cost	Cost	Cost	Cost
9.2/ 11.2 (G)	Delayed Tests [on Completion of Design-Build (G)]	Tests on Completion which are being unduly delayed by the Employer	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit	Cost plus reasonable profit	Cost Plus Profit
10.2 (R/M/ Y)	Taking Over of Parts of the Works	Employer taking over and/or using a part of the Works, other than where such use is specified in the Contract or agreed by the Contractor	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit		

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
10.2 (G)	Commencement of Operation Service	Requirements or restrictions contained in Commissioning Certificate, or any Notice attached or pertaining thereto, over and above those in the Contract unless such requirements and restrictions were as a result of a fault or failure of the Contractor					Cost
10.3	Interference with Tests on Completion	Delay in carrying out Tests on Completion due to a cause for which the Employer is responsible	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit	Cost plus reasonable profit	
10.4 (G)	Delivery of Raw Materials	Raw materials, fuels, consumables and other such items specified in the Employer's Requirements not delivered in accordance with agreed delivery programme or deviating from specified quality, except where delays due to matters listed in this Sub-Clause					Cost Plus Profit
10.6(b) (G)	Delays and Interruptions during the Operation Service	Delays and interruptions during Operation Service which are caused by the Employer or by a cause for which the Employer is responsible					Any cost and losses, including loss of revenue and loss of profit

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
10.6(c) (G)	Delays and Interruptions during the Operation Service	Need for suspension of progress of Operation Service not due to any failure by Contractor or circumstances for which the Contractor is responsible under the Contract					Any cost and losses, including loss of revenue and loss of profit
10.6(c) (G)	Delays and Interruptions during the Operation Service	Suspension of progress of Operation Service not due to any failure by Contractor or to circumstances for which the Contractor is responsible under the Contract					Cost Plus Profit of making good the Works prior to re-commencing the Operation Service
10.7(a) (G)	Failure to Reach Production Outputs	Failure to achieve production outputs required under the Contract due to a cause that lies with the Employer and/or if the Employer instructs measures that the Contractor is required to take					Cost Plus Profit
11.2 (not G)	Cost of Remedying Defects	Work required to remedy defects or damage under Sub-Clause 11.1(b) and not due to cause listed in Sub-Clause 11.2	Valued under variation procedure in Sub-Clause 13.3	Valued under variation procedure in Sub-Clause 13.3	Valued under variation procedure in Sub-Clause 13.3	Valued under variation procedure in Sub-Clause 13.3	

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
11.6/ 12.4 (G)	Further Tests	Repetition of tests required by contract administrator due to work in remedying any defect or damage which affects performance of the Work, if Employer is liable for cost of remedial work under Sub-Clause 11.2 (12.2 (G))	cost of tests	cost of tests	cost of tests	cost of tests	cost of tests
11.8/ 12.6 (G)	Contractor to Search	Search for cause of defect required by contract administrator if Employer is liable under Sub-Clause 11.2 (12.2 (G)) for cost of remedying defect	Cost of search plus reasonable profit	Cost of search plus profit	Cost of search plus reasonable profit	Cost of search plus reasonable profit	Cost Plus Profit of search
11.11 (G)	Failure to Pass Tests Prior to Contract Completion	Unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor after issue of Contract Completion Certificate, either to investigate the cause of a failure to pass any of the Tests Prior to Contract Completion or to carry out adjustments or modifications					additional Cost Plus Profit
12.2 (Y/S)	Delayed Tests	Unreasonable delay by the Employer to Tests after Completion			Cost plus reasonable profit	Cost plus reasonable profit	

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
12.2 (G)	Cost of Remedying Defects	Work required to remedy defects or damage and notified to Contractor not due to cause listed in Sub-Clause 11.2					Variation under Clause 13
12.4 (Y/S)	Failure to Pass Tests after Completion	Unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor either to investigate the cause of a failure to pass any of the Tests after Completion or to carry out adjustments or modifications			Cost plus reasonable profit	Cost plus reasonable profit	
13.2	Value Engineering	Contractor's value engineering proposal is approved and includes a change in the design of the Permanent Works	Half of the reduction in the contract value of part re-designed by the Contractor	Half of the reduction in the contract value of part re-designed by the Contractor			
13.7/ 13.6 (G)	Adjustments in Changes in Legislation	Change in Laws made after the Base Date, which affect the Contractor in the performance of obligations under the Contract	Cost	Cost*	Cost	Cost	additional Cost

* However, such Cost not to be separately paid if it has already been taken into account in the indexing of any inputs to the table of adjustment date in accordance with Sub-Clause 13.8.

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
13.7 (G)	Adjustments for Changes in Technology	Changes in technology, new materials or products which the Contractor is obliged to adopt					additional Cost subject to an adjustment for any operational or other savings
14.8/ 14.9 (G)	Delayed Payment	Contractor does not receive payment in accordance with Sub-Clause 14.7 (14.8 (G))	Financing charges	Financing charges	Financing charges	Financing charges	Financing charges
15.5/ 15.7 (G)	Employer's Entitlement to Termination	After termination by the Employer for convenience	Payment in accordance with Sub-Clause 19.6	Payment in accordance with Sub-Clause 16.4	Payment in accordance with Sub-Clause 19.6	Payment in accordance with Sub-Clause 19.6	Payment in accordance with Sub-Clause 16.4
16.1	Contractor's Entitlement to Suspend Work	Suspension (or reduction in rate of work) by Contractor	Cost plus reasonable profit	Cost plus profit	Cost plus reasonable profit	Cost plus reasonable profit	Cost Plus Profit
16.4	Termination by Contractor	After notice of termination under Sub-Clause 16.2 has taken effect	Payment in accordance with Sub-Clause 19.6 + Amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination	Payment in accordance with Sub-Clause 19.6 + Amount of any loss or damage sustained by the Contractor as a result of this termination	Payment in accordance with Sub-Clause 19.6 + Amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination	Payment in accordance with Sub-Clause 19.6 + Amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination	Payment in accordance with Sub-Clause 18.6 [18.5] + Amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
17.4/ 17.6 (G)	Consequences of [the] Employer's Risks [of Damage (G)]	Rectification of loss or damage to the Works, [or other property or (G)] Goods or Contractor's Documents due to risks listed in Sub-Clause 17.3 [in event that allocation of risk not governed by any other term of the Contract (G)]	Cost or Cost plus reasonable profit where due to Sub-Clause 17.3(f)/(g)	Cost or Cost plus profit where due to Sub-Clause 17.3(f)/(g)	Cost or Cost plus reasonable profit where due to Sub-Clause 17.3(f)/(g)	Cost	deemed Variation/Cost Plus Profit
18.1 (not G)	General Requirements for Insurances	Failure of Employer to effect and keep in force insurances required under the Contract (if any) or fails to provide satisfactory evidence and policies in accordance with Sub-Clause 18.1 and Contractor effects insurance for relevant coverage and pays premium	Amount of premium	Amount of premium	Amount of premium	Amount of premium	
18.1 (not G)	General Requirements for Insurances	Failure of Employer to effect and keep in force insurances required (if any) under the Contract and omission not approved by other Party nor effects insurance	Any moneys which should have been recoverable under the insurance	Any moneys which should have been recoverable under the insurance	Any moneys which should have been recoverable under the insurance	Any moneys which should have been recoverable under the insurance	

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
19.4/ 18.4 (G)	Consequences of Force Majeure [an Exceptional Event (G)]	Force Majeure [Exceptional Event (G)] preventing Contractor from performing any of its [substantial (M)] obligations under the Contract of which notice has been given under Sub-Clause 19.2 (18.2 (G))	Cost if event or circumstance of kind described in Sub-Clause 19.1 (i) to (iv) and, in case of (ii) to (iv), occurs in the Country. No entitlement to Cost where Force Majeure is natural catastrophe (19.1(v))	Cost if event or circumstance of kind described in Sub-Clause 19.1 (i) to (iv) and, in case of (ii) to (iv), occurs in the Country.** No entitlement to Cost where Force Majeure is natural catastrophe (19.1(v))	Cost if event or circumstance of kind described in Sub-Clause 19.1 (i) to (iv) and, in case of (ii) to (iv), occurs in the Country. No entitlement to Cost where Force Majeure is natural catastrophe (19.1(v))	Cost if event or circumstance of kind described in Sub-Clause 19.1 (i) to (iv) and, in case of (ii) to (iv), occurs in the Country. No entitlement to Cost where Force Majeure is natural catastrophe (19.1(v))	Cost if event or circumstance of kind described in Sub-Clause 18.1 (a) to (e) and, in case of (b) to (e), occurs in the Country No entitlement to Cost where Exceptional Event is natural catastrophe (18.1(f))

** Including costs of rectifying or replacing the Works and/or Goods damaged or destructed by Force Majeure, to extent not indemnified through insurance under Sub-Clause 18.2.

Sub-Clause	Heading	Grounds	Red Book	MDB	Yellow Book	Silver Book	Gold Book
19.6/ 18.5 (G)	Optional Termination, Payment and Release	Termination due to prolonged prevention due to Force Majeure [Exceptional Event (G)] of which notice has been given under Sub-Clause 19.2 (18.2 (G))	Value of work done including Costs incurred in expectation of any other Cost or liability that Contractor has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff	Value of work done including Costs incurred in expectation of any other Cost or liability that Contractor has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff	Value of work done including Costs incurred in expectation of any other Cost or liability that Contractor has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff	Value of work done including Costs incurred in expectation of any other Cost or liability that Contractor has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff	Value of work done including Costs incurred in expectation of any other Cost or liability that Contractor has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff.

Indemnities by Employer

8.282 The FIDIC forms require each of the Parties to indemnify the other Party against various matters. The indemnities by the Contractor are discussed in paragraph 8.136 above. The indemnities by the Employer are fewer in number and are considered elsewhere in this book in the specific context of the obligations to which they relate. In summary, the Employer is under the following indemnification obligations to the Contractor:

- Sub-Clause 1.13(a): (1.14(a) (G)) — Against and from the consequences of the Employer failing to obtain the planning, zoning permission or similar for the Permanent Works, and other permissions described in the Specification/Employer's Requirements as having been (or being) obtained by the Employer.
- Sub-Clause 4.2: — Against and from all damages, losses and expenses resulting from a claim under the Performance Security [to the extent to (not G)] which the Employer was not entitled to make.
- Sub-Clause 17.1: (17.10 (G)) — Against and from all claims, damages, losses and expenses in respect of personal injury attributable to the Employer and certain damage to property.
- Sub-Clause 17.5: (17.12 (G)) — Against and from any claim alleging infringement of intellectual or industrial property, where the alleged infringement was due to certain specified matters.
- Sub-Clause 19.1 (Gold Book only): — Against all losses and claims arising from the Employer failing to comply with the conditions attaching to the insurances effected pursuant to the Contract.

Suspension of progress of Operation Service: Gold Book

8.283 Under Sub-Clause 10.6 [*Delays and Interruptions during the Operation Service*], the Contractor is entitled to be compensated "for any cost and losses including loss of revenue and loss of profit" in the event that: (i) there are delays or interruptions during the Operation Service which are caused by the Employer or by a cause for which he is responsible, (sub-paragraph (b)) and (ii) the Employer's Representative instructs the Contractor to suspend the progress of the Operation Service, where the need to suspend is a result "neither of any failure by the Contractor nor of circumstances for which the Contractor is responsible" (sub-paragraph (c)). The Contractor's entitlement to such compensation will be subject to Sub-Clause 20.1 [*Contractor's Claims*] and the Employer's Representative is required to proceed in accordance with Sub-Clause 3.5 to agree or determine the compensation due to the Contractor. The Employer is then to pay the amount by making "a corresponding adjustment to the next payment due to the Contractor", the amount of which is not to exceed the amount stated in the Contract Data. The Contractor's entitlement under Sub-Clauses 10.6(b) and (c) potentially exposes the Employer to unlimited liability for loss of profit because Sub-Clause 10.6 is an express exception to the general exclusion of liability for such loss under Sub-Clause 17.8 [*Limitation of Liability*].

8.284 In addition, in the event of a prolonged suspension under Sub-Clause 10.6(c) continuing for more than 84 days and the Contractor then requesting permission from the Employer's Representative for permission to proceed but which is not forthcoming within 28 days of the request, the Contractor is entitled to give Notice of termination under Sub-Clause 16.2 [*Termination by Contractor*].

Other miscellaneous remedies

8.285 Although very limited in number, there are certain other rights of the Contractor embedded in the FIDIC forms that can be classified as remedies for the purpose of this chapter. These matters are discussed in more detail elsewhere in this book, but are nevertheless set out below:

- Under Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Materials*], if the Contractor, after visually inspecting any free-issue materials provided by the Employer, gives notice[186] to the contract administrator "of any shortage, defect or default in these materials. Unless agreed otherwise by both Parties, the Employer shall immediately rectify the notified shortage, defect or default."
- Under Sub-Clause 18.1 [*General Requirements for Insurances*] of all the Books apart from the Gold Book, if the Employer is the insuring party but fails to effect or maintain the required insurance cover, the Contractor can place the insurance himself and recover the premium from the Employer or, if he chooses not to place the cover himself, the Employer is liable for "any moneys which should have been recoverable under this insurance".

Suspension

Generally

8.286 An entitlement to suspend work can be a powerful and valuable remedy to a contractor. Its attractions are in reducing the contractor's outgoings by reducing activity and easing the pressure on cash flow, particularly at a time when income is reduced by the failure/delay of payment from the employer. It is also likely to concentrate an employer's mind on addressing the difficulties that have led the contractor to suspend, not least because a suspension of work will logically delay completion of the works and thus cause the employer to suffer losses as a result of this delay.

8.287 In the FIDIC forms, the Contractor's entitlement to suspend is found in Sub-Clause 16.1 [*Contractor's Entitlement to Suspend Work*], which sets out the grounds for this entitlement, the procedure to be followed and the consequences if the Contractor invokes it. The Contractor's right to suspend under this Sub-Clause is wholly different from the power of the contract administrator to suspend progress of the Works under Sub-Clause 8.8 (9.7 (G)),[187] and, in the Gold Book, progress of the Operation Service under Sub-Clause 10.7(c). Here, it should also perhaps be stressed that the Contractor's right to suspend is purely contractual and thus dependent on the terms of the Contract. The Contractor is also

186. "Notice" (G).
187. See Chapter 5, para. 5.64 *et seq*.

not entitled to suspend as a result of *any* failure by the Employer (or contract administrator) to comply with the Contract. Instead, the availability of this remedy is limited to the specific grounds set out in this Sub-Clause, which all relate to the Employer's obligations and the contract administrator's duties in relation to payment. It should nevertheless be added that the Contractor may also have an entitlement to suspend in certain circumstances under the law governing the Contract (or applicable Laws).[188]

8.288 Suspension is not a condition precedent generally to termination by the Contractor under Sub-Clause 16.2. It should be noted, however, that the Contractor's entitlement to give notice[189] under Sub-Clause 16.2 in relation to a failure by the Employer to provide reasonable evidence of financial arrangements in accordance with Sub-Clause 2.4 arises 42 days after notice[190] has given under Sub-Clause 16.1 in respect of such a failure.[191] There is also a close connection between these two remedies in that several of the termination grounds under Sub-Clause 16.2 represent more advanced stages of issues which could have given rise to a suspension of work. In addition, not least because they are in the same clause—Clause 16—suspending work would often be seen by the Employer as an indication that the Contractor might move to termination if there is no change in the situation.

Grounds for suspension

8.289 The grounds that trigger the Contractor's entitlement to suspend are different between the Books, although the effect is similar. All the Books provide that a right to suspend is available to the Contractor if:

- the Employer fails to comply with his obligations under Sub-Clause 2.4 [*Employer's Financial Arrangements*], i.e., fails to provide reasonable evidence of ability to meet his obligations; or
- the Employer fails to comply with Sub-Clause 14.7 (14.8 (G)) [*Payment*], which would occur if the Employer fails to pay the amounts specified in that Sub-Clause within the time specified in that Sub-Clause.[192]

8.290 Under all the Books apart from the Silver Book, the right to suspend also arises if the contract administrator fails to certify in accordance with Sub-Clause 14.6 (14.7 (G)). This Sub-Clause concerns the issue of Interim Payment Certificates, which of course do not feature in the Silver Book. Interestingly, this ground is drafted in broader terms than the associated ground entitling the Contractor to terminate the Contract,[193] and thus does not appear to limited only to a failure to by the contract administrator to *issue* an Interim Payment Certificate within 28 days after receiving the Statement and supporting documents from the Contractor, but may also strictly extend, for example, to a situation where the contract administrator does not comply with his duty of fairness when determining the amounts due under that Sub-Clause.

188. For example, in England under s. 112 of the Housing Grants, Construction and Regeneration Act 1996.
189. "Notice" (G).
190. "Notice" (G).
191. Sub-Clause 16.2(a).
192. See Chapter 4, paras. 4.177–4.187.
193. Sub-Clause 16.2(b) (R/M/Y/G).

8.291 MDB. The Contractor also has two additional grounds for suspension under the MDB. Both these grounds are predicated on the suspension by the Bank of the loan or credit from which payments to the Contractor are being made. However, they relate to two separate situations which may follow as a consequence.

8.292 The first, found in Sub-Clause 16.1, is related to the Employer's obligations under Sub-Clause 2.4 in the event of suspension of funding by the Bank. This ground, which should be read in conjunction with the second paragraph of Sub-Clause 2.4, entitles the Contractor to suspend if the Bank suspends the loan or credit and no alternative funds are available to the Employer to continue making payments in the long term. The Contractor can suspend work or reduce the rate of work on the basis of the ground at any time after seven days have elapsed from when the Borrower received the suspension notification from the Bank.

8.293 The second ground is found in Sub-Clause 16.2(h) and entitles the Contractor to suspend work or reduce the rate of work if the Bank suspends the loan or credit and the Employer fails to make payment in accordance with the revised payment obligations that come into effect under Sub-Clause 14.7 in such circumstances.[194]

Procedure

8.294 The Contractor's entitlement under Sub-Clause 16.1 (excluding the additional ground found in this Sub-Clause in the MDB) arises after the Contractor has given not less than 21 days' notice[195] to the Employer following the satisfaction of any of the specified grounds. The notice[196] must comply with the formalities required under Sub-Clause 1.3: it must be in writing, delivered in accordance with that Sub-Clause and copied to the contract administrator. In addition, in the Gold Book, it must be identified as a Notice and include reference to Sub-Clause 16.1. Although these formalities are not required in the other Books, it is suggested that they should be adopted to avoid any doubt as to the nature of the notice.

8.295 By the inclusion of the words " . . . as described in the notice"[197] at the end of the first paragraph of Sub-Clause 16.1, it would seem that the notice[198] is required to describe the circumstances that have occurred which entitle the Contractor to suspend. This is presumably so that the Employer can establish clearly what he must do for the suspension to be lifted and when the right to suspend ceases once the relevant failure has been cured. For this reason, it is suggested that the notice[199] should contain more than merely a statement that the Employer has failed to comply with Sub-Clause 2.4 or 14.7 (14.8 (G)) or that the contract administrator has failed to certify in accordance with Sub-Clause 14.6 (14.7(G)), but should give details of the specific circumstances of the failure. In practice, these details might include, for example, details of the amount which the Employer has failed to pay, the date by when it was due to be paid and the basis of the Contractor's entitlement to payment (e.g., by identifying the Interim Payment Certificate to which the payment relates).

194. See Chapter 4, paras. 4.181–4.184.
195. "Notice" (G).
196. "Notice" (G).
197. "Notice" (G).
198. "Notice" (G).
199. "Notice" (G).

8.296 MDB. It would seem that the Contractor's right to suspend work (or reduce the rate of work) on the basis of the additional grounds found in Sub-Clauses 16.1 and 16.2(h) is not conditional upon the Contractor having given a period of notice. Instead, it would appear that the Contractor can suspend as soon as the relevant circumstances giving rise to the entitlement exist. Moreover, only suspension on the additional ground in Sub-Clause 16.1 (i.e., where the Employer does not provide reasonable evidence that alternative funds are available following the suspension by the Bank of loan disbursements) expressly requires the Contractor to give notice, which need only be given to inform the Employer:[200] "the Contractor may by notice suspend work . . . ". On the other hand, there is no express requirement for the Contractor to give any notice under Sub-Clause 16.2(h) where the Bank has suspended the loan and the Contractor has not received the sums due within the revised 14-day period for payment under Sub-Clause 14.7. It would nevertheless be advisable for the Contractor to give such a notice in any event.

Contractor's entitlement

8.297 After giving the required notice,[201] the Contractor then has the right under Sub-Clause 16.1 to either to suspend work *or* to reduce the rate of work. It would seem that this right can be exercised without any further notice to the Employer. Nevertheless, in practice, it would be advisable for the Contractor to inform the Employer that he is exercising his right to suspend work (or reduce the rate of work), particularly to minimise the risk of disputes as to the Contractor's entitlement to suspend and claim for relief.

8.298 The exercise of the Contractor's right to suspend does not prejudice his other rights under the Contract related to these failures, namely the entitlement to financing charges under Sub-Clause 14.8 (14.9 (G)) and to terminate under Sub-Clause 16.2.

8.299 The Contractor's right to suspend continues unless and until the Contractor receives the Payment Certificate (not S), evidence of financial arrangements from the Employer or payment, depending on the failure that provided the grounds for the suspension in the first place. Once the relevant failure has been cured, the Contractor must "resume normal working as soon as is reasonably practicable" but only if the Contractor has not already given a notice[202] of termination. The majority of the grounds which entitle the Contractor to terminate under Sub-Clause 16.2 require the Contractor to have given 14 days' notice prior to termination. However, as discussed above,[203] in all the Books apart from the Gold Book, there is a degree of uncertainty as to whether such notice given by the Contractor in respect of one of these grounds has an automatic effect at the end of the 14-day period or whether the Contractor must then elect to terminate, by giving a second notice. If the first notice does not have automatic effect, the words "before giving a notice of termination" in Sub-Clause 16.1 must, it is suggested, refer to the second notice whereby the Contractor elects to terminate. If this were not the case, it could mean that, even if the failure is cured during the 14-day notice period under Sub-Clause 16.2, the

200. Although not stated, it is suggested that this is intentional. In any event, under Sub-Clause 1.3, all notices sent by the Contractor to the Employer must be copied to the Engineer.

201. "Notice" (G).

202. "Notice" (G).

203. In paras. 8.200–8.205 above in respect of the Employer's right to terminate for cause under Sub-Clause 15.2, but the same considerations apply in respect of the Contractor's right to terminate for cause under Sub-Clause 16.2.

Contractor is nevertheless not required to resume working even though the Contract has not yet been terminated. The authors contend that this cannot have been the intention of the draftsmen. In the Gold Book, this difficulty does not arise because the Contractor is not entitled to terminate under Sub-Clause 16.2 if the event or circumstance give rise to his entitlement to terminate is cured within 14 days of giving Notice under that Sub-Clause (and so the notice periods in Sub-Clauses 16.1 and 16.2 coincide).

8.300 It is noticeable that the MDB is silent as to the Contractor's obligation to resume normal working if he has suspended work on the basis of the additional ground found in Sub-Clause 16.1 and the Bank subsequently lifts the suspension on disbursements from the loan. Although this would appear to be a gap in the drafting, the authors suggest that it was intended that the Contractor should resume working once the suspension is lifted (i.e., the situation is intended to be the same as for the other grounds). The same argument applies for the additional ground giving rise to a right to suspend under Sub-Clause 16.2(h).

8.301 An issue that commonly arises when the Contractor exercises his right to suspend under Sub-Clause 16.1 is whether he is then entitled to demobilise and to remove the Contractor's Equipment from the Site, for example to be returned to a plant hire subcontractor. This is a potentially difficult issue. The FIDIC forms do not contain any express right of the Contractor to demobilise or remove the Contractor's Equipment in such circumstances. Moreover, Sub-Clause 4.17 in the Red, MDB, Yellow and Gold Books[204] provides that the Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the contract administrator, which consent must not be unreasonably withheld.[205] Whether it would be unreasonable for the contract administrator to refuse a request will depend on the particular circumstances, including when the relevant failure giving rise to the right to suspend is likely to be cured and the periods involved in mobilising and demobilising the Contractor's Equipment. If the contract administrator refuses to give consent, the Contractor will be entitled to recover the Cost incurred plus profit[206] in keeping the Contractor's Equipment on Site under Sub-Clause 16.1(b). On the other hand, if the Contractor is permitted to demobilise and/or remove the Contractor's Equipment, and the Contractor does so, the contract administrator will need to take into account the time which will be needed by the Contractor to remobilise and return the Contractor's Equipment to the Site in assessing any extension of time to which the Contractor is entitled under Sub-Clause 16.1(a).

8.302 If the Contractor suspends work (or reduces the rate of work) he is entitled, subject to Sub-Clause 20.1, to payment of any Cost incurred plus profit and an extension of time for any delay suffered as a result of suspending work or reducing the rate of work under Sub-Clause 16.1. It is suggested that this would not only include the Cost incurred and delays suffered during the period when the work was suspended (or rate of work reduced) but would also extend to the Cost/delay consequences resulting from the valid exercise of this right, including Cost/delay attributable to demobilisation and remobilisation and making the Works safe.

8.303 In the MDB, it is arguable that the Contractor is not entitled to payment of Cost plus profit or an extension of time if he suspends under Sub-Clause 16.2(h). This is because the Contractor's entitlement in this respect is stated in Sub-Clause 16.1 to apply where he

204. There is no equivalent provision in Sub-Clause 4.17 of (or elsewhere in) the Silver Book.
205. Sub-Clause 1.3.
206. "Cost plus reasonable profit" (R/Y/S); "Cost plus profit" (M); "Cost Plus Profit" (G).

suffers delay and/or incurs Cost "as a result of suspending work (or reducing the rate of work) *in accordance with this Sub-Clause*" (emphasis added i.e. under 16.1 but not 16.2(h)). However, this is unlikely to have been the intention of the draftsmen and thus it is suggested that the Contractor can probably make a claim under Sub-Clause 16.1 if he suspends under Sub-Clause 16.2(h).

Contractor's termination for cause

8.304 As stated above, in paragraph 8.152 *et seq.* in relation to termination by the Employer, termination of a contract is a serious step for any party to a contract to take. In addition to the rights to terminate at law as discussed in paragraphs 8.152–8.158, the FIDIC forms grant the Contractor rights under the Contract to terminate. The principal grounds upon which the Contractor may terminate are found in Sub-Clause 16.2 [*Termination by Contractor*], which governs the Contractor's termination for cause. This Sub-Clause and the consequences that follow a termination under it are discussed below. However, the Contractor has additional rights to terminate under Sub-Clauses 19.6 (18.5 (G)) [*Optional Termination, Payment and Release*] and 19.7 (18.6 (G)) [*Release from Performance under the Law*].[207] In the Gold Book, the Contractor has an additional right to terminate under Sub-Clause 10.7 [*Failure to Reach Production Outputs*]. These Sub-Clauses are discussed elsewhere in this book.

8.305 The Contractor's election to terminate under Sub-Clause 16.2 is without prejudice to any other rights that he has, under the Contract or otherwise.

Grounds for termination

8.306 The particular grounds set out in Sub-Clause 16.2 which entitle the Contractor to terminate the Contract are broadly similar in all the Books, the most notable differences being in the MDB, which introduces additional grounds associated with the provision of funding by the Bank, and to a lesser extent in the Silver Book, which omits two grounds found in the other Books but which are not relevant to the Silver Book. Table 8.5 below contains a comparison of the grounds found in the different Books. Given that contractual termination for cause provisions such as these will generally be construed strictly, the precise wording of the provisions is important.[208]

Table 8.5: Comparison of grounds entitling the Contractor to terminate the Contract as set out in Sub-Clause 16.2 in the different Books

Sub-para.	Red, MDB and Yellow Books	Silver Book	Gold Book
(a)	Contractor does not receive the reasonable evidence from the Employer in relation to financial arrangements, as required under Sub-Clause 2.4, within 42 days after the Contractor gives notice[209] under Sub-Clause 16.1 in respect of a failure to comply with Sub-Clause 2.4.		

207. "*Release from Performance*" (M).
208. In this respect, it should be noted that, in Table 8.5, the provisions are summarised for brevity—readers should refer to the actual Sub-Clause for the precise wording.
209. "Notice" (G).

Sub-para.	Red, MDB and Yellow Books	Silver Book	Gold Book
(a)	Engineer fails to issue the relevant Payment Certificate within 56 days after receiving a Statement and supporting documents.		Employer's Representative fails to issue the relevant Payment Certificate within 56 days after receiving a Statement and supporting documents.
(c)/ (b) (S)	Contractor does not receive the amount due under an Interim Payment Certificate within 42 after the expiry of the time stated in Sub-Clause 14.7.	Contractor does not receive the amount due within 42 days after the expiry of the time stated in Sub-Clause 14.7.	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 14.8.
(d)/ (c) (S)	Employer substantially fails to perform his obligations under the Contract. MDB: substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contractor and/or the ability of the Contractor to perform the Contract.		
(e)	Employer fails to comply with Sub-Clause 1.6 [*Contract Agreement*].		Employer fails to comply with Sub-Clause 1.6 [*Contract Agreement*].
(e)/ (d) (S)	Employer fails to comply with Sub-Clause 1.7 (1.8 (G)) [*Assignment*].		
(f)/ (e) (S)	A prolonged suspension affecting the whole of the Works has continued as described in Sub-Clause 8.11 (9.10 (G)).		
(g)/ (f) (S)	Employer becomes bankrupt, insolvent etc.		
(h) (M)	MDB: Bank suspends loan or credit and Contractor does not receive sums due to him upon the expiration of the 14 days referred to in Sub-Clause 14.7.		

Sub-para.	Red, MDB and Yellow Books	Silver Book	Gold Book
(i) (M)	MDB: Contractor does not receive the Engineer's instruction recording the agreement of both Parties on the fulfilment of the conditions for the commencement of Works under Sub-Clause 8.1.		

8.307 When compared to the circumstances which give rise to the Employer's entitlement to terminate for cause under Sub-Clause 15.2, the question of whether a particular ground in Sub-Clause 16.2 has been satisfied is more straightforward, at least in principle. This is because, in the main, they are predicated on whether or not a particular event has occurred and are not reliant on the concept of reasonableness or judgement. Many are also related to the failures by the Employer or the contract administrator which give rise to a right of the Contractor to suspend under Sub-Clause 16.1.

8.308 Failure to provide reasonable evidence of financial arrangements. Under Sub-Clause 2.4, the Contractor has the right to request from the Employer reasonable evidence that financial arrangements have been made and are being maintained such that he will be able to pay the Contract Price. This evidence must be provided within 28 days after receipt of the request from the Contractor. If the Employer fails to do so, the Contractor may give 21 days' notice[210] to the Employer under Sub-Clause 16.1 and, if the Contractor does not receive the requested evidence within this 21-day period, he is entitled to suspend work under that Sub-Clause. However, if the Contractor still has not received the reasonable evidence within 42 days from the notice[211] given under Sub-Clause 16.1 (i.e., 21 days after the Contractor was entitled to suspend under that Sub-Clause), the Contractor may, after giving a further 14 days' notice[212] under Sub-Clause 16.2, terminate the Contract under Sub-Clause 16.2(a).

8.309 Failure to issue Payment Certificate. Under Sub-Clause 14.6 (14.7 (G)) of all the Books apart from the Silver Book,[213] the contract administrator is required to issue an Interim Payment Certificate within 28 days after receiving a Statement and supporting documents from the Contractor as part of his application for payment under Sub-Clause 14.3. As stated above,[214] if the contract administrator fails to issue the Interim Payment Certificate within this time (and he is not permitted to withhold the Certificate for any of the reasons set out in Sub-Clause 14.6 (14.7 (G))), the Contractor's right to suspend work under Sub-Clause 16.1 arises after a further 21 days' notice[215] to the Employer. If, after a

210. "Notice" (G).
211. "Notice" (G).
212. "Notice" (G).
213. The payment process in the Silver Book does not feature Interim Payment Certificates.
214. See paras. 8.289–8.293.
215. "Notice" (G).

total of 56 days from the receipt of the Statement, the Interim Payment Certificate has still not been issued (in circumstances where it should have been), the Contractor's right of termination under Sub-Clause 16.2(c) then arises, after giving 14 days' notice.[216] The Contractor may, however, exercise this right to terminate without first suspending work under Sub-Clause 16.1. This right to terminate is not restricted to applications for Interim Payment Certificates under Sub-Clause 14.3, but also arises if the contract administrator fails to issue an Interim Payment Certificate under Sub-Clause 14.2 (14.3 (G)) in relation to payment of the advance payment.

8.310 Failure by Employer to pay amounts due. In the Red, MDB, Yellow and Gold Books, Sub-Clause 16.2(c) entitles the Contractor to terminate, after giving 14 days' notice,[217] if the Contractor has not received the amount due under an Interim Payment Certificate within a further 42 days after the expiry of the period within which the Employer is required to pay this amount under Sub-Clause 14.7 (14.8 (G)) (i.e., within 56 days after the contract administrator has received the Statement and supporting documents from the Contractor).[218]

8.311 The equivalent sub-paragraph of Sub-Clause 16.2 in the Silver Book, sub-paragraph (b), is not restricted to the non-payment of interim payments and relates to a failure by the Employer to pay the advance payment, interim payments and final payment (although termination by the Contractor at this time is extremely unlikely) with the relevant times specified in Sub-Clause 14.7. Again, the Contractor must not have received the payment for a further 42 days from the date by which payment should have been made under Sub-Clause 14.7 before the Contractor is entitled to terminate, after giving 14 days' notice.

8.312 The "amount due" is the total amount due under the Interim Payment Certificate or, in the Silver Book, the total amount that the Employer is required to pay. This is because, under Sub-Clause 14.7(b) (14.8(b) (G)) of the Red, MDB, Yellow and Gold Books, the Employer's obligation is pay the amount certified in each Interim Payment Certificate and, in the same Sub-Clause in the Silver Book, he is required to pay the amount which is due in respect of each Contractor's Statement. If the Contractor receives only a part payment during the 42-day period, the Contractor will still be entitled to terminate under this Sub-Clause.

8.313 Substantial failure to perform obligations. Sub-Clause 16.2(d) (16.2(c) (S)) represents the general ground upon which the Contractor may terminate the Contract and arises if the Employer "substantially fails to perform his obligations under the Contract". It does not relate to a specific obligation of the Employer but to the performance of his obligations generally. This general nature, and in particular the use of the word 'substantially', provides less certainty as to when this ground will apply. The word 'substantially' is important here; termination is not available for every minor breach of contract by the Employer, nor does it necessarily require the failure to perform a substantial or fundamental obligation. Instead, it is suggested that it requires the performance by the Employer of his obligations to be considered as whole and the consequences of these failures on the intended operation of the Contract. In this way, it might be viewed as similar

216. "Notice" (G).
217. "Notice" (G).
218. Note that in the MDB, this period is reduced to 14 days at a time when the Bank has suspended the loan (Sub-Clause 14.7(b)).

to, but not necessarily the same as, the right to terminate a contract at law that exist where one party is in fundamental breach of the Contract, although this will of course depend on the relevant governing law.

8.314 Given the uncertainty surrounding the meaning of the words "substantially fails to perform his obligations under the Contract" and the potential scope for argument as to whether a particular breach or collection of breaches of the Contract by the Employer entitle the Contractor to terminate under this ground, after giving 14 days' notice,[219] he should be confident that these conditions are satisfied before seeking to exercise his right under Sub-Clause 16.2(d) (16.2(c) (S)).

8.315 The MDB includes additional wording which further requires the failure(s) of the Employer to be "in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract". It is debatable whether, apart from adding two qualifications, these words provide any further clarity as to the operation of this provision.

8.316 Failure to comply with Sub-Clause 1.6. In all the Books apart from the Silver Book, Sub-Clause 1.6 obliges the Parties to enter into a Contract Agreement within 28 days from the Contractor's receipt of the Letter of Acceptance. If the Employer fails to do so, this would give rise to a right of the Contractor to terminate the Contract, after giving 14 days' notice,[220] under Sub-Clause 16.2(e).

8.317 Failure to comply with Sub-Clause 1.7 (1.8 (G)). Sub-Clause 16.2(e) (16.2(d) (S)) gives rise to a right of the Contractor to terminate, after giving 14 days' notice,[221] if the Employer assigns the whole or any part of the Contract or any benefit or interest in order under the Contract against the prohibitions set out in Sub-Clause 1.7 (1.8 (G)).

8.318 Prolonged suspension instructed by contract administrator. Under Sub-Clauses 8.11 (9.10 (G)) and 16.2(f) (16.2(e) (S)), the Contractor is entitled to terminate where there is a prolonged suspension, lasting more than 84 days, which has been instructed by the contract administrator, which affects the whole of the Works and in respect of which the Contractor is not responsible for the cause of the suspension. This is discussed further in Chapter 5, paragraphs 5.84–5.86. In addition, in the Gold Book, although not expressly identified in Sub-Clause 16.2, a similar right to terminate arises under Sub-Clause 10.6(c) if the Employer's Representative instructs the Contractor to suspend the Operation Service for a period of more than 84 days.

8.319 Bankruptcy. See paragraph 8.191 above in relation to the termination for cause by the Employer under this ground.

8.320 MDB. The MDB contains two additional grounds for termination by the Contractor, in sub-paragraphs (h) and (i) of Sub-Clause 16.2. The first relates to the stricter payment obligations on the part of the Employer that are invoked under Sub-Clause 14.7 of the MDB if the Bank suspends loan or credit. Under this Sub-Clause, when the loan or credit is suspended, the Employer is required to pay the amount shown in the Contractor's Statement submitted as part of an application for an Interim Payment Certificate within 14 days after the Statement is submitted. If the Employer fails to pay the amount due within

219. "Notice" (G).
220. "Notice" (G).
221. "Notice" (G).

this 14-day period, the Contractor is entitled to "terminate his employment under the Contract", after giving 14 days' notice.

8.321 The second additional ground relates to the different approach adopted in Sub-Clause 8.1 for the ascertainment of the Commencement Date. This is considered further at Chapter 5, paragraphs 5.22–5.23.

Procedure

8.322 If any of the grounds set out in Sub-Clause 16.2 are satisfied, the Contractor is entitled to terminate the Contract upon giving the required notice[222] to the Contractor. For bankruptcy and prolonged suspension, no period of notice need be given and the Contractor can terminate by notice[223] immediately. For the other grounds, the Contractor is required to give 14 days' notice.

8.323 The procedure for termination, including the notice requirements, is almost identical to the procedure that applies in relation to termination by the Employer under Sub-Clause 15.2, which is discussed at paragraphs 8.197 *et seq.* above.

8.324 One additional issue that often arises in relation to termination in the event of late payment by the Employer under Sub-Clause 16.2(c) (16.2(b) (S)) is whether the Contractor has to wait for the 42-day period stated in that sub-paragraph to expire before giving notice[224] under Sub-Clause 16.2, or whether the Contractor can give notice[225] after the first 28 days of that period have elapsed and then elect to terminate immediately on the expiry of the 42-day period. Although the wording could be clearer, in the authors' opinion, the better view is that the Contractor must wait until the 42-day period has expired before giving notice.[226]

Consequences following termination

8.325 Various consequences, both practical and financial, follow termination of the Contract by the Contractor under Sub-Clause 16.2. These consequences are primarily set out in Sub-Clauses 16.3 and 16.4.

Practical consequences

8.326 Under Sub-Clause 16.3, after termination by the Contractor, the Contractor is obliged promptly to:

- cease all further work except as instructed by the contract administrator for the protection of life or property, or for the safety of the Works. In the Gold Book, the contract administrator may also instruct work for the protection of the environment (sub-para. (a));
- hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment (sub-para. (b)); and

222. "Notice" (G).
223. "Notice" (G).
224. "Notice" (G).
225. "Notice" (G).
226. "Notice" (G).

- remove all other Goods (which includes Contractor's Equipment and Temporary Works) from the Site, except as necessary for safety, and leave the Site (sub-para. (c)).

8.327 The rationale behind these provisions is clear and sets out a useful protocol leading up to the Contractor leaving the Site. They can be summarised as requiring the Contractor to hand over all matters for which he has received payment from the Employer and then to take the remainder (and himself) off the Site.

8.328 Sub-Clause 16.3(a) in the Gold Book introduces a second sentence which is potentially significant. By this provision, the Contractor is entitled to payment of Cost Plus Profit for all work instructed by the Employer's Representative under Sub-Clause 16.3(a) and the Contractor is also relieved of further liabilities under Sub-Clause 4.8 in relation to his responsibility for safety procedures on the Site and under Sub-Clause 4.18 in relation to his obligations to protect the environment.

8.329 Under Sub-Clause 16.4, the Employer is required promptly to return the Performance Security to the Contractor.

Financial consequences

8.330 Following the Contractor's termination under Sub-Clause 16.2, he is then entitled under Sub-Clause 16.4 to prompt payment by the Employer "in accordance with Sub-Clause 19.6 [(18.6 (G))]", which is discussed in at paragraphs 8.354–8.356 below but, in essence, entitles the Contractor to the value work done and any other Cost or liability that he has reasonably incurred in expectation of completing the Works, together with the cost of clearing the Site and repatriating any staff. In addition, the Contractor is expressly entitled to any loss or damage, including loss of profit, sustained by the Contractor as a result of the termination. The exclusion of liability for the Contractor's loss of profit and other types of loss identified in Sub-Clause 17.6 (17.8 (G)) expressly does not apply to the Employer's liability under Sub-Clause 16.4, nor is the Employer's total liability capped. As there is no overall limit on the Employer's liability, he is potentially liable for loss of profit without limitation. This is a very significant potential liability of the Employer.

8.331 In principle, at least, the Contractor is also required to repay to the Employer immediately any balance of the advance payment under Sub-Clause 14.2.

FORCE MAJEURE, EXCEPTIONAL EVENTS AND RELEASE FROM PERFORMANCE UNDER THE LAW

8.332 Clause 19 in the Red, MDB, Yellow and Silver Books, and Clause 18 in the Gold Book, set out the Parties' remedies in the event that performance of their obligations under the Contract is prevented, practically or legally, by events or circumstances outside their control. In this way, their provisions can be considered as part of the overall scheme in the FIDIC forms for the allocation of risk of the consequences of certain events.

8.333 Clause 19 in the Red, MDB, Yellow and Silver Books is headed "Force Majeure" and reflects the common terminology used. "Force Majeure" is also a defined term,

although its definition is principally set out in Sub-Clause 19.1.[227] However, Force Majeure as a defined term should not be confused with *force majeure*, which has a disparity of meanings between different jurisdictions and, importantly, is a legal doctrine found in civil law jurisdictions.[228] The operation of Clause 19, or at least Sub-Clauses 19.1 to 19.6, is dependent on the definition of Force Majeure. Only events or circumstances which fall within this definition attract the relief set out in these provisions. Nevertheless, the FIDIC forms do not necessarily exclude the operation of *force majeure* (if applicable under the governing law) since Sub-Clause 19.7 (18.6 (G)) expressly preserves the Parties' right to rely on rights under the governing law of the Contract which may discharge them from future performance under the Contract.

8.334 The Gold Book has introduced a change in terminology in Clause 18:[229] the term Force Majeure has been replaced with an "Exceptional Event".[230] The heading of the Clause has also been changed to "Exceptional Risks". The change in terminology used in the Gold Book reflects the confusion that sometimes arose as to the scope of Clause 19 in the other Books. As Wade explains:[231]

"The Exceptional Risks Clause replaces the *force majeure* Clause found in the other Books. The Task Group changed the name of the Clause and the Clause number (i.e. it was considered to be more logical to have the insurance provisions after the risk provisions and not in the middle of them) but much of the content will be recognised from the *force majeure* provisions found in the 1999 Books".

8.335 In all the Books, Clause 19 (18 (G)) contains in reality 'exceptional event' Clauses, where the Parties have anticipated that there is a risk, however small, that such an event may occur and prevent one of the Parties from performing his obligations. In doing so, they have agreed their obligations, such as the giving of notice, excuse from performance and the duty to minimise delay and the legal and financial consequences of the occurrence, such as extensions of time, compensation, optional termination and release. It however should be emphasised that the application of the principal provisions in Clause 19 (18 (G)) (excluding Sub-Clause 19.7 (18.6 (G)) is limited only to the occurrence of an event or circumstance which falls within the definition of Force Majeure or Exceptional Event that prevents a Party from performing its obligations under the Contract and in respect of which the Parties have complied with the required procedure. It is perhaps through a misunderstanding of this that many of the attempts to invoke the doctrine of *force majeure* under FIDIC contracts are misconceived.

8.336 Indeed, one of the most notable features of the changes that have been introduced in the Gold Book is that they emphasise that Clause 18 in that Book (and, by analogy, Clause 19 in the other Books) concerns the risk of certain exceptional events occurring and provisions to deal with them, rather than '*force majeure*' properly so called.

8.337 The relief provided under Clause 19 (18 (G)) relates only to the circumstances where a Party is prevented from performing its obligations under the Contract on account

227. Sub-Clause 1.1.6.4 of the Red, MDB, Yellow and Silver Books, provides that "'Force Majeure' is defined in Clause 19 [*Force Majeure*]".

228. On the other hand, generally, *force majeure* is not a recognised legal doctrine in common law jurisdictions but is often used to describe Clauses such as Clause 19 (18 (G)).

229. As well as obvious change in the ordering of the Clauses.

230. "Exceptional Event" is defined in Sub-Clause 1.1.37. See para. 8.341 below.

231. Wade, *op. cit.*, n. 105, at 25.

of Force Majeure or an Exceptional Event. This Clause is not concerned with the allocation of risk of damage in such circumstances, which is primarily governed by Clause 17.

Force Majeure/Exceptional Events

Definition of Force Majeure/Exceptional Event

8.338 Fundamental to the scope of application of the provisions relating to Force Majeure in the Red, MDB, Yellow and Silver Books is the definition of Force Majeure itself, which is defined in Sub-Clause 19.1 as:

"an exceptional event or circumstance:

(a) which is beyond a Party's control,
(b) which such Party could not have reasonably 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".

8.339 A non-exhaustive list of the kind of exceptional events or circumstances that might amount to Force Majeure is then set out in Sub-Clause 19.1. This list is identical in the Red, Yellow and Silver Books:[232]

"(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, 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".

8.340 The occurrence of one of these events or circumstances does not necessarily mean that it constitutes Force Majeure. The conditions (a) to (d) above must also be satisfied, and the event or circumstance must be exceptional.

8.341 The provisions of the Gold Book are, in effect, very similar to those in the other Books, although the tests for what constitutes an Exceptional Event for definitional purposes (i.e., an exceptional event or circumstance which complies with conditions (a) to (d) set out above) is located in the Sub-Clause 1.1. The (non-exhaustive) list of examples in Sub-Clause 18.1 (which are in set out in sub-paragraphs (a) to (f)) also contains changes to the list in Sub-Clause 19.1 of the other Books.[233]

8.342 In the Red, MDB, Yellow and Silver Books, there is a significant degree of cross-over between the matters set out in Sub-Clause 19.1 and the risks, as set out in Sub-Clause 17.3, for which the Employer is responsible for the resultant damage under Sub-Clause 17.4

232. The MDB contains some changes. In the MDB, "sabotage by persons other than the Contractor's Personnel" is included in sub-paragraph (ii) of Sub-Clause 18.1 and the unnecessary reference to "other employees of the Contractor and Subcontractors" is deleted from sub-paragraph (iii).

233. In the Gold Book, the list has been expanded to include "strikes or lockouts not solely involving the Contractor's Personnel" (sub-para. (d)), restricted so far as concerns "natural catastrophes" by the addition of the words "which are Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions" (sub-para. (f)) and restrict "rebellion, terrorism etc." to that which occurs within the Country (sub-para. (b)).

and in respect of which it indemnifies the Contractor under Sub-Clause 17.1 (except to the extent that insurance is available on commercially reasonable terms).[234] In the Gold Book, the matters set out in Sub-Clause 18.1 are Employer's risks under Sub-Clauses 17.1 and 17.3.

Consequences of Force Majeure or Exceptional Event

8.343 Several consequences set out in Sub-Clauses 19.2 to 19.6 (18.2 to 18.5 (G)) follow the occurrence of Force Majeure/an Exceptional Event, and these Sub-Clauses provide various relief for the Parties if they are prevented from performing their obligations under the Contract as a result of Force Majeure or an Exceptional Event. Depending on the Party and the effect and duration of Force Majeure/an Exceptional Event, this relief ranges from being excused from performance of the obligations affected, an entitlement of the Contractor to an extension of time accompanied, in some circumstances, by payment of Cost, and even termination and release from future performance of the Contract. To claim relief, the affected Party must give notice[235] under Sub-Clause 19.2 (18.2 (G)).

8.344 In the MDB, there is a potentially significant qualification to the availability of the relief set out in these Sub-Clauses. This is that these provisions only apply where Force Majeure prevents a Party from performing its "*substantial* obligations" (emphasis added). On the other hand, in all the other Books, relief is available if a Party is prevented from performing "*any* of its obligations" (emphasis added).

Notice

8.345 Under Sub-Clause 19.2 (18.2 (G)), if a Party is or will be prevented from performing any of its obligations (or "its substantial obligations" (M)) under the Contract by Force Majeure/an Exceptional Event, that Party must give notice[236] to the other Party of:

- the event or circumstance amounting to Force Majeure/Exceptional Event; and
- the obligations that the Party is being prevented or will be prevented from performing due to the identified Force Majeure/Exceptional Event.

8.346 This notice[237] must be given within 14 days after the Party became aware, or when it should have become aware, of the identified Force Majeure/Exceptional Event, and must comply with the formalities set out in Sub-Clause 1.3: it must be in writing, delivered in accordance with that Sub-Clause, copied to the contract administrator (not S) and, in the Gold Book, identified as a Notice and include reference to Sub-Clause 18.2. Under all the other Books, it would also be advisable for the Party to identify that the notice is given under Sub-Clause 19.2, if only for certainty.

Excuse from performance

8.347 Following the giving of the required notice,[238] the Party that gave the notice is then excused, under Sub-Clause 19.2 (18.2 (G)), from the performance of the obligations set out

234. See Chapter 7, para. 7.2 *et seq*.
235. "Notice" (G).
236. "Notice" (G).
237. "Notice" (G).
238. "Notice" (G).

in the notice "so long as such [Force Majeure/Exceptional Event] prevents it from performing them". The benefits of such an entitlement are straightforward. However, no relief is provided in respect of the Parties' payment obligations to the other Party under the Contract. The excuse from performance under Sub-Clause 19.2 (18.2 (G)) is accompanied by a duty on both Parties, at all times, to "use all reasonable endeavours to minimise any delay in the performance of the Contract" as a result of Force Majeure/an Exceptional Event, under Sub-Clause 19.3 (18.3 (G)) [*Duty to Minimise Delay*]. It would seem that this duty to minimise delay arises whether or not either Party has given notice[239] under Sub-Clause 19.3 (18.3 (G)).

8.348 In addition, Sub-Clause 19.5 in all the Books apart from the Gold Book provides that any relief to which a Subcontractor may be entitled under its agreement with the Contractor which may be broader or additional to those set out in Clause 19 does not excuse the Contractor from non-performance of the Contract. This, in essence, confirms that the relief available to the Contractor under Clause 19 is dependent on the occurrence of Force Majeure, as defined in the Contract, and notice being given. This provision is very arguably unnecessary because, under Sub-Clause 4.4, the Contractor is not relieved of his obligations under the Contract by sub-contracting any work to a Subcontractor. Indeed, this provision has been omitted from the Gold Book, but perhaps provides a useful reminder.

8.349 Under Sub-Clause 19.3 (18.3 (G)), the Party is also required to give notice[240] to the other Party when it ceases to be affected by Force Majeure/an Exceptional Event.

Contractor's entitlement to an extension of time and Cost

8.350 Under Sub-Clause 19.4 (18.4 (G)) [*Consequences of Force Majeure*],[241] if the Contractor is prevented from performing any of his obligations (or, in the MDB, its substantial obligations) by Force Majeure/an Exceptional Event of which he has given notice under Sub-Clause 19.2 and he suffers delay and/or incurs Cost[242] by reason of this Force Majeure/Exceptional Event, he is expressly entitled, subject to Sub-Clause 20.1, to an extension of time and, in certain circumstances, payment from the Employer of this Cost. This entitlement is subject Sub-Clause 20.1.

8.351 The Contractor is entitled to payment of Cost if the event or circumstance that has occurred (and been notified) amounts to Force Majeure/the Exceptional Event and falls within items (i) to (iv) in the illustrative list of events in Sub-Clause 19.1 (or, in the Gold Book, within (a) to (e) in Sub-Clause 18.1). By Sub-Clause 19.4(b), no entitlement to Cost arises in respect of natural catastrophes falling within item (v) ((f) (G)) or other types of Force Majeure/Exceptional Events. Moreover, events falling within (ii) to (iv) ((a) to (e) (G)) attract a Cost entitlement only if they occur within the Country.

Termination

8.352 Sub-Clause 19.6 (18.5 (G)) [*Optional Termination, Payment and Release*] grants the Parties a (limited) right to terminate "If the execution of substantially all the Works in

239. "Notice" (G).
240. "Notice" (G).
241. "*Consequences of an Exceptional Event*" (G).
242. "cost" (G)—although this would seem to be a typographical error and should also read "Cost".

progress is prevented" by Force Majeure/an Exceptional Event notified under Sub-Clause 19.2 (18.2 (G)) for a continuous period of 84 days or, where such prevention has been intermittent, "for multiple periods which total more than 140 days". This right to terminate is exercisable by either Party, by giving a notice[243] of termination which takes effect 7 days after it has been given. The notice[244] must comply with the formalities under Sub-Clause 1.3: it must be in writing, delivered in accordance with that Sub-Clause, copied to the contract administrator (not S) and, in the Gold Book, identified as a Notice and include reference to Sub-Clause 18.5.

8.353 After the notice has taken effect, the Contractor is required to proceed in accordance with Sub-Clause 16.3, which, in summary, requires him to cease all further work (except as instructed by the contract administrator for safety reasons), hand over Contractor's Documents, Plant and Materials for which he has been paid, and to clear and leave the Site.

8.354 Payment to Contractor. In the event of termination under Sub-Clause 19.6 (18.5 (G)),[245] this Sub-Clause governs the Contractor's entitlement to payment. In all the Books apart from the Silver Book, the contract administrator is required to value the work done and then issue a payment certificate in respect of the amount due to the Contractor. In the Silver Book, the Employer is simply stated to be required to pay this amount.

8.355 Sub-Clause 19.6 (18.5 (G)) contains the following list of matters which form the basis for valuing the amounts due to the Contractor:

"(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;
(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
(e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination."

This list is identical in all the Books apart from the MDB, which includes the words "and necessarily" after "reasonably" in sub-paragraph (c).

8.356 In the Red Book and the MDB, it is suggested that the effect of (a) above is to entitle the Contractor to payment for work that has been completed on the basis of measurement and rates in accordance with Sub-Clause 12.3. However, in the Yellow, Silver and Gold Books, which are conceptually 'lump sum' contracts, this issue may be more difficult given that the Contract may not state a 'price' for the work that has been completed at the date of termination. In addition, under all the Books, this will inevitably mean that some incomplete work will not fall within (a) above. This is acknowledged in the *FIDIC Guide*, which explains that in these circumstances "sub-paragraphs (b) and (c) provide a

243. "Notice" (G).
244. "Notice" (G).
245. The Contractor is also entitled to payment of the amounts set out in Sub-Clause 19.6 (18.5 (G)) in the event of termination under Sub-Clauses 16.2 (termination for cause) or 19.7 (18.6 (G)) (release from performance due to illegality, impossibility or under the governing law).

method for determining a reasonable payment in respect of work carried out for which a price is not separately stated".[246]

8.357 In addition to the amounts payable to the Contractor, on termination under Sub-Clause 19.6 (18.5 (G)), the balance of the advance payment (if any) that has not yet been repaid by the Contractor to the Employer also becomes immediately payable under Sub-Clause 14.2.

Release from performance under the Law

8.358 Notwithstanding the relief available to the Parties under the other provisions of Clause 19 (18 (G)), the FIDIC forms make further provision, by Sub-Clause 19.7 (18.6 (G)) [*Release from Performance under the Law*],[247] for relief for the Parties in two extreme situations,[248] namely where an event or circumstance which is outside the control of the Parties arises (whether or not it falls within the definition of Force Majeure or an Exceptional Event (G)), and which:

- "makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations"; or
- "under the law governing the Contract, entitles the Parties to be released from further performance of the Contract".

8.359 The first of these situations essentially covers legal and physical impossibility. Whether such impossibility exists will depend on the applicable laws, including the law governing the Contract.

8.360 The second of these situations expressly recognises that the laws of many, if not all, jurisdictions release the parties to a contract from performance in certain situations where an event occurs outside the control of the parties that significantly affects their performance under the contract, for example, under the doctrine of *force majeure* in civil law jurisdictions such as France, or frustration in common law jurisdictions such as England. Given that the issue of whether such a circumstance exists will depend on the particular law governing the Contract, the Parties may have to seek appropriate legal advice.

8.361 In either of these circumstances, under Sub-Clause 19.7(a) (18.6 (G)), either Party may, upon giving notice[249] to the other Party and the Parties are then discharged from further performance of the Contract. The words "upon giving notice" indicate that this discharge is of immediate effect.[250]

8.362 Such discharge is stated to be "without prejudice to the rights of either Party in respect of any previous breach of the Contract", which it is suggested has the effect of preserving a Party's rights, for example, to recover damages from the other Party for a previous breach.

8.363 Following notice[251] by either Party under Sub-Clause 19.7 (18.6 (G)), by sub-paragraph (b), the Contractor is then entitled to the same payment from the Employer as

246. *FIDIC Guide*, p. 297.
247. "*Release from Performance*" (M).
248. *FIDIC Guide*, p. 298.
249. "Notice" (G).
250. Note, however, that the FIDIC forms are silent as to the return of the Performance Security.
251. "Notice" (G).

would have been payable in the event of the Parties' release from performance under Sub-Clause 19.6 (18.5 (G)) on account of Force Majeure or an Exceptional Event (G). At the same, the balance of the advance payment (if any) that has not yet been repaid by the Contractor to the Employer becomes immediately payable under Sub-Clause 14.2.

CHAPTER NINE

DISPUTE RESOLUTION

INTRODUCTION

9.1 Disputes, while not necessarily inevitable, are not uncommon in any major construction or engineering project. Unless addressed in the underlying contract, the parties will have to rely on the procedures available to them outside the contract to resolve a dispute, which may, in most instances, mean litigation in the local courts. However, litigation will usually not be the parties' favoured option. It is therefore essential that the contract provides for adequate and appropriate procedures for resolving disputes.

9.2 The FIDIC forms contain relatively complex dispute resolution provisions ('DRPs') which are found in Sub-Clause 20.2 to 20.8 of the Red, MDB, Yellow and Silver Books and in Sub-Clauses 20.3 to 20.11 of the Gold Book. These DRPs are of a kind often described as 'multi-tiered' or 'escalating', because they proceed from one stage to another in default of acceptance by one (or both) of the parties, moving between different techniques: dispute board, negotiation by way of amicable settlement, arbitration.[1]

9.3 At the outset, it should be stressed that the inclusion of DRPs should not deter the Parties from seeking to resolve their disputes amicably, nor do they place any restriction on them from doing so.

9.4 In the authors' experience, the DRPs are often overlooked, both at the tender stage and after the contract has been awarded. In the very early stages of a project, the parties will invariably wish to demonstrate a positive and constructive approach to the project and to establish a good and mutually beneficial working relationship, particularly in projects which will last for several years. Consequently, for fear of appearing negative, insufficient attention and consideration is sometimes given to the adequacy and completeness of the DRPs, with the parties proceeding in the hope that they will not have to be invoked. While this is perhaps understandable, deficiencies in the DRPs can significantly delay the resolution of disputes and can substantially increase the parties' costs when a dispute does arise.

Development of the FIDIC dispute resolution procedures

9.5 Before considering the DRPs contained in the current FIDIC forms, it is useful to set out the history of the development of the provisions for the resolution of disputes as included in the previous FIDIC contracts.

9.6 The 1st Edition of the Red Book published in 1957 incorporated Clause 66 of the ICE form,[2] which contained a two-stage procedure for the resolution of disputes: reference

1. Ellis Baker, "Is it all necessary? Who benefits? Provision for multi-tier dispute resolution in international construction contracts", Society of Construction Law Paper No. 154, January 2009. An updated paper based on a presentation made to a joint meeting of the Society of Construction Law and the Society of Construction Arbitrators in London on 1 July 2008.

2. See Chapter 1, paras. 1.15 *et seq.* above. The basis of the 1st Edition of the Red Book was actually an 'overseas version' of the ICE contract produced by the Association of Consulting Engineers.

to the Engineer to make a pre-arbitral decision followed by reference to arbitration. The Engineer's decision could be seen as an early recognition of the desirability of an initial attempt at early resolution without resort to formal proceedings. Failing a mutually acceptable resolution by way of the Engineer's decision, there would then be reference to a more formal method, arbitration, for final resolution. In those days, the Engineer's decision was stated to be final and binding upon the Employer and the Contractor "until the completion of the work", which had the effect of prohibiting arbitration until after completion of the project so that 'early arbitration' was not allowed. *Ad hoc* arbitration was contemplated with its seat in the country of the governing law of the Contract.

9.7 FIDIC published the 2nd Edition of the Red Book in 1969 and the 3rd Edition in 1977,[3] and, in Clause 67, maintained the same basic two-stage approach to dispute resolution. There were, however, significant changes. Possibly most significantly, from the 2nd Edition onwards there was no longer provision for *ad hoc* arbitration; arbitration became subject to "the Rules of Conciliation and Arbitration of the International Chamber of Commerce" (and remains so, unless the Parties agree otherwise—although see discussion of the departure in the MDB version at paragraphs 9.188–9.190 below). In addition, in the 3rd Edition early arbitration (i.e., before the completion of the work) became possible (and remains so).

9.8 When FIDIC published the 4th Edition of the Red Book in 1987, one leading commentator on the form[4] observed that "The 4th Edition introduces fundamental changes to the disputes procedure". He was not referring to the reduction in the time limit for challenging the Engineer's decision[5] or the requirement that the Engineer state that his decision on a dispute was made under Clause 67,[6] although they were of significance. The most fundamental change in this Edition was the introduction[7] of an 'amicable settlement' provision, by which the Parties were required to attempt to settle their dispute amicably before the commencement of arbitration. This provision, whose place in the current forms is considered further below, was controversial, not least within FIDIC itself. An amicable settlement Clause had also been introduced in the 2nd Edition of the Yellow Book as long ago as 1980, only to be withdrawn from the 3rd Edition of the Yellow Book at almost exactly the same time as the 4th Edition of the Red Book included it. When published in 1995, the Orange Book[8] also included an amicable settlement Clause.

9.9 The other major landmark in the development of the FIDIC DRPs occurred with the introduction of the dispute adjudication board in the Orange Book. Dispute boards, in various guises, had already featured in the late 1980s and early 1990s in 'mega-projects', most notably the Channel Tunnel and the Hong Kong International Airport.[9] The World Bank's Standard Bidding Documents had, from 1995, also come to incorporate the use of dispute review boards for contracts with an estimated cost of over US$50 million. The

3. For an account of the development of FIDIC Contracts see also Nael G. Bunni, *The FIDIC Forms of Contract* (3rd Edn, 2005, Blackwell Publishing), and for the dispute resolution provisions, see Baker, *op. cit.*, n. 1.

4. Edward Corbett, *FIDIC 4th—A Practical Legal Guide* (1991, Sweet & Maxwell), p. 442.

5. From 90 to 84 days.

6. To exclude reference to arbitration of other decision, e.g., interim certification.

7. In Sub-Clause 67.2.

8. The Conditions of Contract for Design-Build and Turnkey, 1st Edition.

9. In the Provisional Airport Authority contracts, although not in the Mass Transit Rail Corporation or Government Airport Core Programme contracts, which featured mediation and mediation/adjudication respectively instead.

particular feature of dispute *review* boards is that they generally make non-binding recommendations on disputes referred to them. This can be contrasted with dispute *adjudication* boards, as introduced in the Orange Book, which make binding decisions.

9.10 The DRPs in the Orange Book[10] served as the basis for the DRPs in the current FIDIC forms and the Red, Yellow and Silver Books, when published in 1999, all adopted a three-tier mechanism, with disputes proceeding from the Dispute Adjudication Board (DAB), via the opportunity for amicable settlement, to arbitration. Unsurprisingly, given the lead taken by the World Bank in endorsing the use of dispute boards, the MDB version does likewise and, to complete the picture, so does the Gold Book.

9.11 The dominant reason behind the introduction of the DAB in the FIDIC forms was the lack of perceived independence of the Engineer when acting in the pre-arbitral decision-making role, given that he was appointed and paid by the Employer. This is related to the duality of the role of the contract administrator that was commonly found in construction contracts with a common law origin.[11] It also meant that the uncomfortable situation would often arise, for example, where the Engineer in a contract under the 4th Edition of the Red Book would be required to make a decision on a dispute concerning his own determination or the adequacy of his own design. As the Engineer's decision on a dispute was required as a condition precedent to arbitration, some users viewed this as a mere formality that had to be complied with for arbitration and not as a serious method of dispute resolution.

9.12 FIDIC published supplements to the 4th Edition of the Red Book in 1996 and the 3rd Edition of the Yellow Book in 1997, which set out alternative provisions that could be used to replace the Engineer's pre-arbitral decision-making role with a DAB.

9.13 The introduction of the DAB as standard in FIDIC contracts coincided with the removal of the express duty to act impartially.[12] The Engineer in the Red and Yellow Books (and the Employer's Representative under the Gold Book) is still required to make determinations under, for example, Sub-Clause 3.5 [*Determinations*], but, if a dispute arises in respect of that determination, the matter is to be referred to an independent, third-party body paid jointly by the Parties, the DAB, for a decision.

9.14 However, FIDIC did not achieve, nor presumably intend, uniformity in the approach to dispute resolution in the current FIDIC forms. The disparities in approach to the DAB between the Red Book, on the one hand, and the Yellow and Silver Books, on the other, and the developments in the Gold Book are discussed below.

DISPUTE BOARDS

Generally

9.15 'Dispute board' is a generic term used to describe a variety of different arrangements whereby the parties to a contract jointly appoint one or more independent and impartial persons to act in some form of dispute resolution capacity.

10. Also adopted in the Supplement to the 4th Edition of the Red Book published in 1996.
11. See Chapter 6, paras. 6.60 *et seq*.
12. See Chapter 6, paras. 6.73–6.79.

9.16 Originating in the United States,[13] the essence of what can be described as the 'classic' dispute board concept is that of a body commanding the respect of the contracting parties, which is appointed at the outset of the contract, by regular visits to the project maintains awareness of progress and potential problems, and can offer resolution of disputes at an early stage. One definition of a dispute board is "'a job-site' dispute adjudication process, typically comprising three independent and impartial persons selected by the contracting parties".[14]

9.17 The term 'dispute board' is, however, used to describe all variants of the process. For example, the ICC's Dispute Board Rules,[15] introduced in 2004,[16] distinguish between three types of dispute boards. These are:

- The Dispute Review Board, which produces non-binding recommendations;[17]
- The Dispute Adjudication Board, which issues decisions, binding *pro tem*; and
- The hybrid sometimes known as the Combined Dispute Board, which issues recommendations, unless requested to issue a decision, which it can also do.

9.18 Dispute boards are entirely contractual regimes and the powers of the board and the effect of its decisions are governed solely by the terms of the contract between the parties and the terms of the appointment between the parties and the board member(s). Thus, for example, Article 1 of the ICC Dispute Board Rules provides (in part) as follows:

"Dispute Boards are not arbitral tribunals and their Determinations are not enforceable like arbitral awards. Rather, the Parties contractually agree to be bound by the Determinations under certain specific conditions set forth herein".

Dispute boards in the FIDIC forms

9.19 The FIDIC forms all provide that disputes, in the first instance, are to be adjudicated by a dispute board. In all the Books apart from the MDB, this dispute board is called the Dispute Adjudication Board or "DAB".[18] The MDB uses the term Dispute Board or

13. The earliest use of a dispute board is commonly reported to be on the Boundary Dam in Washington in the 1960s.

14. Dr Cyril Chern, *Chern on Dispute Boards* (2008, Blackwell Publishing), p. 2, referring to a presentation by Peter H. J. Chapman, then President of the Dispute Resolution Board Foundation at the Fifth Annual Conference, Dubai, United Arab Emirates, 2005.

15. International Chamber of Commerce Dispute Board Rules, in force from 1 Sept 2004 (www.iccwho.org).

16. See Dr. Robert Gaitskell QC, "Using Dispute Boards under the ICC's Rules: What is a dispute board and why use one?", December 2005, Society of Construction Law, Paper D060.

17. These non-binding recommendations will, however, become binding if neither party has sent a notice to the other party and the dispute board expressing its dissatisfaction within 30 days of receiving the board's recommendation (ICC Dispute Board Rules, Art. 4(3)).

18. In the Red, Yellow and Silver Books, "DAB" is defined as "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*]" (Sub-Clause 1.1.2.9 (R/Y/S)). The same definition is found in the Sub-Clause 1.1.27 of the Gold Book, but with the references to Sub-Clauses 20.2 and 20.3 changed to Sub-Clauses 20.3 and 20.4 and with the addition of the words "or Sub-Clause 20.10 [*Disputes Arising During the Operation Service Period*]".

"DB".[19] The difference in terminology in the case of the MDB is largely in name; it is recognisably almost identical to the DAB in the Red Book.

9.20 Essentially, the principal features of the DAB in the FIDIC forms as an adjudicator of disputes are the same:

- There is an express duty of independence and impartiality on members of the DAB.[20]
- The DAB's decision on a dispute is obtainable within a relatively short time: within 84 days from reference to decision in the Red, MDB, Yellow and Silver Books[21] and 84 days from receiving the other Party's response to decision (or 105 days from reference to decision if no response in the case of the Gold Book[22]).
- Crucially, the decision of the DAB is binding on the Parties *pro tem*, i.e., for the time being, and binding and final if neither Party gives a notice[23] of dissatisfaction within 28 days after receiving the decision.

9.21 Despite the use of the common names,[24] there are, however, differences of significance in the precise nature and role of the DAB as included in the different Books, including departures from what might be described as the 'classic' dispute board model.

The nature of the DAB in the FIDIC forms

9.22 There are two different models of dispute adjudication board found in the FIDIC forms. The Red Book, MDB and Gold Book all provide, as standard, for a 'standing' DAB, although there are differences between them. The Yellow and Silver Books have taken a different approach and provide, as standard, for an '*ad hoc*' DAB.[25]

9.23 It should be emphasised at the outset that these different arrangements are only included in the respective Books *as standard* on the basis that they are the most generally appropriate models for the types of project and work that will be involved in contracts under the different Books. However, as with any standard form contract, FIDIC recognises that these arrangements may not be appropriate for every project under any given Book and makes provision in the Guidance for the Preparation of Particular Conditions for the adoption of a standing DAB arrangement in the Yellow and Silver Books and an *ad hoc* arrangement in the Red Book, if these would be more appropriate for the particular features of the project. This flexibility should not be overlooked and careful thought should be given at the tender stage as to the most appropriate model to adopt.

'Standing' DAB

9.24 The 'standing' DAB is appointed by the Parties at the outset of the Contract and operates throughout its currency. This standing DAB can be regarded as the 'classic'

19. "DB" is defined as "the person or persons appointed under Sub-Clause 20.2 [*Appointment of the Dispute Board*] or Sub-Clause 20.3 [*Failure to Agree Dispute Board*]" (Sub-Clause 1.1.2.9). For convenience to the reader, "DAB" is used in this chapter to refer both to the DAB under the Red, Yellow, Silver and Gold Books and the DB under the MDB, where applicable.
20. Clause 3 of the General Conditions of Dispute Agreement (Dispute Board Agreement (M)).
21. Sub-Clause 20.4.
22. Sub-Clause 20.6 (G).
23. "Notice" (G).
24. Except in the MDB.
25. Although their Test Editions also provided for a 'standing' DAB.

version of a dispute board. Chern[26] explains that "The significant difference between dispute boards and most other alternative dispute review techniques (and possibly the reason why dispute boards have had such success in recent years) is that the dispute board is appointed at the commencement of a project *before* any disputes arise and, by undertaking regular visits to the Site, it is actively involved throughout the project". This standing or full-term appointment brings with it many advantages:[27]

- The DAB's active involvement in the project, presence on Site during site visits and discussions with the Parties at regular meetings often means that potential disputes are resolved amicably prior to becoming disputes that require a decision of the DAB. The Parties are also able to request jointly opinions from the DAB on matters relating to the Contract.
- If a dispute arises, the referral to the DAB for its decision can be made immediately, without having first to appoint the DAB (which appointment is potentially prone to delay). The DAB will also have read the Contract and have been kept up to date on progress and thus will both require less time to familiarise itself with the issues in the dispute and will, for example, often be able to draw upon actual knowledge of conditions on the Site.

'Ad hoc' *DAB*

9.25 The '*ad hoc*' DAB is appointed by the Parties only if and when a dispute arises. In this way, its only role is to adjudicate upon dispute(s) referred to it and can be seen as a direct replacement of the Engineer's pre-arbitral decision-making role in the 4th Edition of the Red Book[28] and the 3rd Edition of the Yellow Book.[29] Unlike the standing DAB arrangement, the *ad hoc* DAB does not have any power to issue an opinion. This is consistent with the DAB being appointed to resolve a particular dispute that has arisen.

9.26 One advantage of an *ad hoc* DAB over a standing DAB is that, given that it is appointed only when a dispute arises, it allows the Parties to choose member(s) with the particular expertise most suited to the issues involved in the dispute.[30] Conversely, it may be objected that this *ad hoc* appointment deprives the DAB of the principal benefit of the dispute board concept, namely ongoing involvement during the course of the contract.

Selection of type of DAB

9.27 The rationale behind the FIDIC draftsmen's choice of the different types of DAB provided for in the Books *as standard* has been explained as:[31]

26. *Op. cit.*, n. 14, p. 2.
27. These are only some of the reported advantages of standing dispute adjudication boards. See also Bunni, *op. cit.*, n. 3; Chern, *op. cit.*, n. 14; Gwyn Owen and Brian Totterdill, *Dispute Boards: Procedures and Practice* (2008, Thomas Telford), p. 8.
28. Sub-Clause 67.1.
29. Sub-Clause 2.7.
30. Christopher R. Seppälä, "FIDIC's New Standard Forms of Contract—Force Majeure, Claims, Disputes and other Clauses", [2000] 17(2) ICLR 235 at 250.
31. *Ibid.*, at 249.

"upon reflection, the FIDIC Task Group concluded that [for the Yellow and Silver Books] it would be more appropriate (and, probably, less expensive for the Parties) to provide in the General Conditions for an *ad hoc* DAB . . . The main reason for a standing DAB is to deal with disputes on or related to the construction site. But, when the contract provides mainly for the design and manufacture of electrical or mechanical equipment in a factory rather than construction work on the site (as is true of many projects for which the new [Yellow and Silver Books] would be used), the incidence of disputes should be much less . . . "

9.28 FIDIC nevertheless also recognised that some projects under the Yellow and Silver Books might benefit from, or even require, the services of a standing DAB, particularly where the project will involve extensive work on Site[32] or where the scope for disputes is greater during the early stages of the work. As Owen and Totterdill observe,[33] "The decision for a full-term [i.e., standing] or ad hoc DAB must be made in relation to the needs of the particular project and it can be argued that a design-build project may require a DAB during the design phase". The *FIDIC Guide*[34] also contains further guidance as to the matters that should be taken into account when deciding upon the most appropriate form of DAB to adopt.

9.29 In practice, the Parties' choice of which DAB model to adopt is frequently influenced by the associated cost, particularly in relation to maintaining a standing DAB from the outset and when no disputes have yet arisen. While cost is obviously an important factor, this short-term view may not necessarily be in the long-term interests of the Parties. As Totterdill states:[35]

"An ad hoc DAB may appear to be cheaper, because it saves the cost of the monthly retainer and Site visits. However:

- it is always more difficult to agree on the members of a DAB *after* a dispute has arisen;
- there will be a further delay before the DAB can actually consider the dispute;
- the DAB will charge for the time necessary to mobilise and familiarise itself with the background to the dispute; and perhaps most importantly
- the Parties have lost the potential for the DAB to help prevent the dispute from arising."

9.30 The *FIDIC Guide*[36] suggests that the adoption of a standing DAB in the Yellow and Silver Books can be effected through the Particular Conditions and offers wording for substituting a standing DAB for an *ad hoc* DAB in the Yellow and Silver Books, using in effect, the Red Book provisions:

"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".

9.31 Similarly, the Guidance for the Preparation of Particular Conditions in the Red Book suggests that "the Parties may prefer to defer the appointment until a dispute has arisen, in which case Sub-Clause 20.2 plus the Appendix—General Conditions of Dispute Adjudication Agreement with its Annex (Procedural Rules) and the Dispute Adjudication

32. Guidance for the Preparation of Particular Conditions in the Yellow and Silver Books.

33. *Op. cit.*, n. 27, p. 18.

34. FIDIC, *The FIDIC Contracts Guide*, (2000, Fédération Internationale des Ingénieurs-Conseils), ("*FIDIC Guide*"), p. 304.

35. Brian W. Totterdill, *FIDIC users' guide: A practical guide to the 1999 Red and Yellow Books* (2nd Edn, 2006, Thomas Telford, London), p. 295.

36. *FIDIC Guide*, p. 304.

Agreement should be amended to comply with the wording contained in the corresponding sections of the [Yellow Book]".[37]

Gold Book

9.32 As stated above, the Gold Book adopts the standing DAB arrangement. However, in recognition of the two distinct phases of the Contractor's obligations, this Book makes provision for the appointment of two separate DABs:

- One DAB similar to that in the Red Book arrangement of either one or three members, which is appointed at the outset of the project and to which the Parties may refer disputes arising during the Design-Build Period.[38]
- A second, separate one-man DAB, the "Operation Service DAB", appointed by the time of issue of the Commissioning Certificate for a renewable period of five years to which the Parties may refer disputes arising during the Operation Service Period.[39]

Engineer/Employer's Representative as DAB

9.33 Despite the replacement in the FIDIC forms of the Engineer (or equivalent) with the DAB as the pre-arbitral decision-maker on disputes, FIDIC does not completely disregard the possibility of reverting to the previous position in appropriate situations. Caution should, however, be exercised before choosing this option.

9.34 The *FIDIC Guide*[40] suggests that it may be appropriate for pre-arbitral decisions to be made by the Engineer where he is "an independent professional consulting engineer with the necessary experience and resources". The Guidance for the Preparation of Particular Conditions in the Red and Yellow Books advises that such an arrangement could be achieved by deleting Sub-Clauses 20.2 and 20.3 and deleting the second paragraph of Sub-Clause 20.4 (R) to be substituted by the words:

"The Engineer shall act as the DAB in accordance with this Sub-Clause 20.4, acting fairly, impartially and at the cost of the Employer. In the event that the Employer intends to replace the Engineer, the Employer's notice under Sub-Clause 3.4 shall include detailed proposals for the appointment of a replacement DAB".

9.35 However, FIDIC[41] rightly cautions the Employer that, on the basis of these proposed amendments, "the Engineer will make these pre-arbitral decisions impartially and the Employer must not prejudice this impartiality". It is also strongly suggested that the Engineer should be considered for this function only where there is no risk of compromise of confidence on the part of the Contractor, or otherwise the situation would return to that which the introduction of the DAB in the FIDIC forms was intended to address.

37. Seppälä suggests that an *ad hoc* DAB may be more appropriate for a project under the Red Book that "will involve more equipment supply than construction work on site". *Op cit.*, n. 30 at 250.

38. Sub-Clauses 20.3 to 20.6 (G).

39. Sub-Clause 20.10 (G).

40. *FIDIC Guide*, pp. 303–304. See also Guidance for the Preparation of Particular Conditions in the Red and Yellow Books.

41. Guidance for the Preparation of Particular Conditions in the Red and Yellow Books.

Dispute board provisions in the FIDIC forms

9.36 The provisions governing the DAB are located in several different locations:

- Clause 20 [*Claims, Disputes and Arbitration*] of the General Conditions;
- Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S);
- Dispute Adjudication Agreement (R/Y/S/G)/Dispute Board Agreement (M);
- General Conditions of Dispute Adjudication Agreement (R/Y/S/G)/Dispute Board Agreement (M); and
- Procedural Rules.[42]

9.37 Each of these and their interrelationship are discussed further below. Of course, if the Parties to a Contract under the Yellow or Silver Books, for example, have agreed to adopt the standing DAB arrangement,[43] Clause 20 of the General Conditions will have been amended by the Particular Conditions, as discussed above, and the related documents replaced with those that are included in the Red Book. The Parties might also add further provisions in the Particular Conditions or otherwise amend the other documents if it suits them to do so or if required to comply with the applicable laws. However, in general, it is not necessary to use Particular Conditions to make the DAB/DB provisions work and this appears to accord with FIDIC's view: for example, in the *FIDIC Contracts Guide Supplement* for the MDB,[44] the guidance on Particular Conditions states that "In a normal situation, the General Conditions and the Particular Conditions—Part A (i.e., the Contract Data) will give a perfectly satisfactory and legally sound basis for entering the Contract".

9.38 Clause 20. Clause 20 contains (*inter alia*) the procedure for appointment of the DAB, recourse where the Parties fail to agree on the identity of the DAB, obtaining the DAB's decision, failure to comply with the DAB's decision and the resolution of disputes after the expiry of the DAB's appointment. Sub-Clause 20.2 (20.3 and 20.10 (G)) provides that the terms of appointment of each member shall incorporate by reference the General Conditions of Dispute Adjudication Agreement, which is appended to the General Conditions of Contract, with such amendments as are agreed between the Parties and the member.

9.39 Appendix to Tender/Contract Data/Particular Conditions. The Appendix to Tender (R/Y), Contract Data (M/G) and the Particular Conditions (S) supplement the provisions of Clause 20 by including details as to the composition of the DAB (e.g., one or three members), the appointing entity and, for a standing DAB, the date by which the DAB is to be appointed. The example forms of the Appendix to Tender or Contract Data included with the Books (not Silver Book) all contain spaces for this information.

9.40 Dispute Adjudication Agreement. The Dispute Adjudication Agreement (called the Dispute Board Agreement in the MDB and the Agreement for Dispute Adjudication Board Members in the Gold Book)[45] is a tripartite agreement between the

42. Procedural Rules for Dispute Adjudication Board Members (G).

43. Or the Parties to a Red Book Contract have agreed to adopt the *ad hoc* DAB arrangement, in which case similar considerations will obviously apply.

44. FIDIC, *The FIDIC Contracts Guide Supplement—Conditions for Contract for Construction Mulitateral Development Bank Harmonised Edition* (2006, Fédération Internationale des Ingénieurs-Conseils).

45. Note also that the example form of this agreement for each member of a three-person DAB that is included in the Yellow Book, but not the Silver Book, is entitled "Dispute Adjudication Board Agreement".

Employer, the Contractor and the member or *each* of the members where there are more than one. Accordingly, if the DAB is comprised of three members, there will be three separate Agreements.

9.41 The Dispute Adjudication Agreement is intended to be a short document which is required to incorporate the General Conditions of Dispute Adjudication Agreement, and will set out the remuneration of the member and any amendments to the General Conditions of Dispute Adjudication Agreement which are agreed with that member.[46] By this agreement, the member is empowered by the Parties to act as the DAB and to make decisions which are binding on them.

9.42 An example form of Dispute Adjudication Agreement is included in all the Books but, unlike the General Conditions of Dispute Adjudication Agreement, it is not intended that the Dispute Adjudication Agreement be included in the Contract. This is presumably because the appointment of a member is a personal appointment and the terms of the Dispute Adjudication Agreement, in particular the remuneration, are a matter of negotiation between the member and the Parties. This flexibility will also allow for the situation where a member proposes his own form of appointment which incorporates the General Conditions of Dispute Adjudication Agreement. Whilst the example form of Dispute Adjudication Agreement potentially allows for amendments to the General Conditions of Dispute Adjudication Agreement to be negotiated and agreed with each member,[47] the authors strongly recommend that any such amendments are agreed with all members (if more than one). If different amendments are agreed with individual members, those members may have different powers which may render it difficult for the DAB to act as a unified body.

9.43 General Conditions of Dispute Adjudication Agreement. The General Conditions of Dispute Adjudication Agreement (Dispute Board Agreement in the MDB) are contained in the Appendix to the General Conditions of Contract of the FIDIC forms. These General Conditions of Dispute Adjudication Agreement contain Clauses governing definitions, general provisions, warranties and general obligations of the board member, general obligations of the Employer and the Contractor, and provisions for payment, termination and member's default. The General Conditions of Dispute Adjudication Agreement incorporate, by reference,[48] the procedural rules annex to it.

9.44 Procedural Rules. Annexed to the General Conditions of Dispute Adjudication Agreement are procedural rules[49] ("Procedural Rules") setting out the way in which the DAB is to operate. The format of the Procedural Rules included in the particular Books varies considerably: there are, for example, six rules in the Yellow and Silver Books, nine rules in the Red Book and MDB and 12 rules in the Gold Book. The substance, however, is broadly similar, albeit with several divergences relating in particular to whether the DAB is a standing or an *ad hoc* DAB. In essence, the rules do three things:

- require the DAB to act fairly and impartially as between the Employer and the Contractor if a dispute is referred to the DAB;
- define the scope of the DAB's powers; and

46. Sub-Clause 20.2 (R/M/Y/S); Sub-Clauses 20.3 and 20.10 (G).
47. Clause 2 includes space for such amendments to be included.
48. Clause 4(e) of the General Conditions of Dispute Adjudication Agreement.
49. "Procedural Rules for Dispute Adjudication Board Members" (G).

- lay down the procedures by which the DAB is to conduct its role, dealing with such matters as the reference and hearing of disputes, representation, the giving of decisions and, in the case of a standing DAB, the frequency of site visits, agenda for site visits, facilities and documentation.

The appointment of the DAB/DB

9.45 The appointment of the DAB is governed by Sub-Clauses 20.2 [*Appointment of the Dispute Adjudication Board*][50] and 20.3 [*Failure to Agree Dispute Adjudication Board*][51] in the Red, MDB, Yellow and Silver Books and, in the Gold Book, by Sub-Clauses 20.3 [*Appointment of the Dispute Adjudication Board*], 20.4 [*Failure to Agree Dispute Adjudication Board*] and 20.10 [*Disputes Arising during the Operation Service Period*]. These provisions require supplemental information to be specified in the relevant contract document.[52]

9.46 Where the DAB comprises one person, the Parties are required to jointly appoint the sole member. Where the DAB comprises three members, each Party is required to nominate one member for the approval of the other Party, such approval not to be unreasonably withheld or delayed under Sub-Clause 1.3. The Parties are then required to consult with these two approved members and then agree upon the third member, the chairman.[53]

9.47 The selection of all the members should, where possible, be made jointly between the Parties. This is most likely to be achieved in relation to a standing DAB, which is appointed at the beginning of the Contract. This is recognised expressly in the MDB, which only requires the Parties each to nominate one member for the other Party's approval if the Parties have not jointly appointed the DB 21 days before the date stated in the Contract Data by which the DB is to be appointed.

9.48 The FIDIC forms also make provision for the circumstances where agreement or approval is not possible. In this case, the nomination is made by an appointed entity agreed by the Parties in the Contract (Sub-Clause 20.3 (20.4) (G)).

9.49 The appointment of the member is then formalised in the Dispute Adjudication Agreement.

Timing and duration of appointment

9.50 As mentioned above, the timing of the appointment of the DAB depends on whether it is a standing DAB or an *ad hoc* DAB. In addition, the Gold Book contains separate provisions for the appointment of the DAB for disputes arising during the Design-Build Period (Sub-Clause 20.3) and the Operation Service Period (Sub-Clause 20.10).

9.51 Standing DAB. For the standing DAB/DB arrangement in the Red Book and MDB, and for the DAB in the Gold Book in relation to the Design-Build Period, the DAB is to be appointed by the date stated in the Appendix to Tender (R) or Contract Data

50. "*Appointment of the Dispute Board*" (M).
51. "*Failure to Agree on the Composition of the Dispute Board*" (M).
52. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).
53. Under the MDB, the procedure is slightly different and provides that the two approved members "shall recommend and the Parties shall agree upon the third member" (Sub-Clause 20.2 (M)).

(M/G).[54] To gain the most benefit from the standing DAB arrangement, this date should preferably be at the outset of the Contract. For example, the example forms of Appendix to Tender (R) and Contract Data (M) suggests "28 days after the Commencement Date".

9.52 However, notwithstanding the requirement to appoint the DAB by the stated date, unfortunately, in practice, the Parties sometimes do not seek to appoint the DAB within the specified time and only turn their attention to the appointment when a dispute arises. This approach essentially turns the DAB into an *ad hoc* DAB.

9.53 The appointment of the standing DAB/DB under the Red and MDB ceases (absent termination) when the discharge of the Contract becomes effective.[55] In the Gold Book, the appointment of the DAB for the Design-Build Period expires on the issue of the Commissioning Certificate or 28 days after the DAB has given its decision on a dispute, whichever is later. The Operation Service DAB will have been appointed by this date. Given that the jurisdiction of each DAB to decide disputes is defined by reference to when the disputes arise, i.e. during the Design-Build Period or during the Operation Service Period, it follows that the Operation Service DAB may have to decide disputes which arise after the issue of the Commissioning Certificate but relate to the Parties' obligations during the Design-Build Period.

9.54 Standing Operation Service DAB (Gold Book). The Operation Service DAB in the Gold Book is to be appointed at the time of issue of the Commissioning Certificate.[56] This appointment expires at the end of the five-year period for which it has been appointed (unless renewed). This five-year period is clearly calculated on the basis that it is one-quarter of the 20-year Operation Service Period for which the Gold Book is intended to be used. If the actual Operation Service Period is greater or less than 20 years, it will be necessary for the Parties to consider whether the term of five years is appropriate. Moreover, even with a 20-year Operation Service Period, only after the end of this Period is the Contract Completion Certificate[57] and the Final Payment Certificate Period Operation Service issued.[58] Both of these Certificates are potential areas of dispute between the Parties. Consequently, it may be necessary to extend the period of appointment of the fourth Operation Service DAB as appropriate.

9.55 *Ad hoc* DAB. For the *ad hoc* arrangement in the Yellow and Silver Books, the DAB is to be appointed "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".[59] The appointment expires when the DAB has given its decision on the dispute(s) referred to it. This may not be when the DAB gives its decision on the first dispute that is referred to it because, under Sub-Clause 20.2, once appointed in respect of one dispute, the Parties are able to refer other dispute(s) to it before it gives its decision on the first (or subsequent) dispute.

54. Sub-Clause 20.2 (R/M); Sub-Clause 20.6 (G).
55. Under Sub-Clause 14.12.
56. Sub-Clause 20.10.
57. Sub-Clause 8.6.
58. Sub-Clause 14.13.
59. Sub-Clause 20.2.

Number of members

9.56 The FIDIC forms envisage that the DAB will be constituted either of one or three members. The number of members is to be stated in the relevant contract document, with a default position of a three-member DAB if not specified and the Parties have not agreed otherwise.

9.57 The selection of the appropriate number of members will depend on a variety of factors, including the magnitude of the Contract and the project, their duration and the fields of expertise that will be involved.[60] Cost proportionate to the scale of the Contract will be a major consideration. The *FIDIC Guide*[61] recommends a three-person tribunal for a Red Book contract involving an average monthly Payment Certificate in excess of US$2 million. An average monthly Payment Certificate not exceeding US$1 million would suggest a one-person DAB.[62] Another measure is the Contract Price and FIDIC suggests that three members may be appropriate where the estimated Contract Price exceeds US$25 million.[63]

Identity of member(s)

9.58 Careful consideration should be given to the identity of the members. Under Sub-Clause 20.2 (20.6 (G)), the DAB[64] is required to comprise of "suitably qualified persons". The General Conditions of Dispute Adjudication Agreement expressly contemplate that the member will be "fluent in the language for communication defined in the Contract",[65] "experienced in the work which the Contractor is to carry out under the Contract"[66] and "experienced in the interpretation of contract documentation".[67] These requirements mean that a combination of disciplines may be desirable. Seppälä[68] understandably suggests that the DAB might be "engineers or other construction professionals", but also notes a lawyer may be desirable (or someone with legal training). A compromise in a three-member Board may be to have a lawyer (as chairman) and two construction professionals.

9.59 The considerations involved in selecting appropriate members will obviously differ whether the appointment is to be made to a standing DAB or an *ad hoc* DAB, given the timing of their appointment.

9.60 Given that the FIDIC forms are intended for use in international projects, the nationality of the members may also be an important consideration. The *FIDIC Guide*[69] comments that "The DAB may . . . perform better if the nationality of each member is not

60. Guidance for the Preparation of Particular Conditions.
61. *FIDIC Guide*, p. 304. Note that this contains 2000 figures.
62. The *FIDIC Guide* goes on to propose the Engineer as a candidate for the role in these circumstances (see paras. 9.33–9.35 above).
63. Seppälä, *op. cit.*, n. 30 at 250.
64. In the MDB only, Sub-Clause 20.2 also requires the members to be "fluent in the language for communications defined in the Contract" and "a professional experienced in the type of construction involved in the Works and with the interpretation of contractual documents".
65. General Conditions of Dispute Adjudication Agreement, Clause 3(c).
66. General Conditions of Dispute Adjudication Agreement, Clause 3(a).
67. General Conditions of Dispute Adjudication Agreement, Clause 3(b).
68. *Op. cit.*, n. 30 at 250.
69. *FIDIC Guide*, p. 304.

the same as that of either Party or of the other members (if any)". If appropriate, such a requirement could be stated in the Contract.

9.61 List of potential members. FIDIC advises in the Guidance for the Preparation of Particular Conditions[70] that "The appointment of the DAB may be facilitated by including an agreed list of potential members" in the Contract. In the Red, Yellow and Gold Books, such a list should be included in a Schedule and, in the Silver Book, either a schedule or another document incorporated in the Contract. In the MDB, the example form of Contract Data contains a space for a "List of potential sole members" to be inserted.

9.62 The benefit of using a list of prospective appointees was discussed by His Honour Judge Toulmin in the English Technology and Construction Court when its legality was challenged in *John Mowlem* v. *Hydra-tight*.[71] The contract had referred to 'the Atkin Chambers list' being a list of potential adjudicators maintained by that barristers' chambers. The benefit of the list was that it gave "a range of possible adjudicators depending on the availability of potential adjudicators, the size and complexity of the dispute and enables an adjudicator to be appointed, who is free from any actual or perceived conflict of interest". These are precisely the benefits that would apply in the case of the *ad hoc* model under the Yellow and Silver Books and, to a large extent, also under the standing DAB, although the nature of disputes cannot always be accurately anticipated.

Failure to agree DAB

9.63 In some cases, agreement or approval of the members as between the Parties may not be achieved. This is anticipated in the FIDIC forms, which make provision, under Sub-Clause 20.3 (20.4 (G)), for the Parties to request a third party, the appointing entity or official, to make a binding nomination of a member.

9.64 In all the Books, either or both Parties may request the appointing entity or official to appoint the relevant member of the DAB in the following circumstances:

- the Parties fail to agree upon the appointment of the sole member of the DAB/DB by the date by which the DAB must be appointed under Sub-Clause 20.2 (20.3 (G));
- either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date;
- the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date; and/or
- the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the member declines or ceases to act.[72]

9.65 In all the Books, it is implicit that there is a right for one Party to object to the other Party's nomination, although neither the right nor the procedure for approval/rejection is made express. This can nevertheless be deduced from the requirement that the member is to be nominated "for the approval of the other Party". However, under the Red, Yellow and Silver Books, if a Party fails to approve the other Party's nomination, neither Party has the

70. In the Red, Yellow and Silver Books. This would apply equally to the MDB and Gold Book.
71. [2002] 17 Const LJ 358.
72. Whether due to being "unable to act as a result of death, disability, resignation or termination of appointment".

express right to request the appointing entity to make a binding appointment. Unless the Parties agree jointly to make a request and agree to be bound by the appointment, it would seem that the only option available would be for the Party to make a further nomination for approval of the other Party. This could potentially enable one Party to frustrate the appointment of the DAB.[73] On the other hand, the MDB and the Gold Book address this situation and include it as one of the circumstances where either Party may make a request to the appointing entity to appoint the member.[74]

9.66 Appointing entity. The Parties need to agree an appointing authority from the outset. This is recorded (with different wording) in the relevant contract document.[75] FIDIC and a number of other international bodies such as the ICC are willing to act as the appointing entity.

9.67 The *FIDIC Guide*,[76] however, advises that FIDIC is only prepared to perform the role of appointing entity "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'". If identified in the Contract as the appointing entity, any requests for appointment would be made by way of application to FIDIC's Secretariat.[77] Nevertheless, the default position in the example forms of Appendix to Tender and Contract Data included in the Red, Yellow and Gold Books is that "The appointing entity or official shall be the President of FIDIC or a person appointed by the President".

9.68 Institutions willing to act as the appointing entity will usually charge for performing such a role and, under Sub-Clause 20.3 (20.4 (G)), each Party is responsible for paying one-half of this fee.

Failure of one Party to enter into Dispute Adjudication Agreement

9.69 The provision under Sub-Clause 20.3 (20.4 (G)) for an appointing entity to "appoint" a member of the DAB in these circumstances goes a long way to addressing the practical difficulties that may arise in the agreement or approval of the member(s) of the DAB. However, even once it is possible to identify the members of the DAB, the proper appointment of the DAB requires the participation, and more importantly, the agreement of both Parties.

9.70 The General Conditions of the Dispute Adjudication Agreement expressly state that, unless otherwise stated in the Dispute Adjudication Agreement, the Dispute Adjudication Agreement does not take effect until it has been signed by both Parties and the member *and*, where there is a three-person DAB, the dispute adjudication agreements for the other members have also each been signed by the other member and the Parties.[78] Given that the power of the member(s) to make decisions on disputes under Sub-Clause 20.4 (20.6 and 20.10 (G)) is granted by the Dispute Adjudication Agreement, and that this Agreement and the appointment itself is personal the member, a Party, through non-

73. In such a case, if a dispute arises where no DAB is in place, either Party may refer the dispute directly to arbitration under Sub-Clause 20.8.

74. Sub-Clause 20.3(b) (M); Sub-Clause 20.4(b) (G).

75. Appendix to Tender (R/Y); Contract Data (M/G); Particular Conditions (S).

76. *FIDIC Guide*, p. 310.

77. FIDIC website (www.fidic.org/resources/contracts/adjudicators/default.asp).

78. General Conditions of Dispute Adjudication Agreement, Clause 2.

participation, might potentially frustrate the appointment and thus undermine the entire DAB process.

9.71 In light of the clear words used in the General Conditions of Dispute Adjudication Agreement (unless amended in the Contract), it is likely to be futile for one Party to proceed with a referral to a DAB under only a bipartite Dispute Adjudication Agreement(s) with the member(s), i.e., without the agreement of the other Party. Any decision by the DAB in these circumstances is likely to be ineffective and unenforceable. Instead, the remedy of the Party is to refer the dispute directly to arbitration under Sub-Clause 20.8 (20.11 (G)).

Replacement and termination of appointment

9.72 Under both the standing and *ad hoc* DAB arrangements, Sub-Clause 20.2 (20.3 (G)) and the General Conditions of Dispute Adjudication Agreement variously make provision for the resignation, termination and replacement of the member's appointment.

Remuneration

9.73 Under Sub-Clause 20.2 (20.6 and 20.10 (G)), the remuneration of the member(s) is to "be mutually agreed upon by the Parties when agreeing the terms of appointment" and "Each Party shall be responsible for paying one-half of this remuneration". This sharing of fees avoids a perception of bias that might otherwise exist if the DAB was paid by only one Party,[79] which was one particular criticism of the Engineer's role as pre-arbitral decision maker under the previous FIDIC contracts.

9.74 Remuneration of the member(s) of the DAB is dealt with in some detail in Clause 6 of the General Conditions of Dispute Adjudication Agreement, including the amount, timing and mechanism for payment. In general, the rates and currencies of the remuneration are to be agreed between the Parties and the member, and stated in the Dispute Adjudication Agreement. A clear divergence in the terms of remuneration can, however, be observed between the standing and *ad hoc* models.

9.75 Standing DAB. Under the standing DAB arrangements in the Red, MDB and Gold Books, the remuneration is a combination of:

- "a retainer fee per calendar month" intended to cover the member's availability, office and overhead expenses and remaining conversant with developments. In the Red Book and MDB arrangement, the retainer fee is reduced by 50% after the Taking-Over Certificate has been issued for the whole of the Works;
- "a daily fee" which is for each day spent attending or preparing for hearings, site meetings, meetings between the DAB (if three members), preparing the decision and travelling to and from the Site; and
- all reasonable expenses and taxes.

9.76 The *FIDIC Guide*[80] observes that "Monthly retainer fees are usually inappropriate for ad-hoc DABs". This is precisely because of their *ad hoc* nature, only being appointed

79. Edward Corbett, "FIDIC's New Rainbow 1st Edition—An advance?", [2000] 17(2) ICLR 253 at 274.
80. *FIDIC Guide*, p. 325.

to decide disputes for which they are paid a daily rate.[81] It perhaps has to be anticipated that some Parties may also query the necessity of a retainer for standing DABs, preferring only to pay for work done on a time-cost basis. However, retainers are the default position and common for a standing DAB and thus may form part of the expectation of many potential candidates for appointment. What is actually agreed will inevitably be a combination of the bargaining position of the prospective appointee and the Parties; the cost will need to be proportionate to the scale of the Contract and prospective disputes under it.

9.77 The Guidance for the Preparation of Particular Conditions in the Red Book also advises that for the standing model: "It may be appropriate for the chairman's retainer fee to be more than that of the other two members, reflecting the additional administrative tasks which a chairman will have to perform". This is because the chairman is not entitled to payment otherwise for the performance of these administrative tasks.

9.78 Bunni[82] comments that it is unfortunate that the form of Dispute Adjudication Agreement[83] only specifies a daily and not hourly rate, because this can lead to problems where the time spent by a member, particularly in the case of the chairman of the DAB, is measurable in hours and not days. Consequently, he suggests that this omission should be rectified in the Dispute Adjudication Agreement.

9.79 The actual rates fixed for payment of the DAB member are applicable for an initial 24 months and then to be adjusted by agreement on a 12-monthly basis. However, if the Parties are unable to agree the retainer fee or daily fee, the MDB and Gold Book provide that the rates are to be determined by the appointing entity. Although there is no equivalent provision in the Red Book, the Parties and the member may agree at the time of appointment to amend the General Conditions of Dispute Adjudication Agreement in this way. Without such a default provision, the ultimate sanction if no agreement can be reached between the Parties and the member would be either for the Parties jointly to terminate the Dispute Adjudication Agreement or for the member to resign.[84]

9.80 ***Ad hoc* DAB.** The *ad hoc* DAB arrangement under the Yellow and Silver Books makes no provision for payment of a retainer to the member but instead his remuneration consists only of "a daily fee" plus "reasonable expenses incurred in connection with the Member's duties" and taxes.

9.81 For security, by the third paragraph of Clause 6, the member is entitled to invoice the Contractor for an advance payment of 25% of "the estimated total amount of daily fees to which he/she will be entitled" and "an advance equal to the estimated total expenses that he/she will incur in connection with his/her duties" immediately after the Dispute Adjudication Agreement takes effect. The member is then not obliged to engage in activities under the Dispute Adjudication Agreement until each of the members (if more than one) has been paid these advance payments in full. Although this entitlement is limited to members of *ad hoc* DAB, the members of a standing DAB under the Red, MDB and Gold Books are entitled to payment of their monthly retainer and air fares quarterly in advance, and are thus likely to have been provided with adequate security in respect of their fees.

81. See paras. 9.80–9.82 below.
82. *Op. cit.*, n. 3, p. 631.
83. Including the General Conditions of Dispute Adjudication Agreement.
84. In accordance with Clause 2 (resignation) or Clause 7 (termination) of the General Conditions of Dispute Adjudication Agreement.

9.82 In addition, by the fourth paragraph of Clause 6, the DAB is expressly not obliged to render its decision on a dispute "until invoices for all daily fees and expenses of each Member for making a decision shall have been paid in full".

9.83 Payment. Although the cost of the DAB is shared equally between the Parties, the actual mechanism of payment operates through the member(s) invoicing the Contractor for the full amount. The Contractor can then recover half the amount invoiced through the normal interim payment process. Payment by the Contractor is due within 56 days after receiving the invoice in the case of the standing DAB model, and within 28 days in the case of the *ad hoc* DAB.[85]

9.84 The member also reserves some security for payment:

- The member can suspend performance of his services without notice and/or resign if not paid with 70 days after submitting a valid invoice in the case of the standing DAB model, and within 28 days in the case of the *ad hoc* DAB.[86]
- In the *ad hoc* DAB arrangement, the DAB is not obliged to commence activities under the Dispute Adjudication Agreement until the member(s) have been paid the advance payment and, more importantly, is not obliged to give its decision until the invoices of the DAB member(s) for making a decision have been paid in full.[87]

9.85 If the Contractor fails to pay the member, "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". This is obviously to prevent the Contractor from being able to take advantage of these rights of the members simply by not paying the invoices, for example, where the Contractor is the respondent in any referral of a dispute to the DAB. If the Employer does make such payment, he is expressly entitled to payment from the Contractor, not only of the Contractor's share, but also "all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 [14.9 (G)]".

Obligations under the Dispute Adjudication Agreement

9.86 The obligations of both the member and the Parties are primarily set out in the General Conditions of Dispute Adjudication Agreement.

Obligations of the member

9.87 Under Clause 3,[88] the member warrants and agrees that he is and shall be "impartial and independent" of the Employer, the Contractor and the Engineer (R/Y/M)/Employer's Representative (S/G). This warranty is supplemented by a positive duty to disclose to each of the Parties and to the "Other Members" (if any) "any fact or circumstance which *might appear* inconsistent" with this obligation (emphasis added). As with most conflict of interest and natural justice rules, avoiding the appearance of bias, as well as the reality, is

85. The difference in periods can presumably be explained on the basis that, under the standing DAB model, the member is entitled to payment quarterly in advance in respect of the monthly retainer and air fares (Clause 6, General Conditions of Dispute Adjudication Agreement).

86. Clause 6, final paragraph.

87. Clause 6, third and fourth paragraphs.

88. General Conditions of Dispute Adjudication Agreement.

part of this duty. In the Gold Book only, Clause 3 also includes detailed provisions setting out a mechanism for challenging a DAB member for lack of independence.

9.88 The theme of impartiality and independence is pursued and further amplified by much of Clause 4.[89] For example, by sub-paragraph (a) of Clause 4 the member is required to "have no interest financial or otherwise in the Employer, the Contractor [or the contract administrator], nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement". Sub-paragraphs (b), (c), (d) and (g) also require avoidance of connections with any of the other parties and full disclosure of any relevant connections, past and present.[90]

9.89 The other obligations of the member common to all Books are:

- to comply with the Procedural Rules annexed to the Dispute Adjudication Agreement and, in all the Books apart from the Gold Book, to Sub-Clause 20.4 which governs obtaining the Board's decision.[91] The General Conditions of Dispute Adjudication Agreement included in the Gold Book do not refer to the equivalent to Sub-Clause 20.4 in the other Books (i.e., Sub-Clause 20.6), but instead refer to Sub-Clause 20.5 of which there is no direct equivalent in the other Books;[92]
- not to give informal advice to the Employer, Contractor or their respective Personnel on the operation of the Contract, other than in accordance with the Procedural Rules;[93]
- to ensure his/her availability for site visits and hearings as are necessary;[94] and
- a duty of confidentiality as to details of the Contract and the operation of the DAB.[95]

9.90 The General Conditions of Dispute Adjudication Agreement in the standing DAB arrangements contain further duties relating to the continuing nature of such a DAB. These are discussed at paragraphs 9.94–9.105.

Obligations of the Employer and Contractor

9.91 The obligations of the Employer and Contractor under the General Conditions of Dispute Adjudication Agreement are more limited and, in addition to the obligations for payment under Clause 6 discussed above, are primarily set out in Clause 5. Clause 5 generally contains various undertakings by the Parties to protect the member and an indemnity against breach of these undertakings.

9.92 In particular, when carrying out his role, the member is given a wide immunity by the Parties undertaking to each other and the member that the member shall not "be liable

89. Headed "General Obligations of the Member".

90. Note that Clause 8 (R/M) or Clause 7 (Y/S/G) sets out the consequences if the member fails to comply with obligations under Clause 4. In this respect, the MDB has introduced additional financial constraints.

91. General Conditions of Dispute Adjudication Agreement, Clause 4(e).

92. This reference to Sub-Clause 20.5, it is suggested, is intentional. As discussed below, this Sub-Clause introduces an additional element to the DAB's role which is not present in the other Books, although it has similarities to DAB's duty in Sub-Clause 20.4 of the Red Book and MDB to give an opinion of a matter referred jointly to it by the Parties. In addition, the DAB in the Gold Book is expressly required to comply with Sub-Clause 20.6 and 20.10 (as appropriate) by Clause 4(e) of the Procedural Rules.

93. General Conditions of Dispute Adjudication Agreement, Clause 4(f).

94. General Conditions of Dispute Adjudication Agreement, Clause 4(h).

95. General Conditions of Dispute Adjudication Agreement, Clause 4(j) (R/M/G); Clause 4(i) (Y/S).

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 show to have been in bad faith."

Disputes

9.93 There is provision in General Conditions of Dispute Agreement[96] for the resolution by ICC Arbitration of any dispute or claim arising out of the Dispute Adjudication Agreement.[97]

Features particular to standing DAB

Site visits and regular updates

9.94 Rules 1 to 3 of the Procedural Rules contained in the Red, MDB and Gold Books concerns site visits. These are to be made regularly at intervals of not more than 140 days unless otherwise agreed by the Parties, and not less than 70 days unless otherwise agreed by the Parties and the DAB. The timing of and agenda for the site visits are likewise to be agreed by the Parties and the DAB or, in the absence of agreement, decided by the DAB. The provision of appropriate facilities and logistical arrangements for the site visits is the responsibility of the Employer.

9.95 The purpose of these visits is stated in all three Books to be to enable the DAB to "become and remain acquainted with the progress of the Works and of any actual or potential problems or claims". One particular benefit of these site visits is that the DAB can see the actual progress of the Works on Site and not have to rely, for example, on photographs, drawings or documents. It is also usual, during these site visits, for the DAB to hold a meeting with the representatives of the Parties to discuss progress and identify any matters of concern. At the conclusion of each site visit and before leaving the Site, the DAB is given the task of preparing and sending a report to both Parties on the DAB's activities during the site visit, although its content and format are unspecified.

9.96 The MDB and the Gold Book extend the role of the DAB by providing an additional purpose of the DAB's site visits: "as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes [Disputes (G)]". Accordingly, both these Books give the DAB an express dispute avoidance role.[98] Moreover, this role is developed further in the Gold Book in Sub-Clause 20.5, discussed below.

Referral for opinion of DAB: Red Book and MDB

9.97 Sub-Clause 20.2 of the Red Book and MDB provides: "If at any time the Parties so agree, they may jointly refer a matter to the [DAB/DB] for it to give its opinion. Neither Party shall consult the [DAB/DB] without the [agreement (R)/consent (M)] of the other Party".

96. Clause 9 (R/M); Clause 8 (Y/S/G).

97. In the MDB, only if no other arbitration institution has been agreed.

98. This role is similar that of "dispute resolution advisor". See Andrzej Cierpicki, "The Dispute Resolution Adviser System", Asian Dispute Review, January 2008, pp. 27–29 for an account of the use of dispute resolution advisors in Hong Kong.

9.98 This provision is supplemented by the duty of the member, found in Clause 4(k) of the General Conditions of Dispute Adjudication Agreement, to "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)".

9.99 Although these Books do not specify the consequences of this opinion, the *FIDIC Guide*[99] indicates that the seeking of this opinion is intended to be an informal process resulting in an opinion which is not binding on either the Parties or the DAB. There does not appear to be any requirement for the opinion to be given in writing.[100] However, good practice would suggest that an opinion, if given orally, should also be recorded in writing and, if given during a Site visit, included in the DAB's report.

9.100 Such joint referral by the Parties can be helpful for preventing disagreements from becoming disputes. Examples of possible referrals include such matters as interpretations of the Conditions of Contract or the Specification.

Avoidance of Disputes: Gold Book

9.101 The Gold Book does not include an express provision which entitles the Parties jointly to seek an opinion from the DAB. Instead, Sub-Clause 20.5, headed "Avoidance of Disputes", provides:

"If at any time the Parties so agree, they may jointly refer a matter to the DAB in writing with a request to provide assistance and/or informally discuss and attempt to resolve any disagreement that may have arisen between the Parties during the performance of the Contract. Such informal assistance may take place during any meeting, Site visit or otherwise. However, unless the Parties agree otherwise, both Parties must be present at such discussions. The Parties are not bound to act upon any advice given during such informal meetings, and the DAB shall not be bound in any further Dispute resolution process and decision by any views given during the informal assistance process, whether provided orally or in writing".

9.102 Whilst this Sub-Clause will undoubtedly entitle the Parties to seek an opinion, as in the case of the Red Book and MDB, the provision goes much further and entitles the Parties jointly to request the DAB to provide "assistance and/or informally discuss and attempt to resolve any disagreement that may have arisen between the Parties during the performance of the Contract". The effect of this provision is to seek to confer on the DAB, if agreed by the Parties, the role similar to that of a mediator. Whilst this may seem attractive from a practical perspective, there is a potential incompatibility between this informal quasi-mediation role and the adjudication role of giving a (*pro tem*) binding decision in Sub-Clause 20.6.

9.103 While it is not possible to resolve this issue finally, not least because the position may well differ under different legal systems, there is a clear indication that the combination may not be acceptable under English law. In *Glencot Development & Design Ltd* v. *Ben Barrett & Son (Contractors)*[101] His Honour Judge Humphrey LLoyd QC explored the question whether knowledge of attempted and partial settlement acquired through an adjudicator presiding over negotiations would disqualify the adjudicator from making an

99. *FIDIC Guide*, p. 308.

100. Sub-Clause 1.3 requires only approvals, certificates, consents, determinations, notices, requests and, in the MDB, discharges, and not also opinions, to be in writing.

101. [2001] BLR 207.

enforceable decision. The adjudicator had "told the parties that it was not unusual for an adjudicator to act as a mediator but that if negotiations broke down he would resume his role as adjudicator". This is almost exactly the scenario envisaged by the Gold Book. His Honour Judge LLoyd was clear in his view that "Discussions or a mediation of the kind which apparently took place . . . are or may be at variance with adjudication". His advice was that "There are clearly risks to all when an adjudicator steps down from that role and enters a different arena and is to perform a different function" but noted that "If a binding settlement of the whole or part of the dispute results, then the risk will prove to be worth taking".

9.104 The Gold Book provisions do make some attempt to address this potential incompatibility of the combined role with the words "the DAB shall not be bound in any future Dispute resolution process and decision by any views given during the informal assistance process". The effectiveness of these words would need consideration in the context of a specific jurisdiction. His Honour Judge LLoyd's opinion on English law may be gathered from his comment that "Of course an agreement in advance, even if a formal written agreement, may not be effective in depriving a party of its right to question a later decision on the grounds of apparent or actual bias".

9.105 Interestingly, in view of the Gold Book provision, the *FIDIC Guide*[102] cautions, in relation to amicable settlement under Sub-Clause 20.5 of the Red, Yellow and Silver Books, that "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". The reason given is that "becoming involved in negotiations at this early stage, or the possibility of being involved in negotiations at a later stage, may prejudice the 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".

Obtaining a decision on a dispute from the DAB

9.106 The role of the DAB in making binding pre-arbitral decisions on disputes is common to all the arrangements for DABs found in the FIDIC forms. Indeed, to many users, it may be considered the most important and primary function of the DAB.

9.107 In the Red, MDB, Yellow and Silver Books, Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*][103] sets out the procedure and requirements for the referral, and governs the Parties' right to refer a dispute to the DAB (or, in other words, the jurisdiction of the DAB). The equivalent provisions in the Gold Book are found in Sub-Clause 20.6 [*Obtaining Dispute Adjudication Board's Decision*] in relation to disputes arising during the Design-Build Period and also, in terms of procedure at least,[104] disputes arising during the Operation Service Period. The Parties' right to refer a dispute arising during the Operation Service Period is set out in Sub-Clause 20.10 [*Disputes Arising during the Operation Service Period*].

102. *FIDIC Guide*, p. 314.
103. "*Obtaining Dispute Board's Decision*" (M).
104. The sixth paragraph of Sub-Clause 20.10 provides that "The procedure for obtaining a decision from the Operation Service DAB [in relation to Disputes arising during the Operation Service Period] shall be in accordance with the provisions of Sub-Clause 20.6 [*Obtaining Dispute Adjudication Board's Decision*]".

9.108 One fundamental principle underlying the referral of a dispute to the DAB for its decision is characterised by the so-called 'keep working' provision[105] to the effect that, following reference of the dispute, the Parties are expected to continue to operate the Contract while the dispute is adjudicated, although only the Contractor is under an express obligation to 'keep working': "Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract". Significantly, this provision is the same in the *ad hoc* DAB mechanism as in the standing DAB mechanisms.

Dispute: the jurisdiction of the DAB

9.109 The opening words of Sub-Clause 20.4 in the Red Book states:

> "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".

9.110 Sub-Clause 20.4 of the MDB, Yellow and Silver Books contains the same wording, except that the MDB refers to the DB rather than the DAB and the Silver Book refers to the Employer rather than the Engineer.

9.111 Sub-Clause 20.6 of the Gold Book also adopts similar wording:

> "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 during the Design-Build Period, including any Dispute as to any certificate, determination, instruction, opinion or valuation of the Employer's Representative, either Party may, within 28 days of issuing a Notice of dissatisfaction under Sub-Clause 20.1(d) [*Contractor's Claims*] or Sub-Clause 20.2 [*Employer's Claims*], refer the Dispute in writing to the DAB for its decision, with copies to the other Party and the Employer's Representative".

9.112 As can been seen, the primary differences in the wording of the Gold Book are the inclusion of "Dispute" as a defined term and a requirement to make the referral within 28 days of issuing a Notice of dissatisfaction under Sub-Clause 20.1 or 20.2. These changes are discussed further below.

9.113 Sub-Clause 20.10 in the Gold Book simply provides that "Disputes arising during the Operation Service Period which cannot be resolved between the Parties shall be settled by a one-person DAB", and that the procedure set out in Sub-Clause 20.6 shall apply to the obtaining of a decision from the DAB on any such Dispute.

9.114 As will be seen from these provisions, the activation of the procedure for the referral of a dispute to the DAB requires the existence of a dispute or, in the Gold Book, a Dispute. No reference can be made to the DAB unless a dispute or Dispute (G) exists. This stems from the fact that the DAB is a creature of contract and the Parties have only agreed to grant the DAB jurisdiction over disputes that fall within the scope of the relevant provision. Thus one of the ways of resisting a referral to a DAB or arbitration is to maintain that there is no dispute[106] capable of reference. The power to decide whether there is a

105. Sub-Clause 20.4 (R/M/Y/S); Sub-Clause 20.6 (G).
106. "Dispute" (G).

dispute[107] capable of reference to the DAB is expressly given to the DAB itself under the Procedural Rules.[108]

The meaning and existence of a dispute

9.115 As stated above, a dispute falling within the scope of Sub-Clause 20.4, or in the Gold Book, or Dispute falling within the scope of Sub-Clause 20.6 or 20.10, is an essential prerequisite for a referral to the DAB. Given the changes introduced in the Gold Book, this Book deserves separate consideration.

9.116 Red, MDB, Yellow and Silver Books. The scope of disputes that can be referred to the DAB under the Red, MDB, Yellow and Silver Books is extremely wide given the reference in the first sentence of Sub-Clause 20.4 to a dispute between the Parties "of any kind whatsoever . . . in connection with, or arising out of, the Contract". The DAB is not therefore restricted in the type of disputes it can decide. Importantly, it is not limited to claims by the Contractor or by the Employer under Sub-Clauses 20.1 and 2.5, respectively. This is further clarified by the words "including any certificate, determination, instruction, opinion or valuation" of the Engineer (R/M/Y) or the Employer (S). This is also expressly a non-exhaustive list of the actions of the Engineer in the Red, MDB and Yellow Books which might give rise to a dispute and thus, for example, a dispute may also arise in respect of the unreasonable withholding or delay of approval under Sub-Clause 1.3.

9.117 Nevertheless, one of the most common disputes that arises on projects under the FIDIC forms is when the contract administrator makes a determination on a claim by the Contractor under Sub-Clause 20.1 (and, for that matter, by the Employer under Sub-Clause 2.5) with which one of the Parties is dissatisfied. Once the dissatisfied Party has informed the other Party that he is dissatisfied with the determination (which, in the Silver Book only, will be by giving notice of dissatisfaction), a dispute arises which can be referred to the DAB under Sub-Clause 20.4. The position will be the same in respect of any other determination by the contract administrator.

9.118 Similar considerations will also apply in relation to certificates, instructions, opinions and valuations. For example, if the Contractor considers that the contract administrator has wrongly rejected an application for a Taking-Over Certificate and the Contractor writes to the Employer expressing his disagreement with this rejection, this would likely be a dispute that can be referred to the DAB. Another example of a dispute is given in the General Conditions in Sub-Clause 14.11, where the Contractor and the contract administrator are unable to agree on the draft final statement.

9.119 However, all these previous examples assume that some decision has been made with which one of the Parties disagrees (or where it is clear that agreement is not possible). The more difficult situation is when the Parties (and equally the contract administrator) fail to comply with their obligations under the Contract such that there is no decision with which to disagree.

9.120 In this respect, reference is made to the relationship between the FIDIC DRPs and ICE Clause 66. In English law, much of the case law on the issue of what constitutes

107. "Dispute" (G).
108. Rule 8(b) (R/M); Rule 5(b) (Y/S); Rule 10(b) (G).

a dispute has been derived from ICE Clause 66. While it is axiomatic that English cases are only authoritative where a contract is under English law, the way in which disputes are regarded as coming into existence is informative, especially given the common heritage of ICE Clause 66 and the FIDIC DRPs. Even the most recent of the versions of the FIDIC forms has preserved the wording of ICE Clause 66[109] in a recognisable form, albeit in the context of reference of a dispute to the DAB rather than to decision by the Engineer/arbitration. It is thus regarded as helpful to refer to recent consideration by the English courts of the meaning of 'dispute' in Clause 66, while accepting that other jurisdictions will not define 'dispute' identically.

9.121 In *Amec Civil Engineering* v. *Secretary of State for Transport*,[110] the Court of Appeal provided authoritative consideration of the meaning of dispute, particularly in the context of a construction/engineering contract (it concerned works on a viaduct). Lord Justice May[111] first reviewed the development of thinking in previous case law. In *Monmouth CC* v. *Costelloe & Kemple*,[112] Lord Denning had adopted an exclusive approach, to the effect that there would be no dispute or difference until a claim had been made and then rejected. Lord Justice Templeman in *Ellerine Bros.* v. *Klinger*[113] was more inclusive, holding that there was no need for a reply to the claim expressly rejecting it; if no reply was received to a claim or demand, a dispute could be said to exist. In *Halki Shipping Corporation* v. *Sopex Oils Ltd*,[114] Lord Justice Swinton Thomas went a stage further in holding that once a claim had been made, a dispute existed unless and until the defendants accepted it. In the first instance hearing of the *Amec* case[115] the then Mr Justice Jackson[116] had formulated "seven propositions" which he took to be the current law of England on the existence of a dispute. Lord Justice May endorsed these "seven propositions" and added further points of his own, which together make up a comprehensive statement of the position. Mr Justice Jackson's seven propositions were:

1. The word 'dispute' should be given its normal meaning when it occurs in DRPs. It does not have some special or unusual meaning conferred on it by lawyers.
2. Case law provides guidance, rather than hard-edged legal rules, on the meaning of 'dispute'.
3. The mere fact that a party notifies the other party of a claim does not automatically and immediately give rise to a dispute—a dispute does not arise unless and until it emerges that the claim is not admitted.
4. Many circumstances could demonstrate that a claim is not admitted, for example:
   – express rejection of the claim;

109. ICE Clause 66 "If any dispute or difference of any kind whatsoever shall arise between the Employer and the Contractor in connection with or arising out of the Contract or the carrying out of the Works including any dispute as to any decision, opinion, instruction, direction, certificate or valuation of the Engineer (whether during the progress of the Works or after their completion and whether before or after the determination, abandonment or breach of the Contract . . . ".

110. [2005] EWCA Civ 291; [2005] BLR 227.

111. Lord Justice May is regarded as one of the English judges with the greatest construction expertise, as a former editor of *Keating on Building Contracts.*

112. [1965] 5 BLR 83.

113. [1982] 1 WLR 1375.

114. [1998] 1 WLR 726.

115. [2004] EWHC 2339 in the Technology and Construction Court.

116. Now Lord Justice Jackson.

– discussions between the parties from which rejection can be objectively inferred;
– prevarication by the respondent, from which it can be inferred that the claim is not admitted; and
– silence by the respondent for the whole time, giving rise to the same inference.

5. The period of silence following a claim before a dispute can be inferred depends on the facts and the contractual structure:
   – where the gist of the claim is well known and obviously controversial, a short period of silence could be enough; or
   – where the claim is notified to an agent (e.g., the Engineer) who has to consider it and give a response, a longer period of time may be necessary before a dispute arises.
6. If the claimant imposes a deadline for responding to the claim, this does not have the automatic effect of reducing the reasonable time for response, although a stated deadline and reasons for its imposition could be relevant in assessing the effect of a failure to respond.
7. If the claim is so nebulous and ill-defined that no sensible response is possible, neither silence nor even (perhaps) an express non-admission would be likely to give rise to a dispute.

9.122 Lord Justice May added these further propositions:

1. 'Dispute or difference' should be regarded as less 'hard-edged' than 'dispute' alone. (This is of obvious importance to the current FIDIC forms, since one of the differences from the Clause 66 wording of the ICE contract used in the 1st Edition of the Red Book and subsequent editions of ICE forms referred to 'dispute or difference', whereas the current FIDIC forms refer only to a dispute. In *F&G Sykes (Wessex) Ltd.* v. *Fine Fare Ltd*[117] Lord Justice Danckwerts drew a distinction between a 'difference', which need only signify a failure to agree, and a dispute, which would signify rejection of the other side's claim or contention.)
2. In many instances, it will be quite clear that there is a dispute. Because major claims, by either party, are likely to be contested, arbitration is a probable and even necessary outcome. Therefore the agreement should not be construed with legalistic rigidity so as to impede the commencement of timely proceedings. This encourages an inclusive interpretation of what amounts to a dispute or difference.
3. The main circumstances in which it may matter whether there was a dispute or difference which has been referred to and settled by the Engineer include:
   – whether the Engineer has made a final and binding decision; and
   – where one party wishes to contend that proceedings have not been started within a statutory period of limitation.
4. If due operation of the mechanism in the dispute resolution Clause is to be seen as a condition precedent to the ability to start arbitration proceedings, the parties cannot have intended to afford one another opportunistic technical obstacles in the form of legalistic interpretation of words.

117. [1967] 1 Lloyd's Rep 53.

5. What constitutes a reasonable time for allowing a party to respond to a claim without a dispute coming into existence will depend on the facts of the case and the contractual structure.

9.123 The *FIDIC Guide*[118] also gives examples of what could constitute a dispute. The guidance is given in the context of a claim notified and detailed under Sub-Clauses 2.5 or 20.1, and in particular in relation to the procedure under Sub-Clause 3.5 that must be followed for the matter to be agreed following consultation between the Parties or determined. It suggests that a "matter may be said to have developed into a dispute":

- after rejection of a final determination;
- when discussions have been discontinued without agreement on the matter;
- when a Party declines to participate in discussions or to reach agreement under Sub-Clause 3.5; or
- when so little progress is being achieved during protracted discussions that it has become clear that agreement is unlikely to be achieved.

9.124 In the authors' view, this guidance must be treated with caution. As stated above, a dispute is likely to arise if the contract administrator determines that a claim is rejected and the claimant is dissatisfied with that rejection. However, the other three examples given in the *FIDIC Guide* all relate to the consultation stage under Sub-Clause 3.5 and the *Guide* appears to have become confused over the purpose of these consultations, namely for the Parties to endeavour to reach agreement. If the Parties fail to reach agreement (or even, it is suggested, do not participate in the discussions) it would be premature to say that a dispute has arisen that could be referred to the DAB. Sub-Clause 3.5 sets out what should happen if no agreement is reached: the contract administrator is required to make a fair determination in accordance with the Contract, taking due account of all relevant circumstances. Once the Parties have received the determination, they can decide whether or not they agree with it. If a Party disagrees with the determination at that stage, it may refer the determination of the contract administrator to the DAB having informed the other Party of its dissatisfaction.

9.125 One difficulty which arises in practice is the situation where the contract administrator fails to respond to a claim by the Contractor within the time required under Sub-Clause 20.1 or continually delays making any determination on the claim under Sub-Clause 3.5 and 20.1. The question then arises as to whether a dispute has arisen which can be referred to the DAB. This is particularly acute in all the Books, apart from the Silver Book, where the contract administrator is not the Employer. The matter is not dealt with expressly in the Red, Yellow and Silver Books. The authors suggest that the matter may be determined by reference to applicable law governing the existence of a dispute. Under English law, for example, the authors suggest that the propositions stated in the *Amec* case above, in relation to the existence of dispute between the Parties, may be applied, by analogy, to the question of whether the Engineer can be considered to have rejected the Contractor's claim.

9.126 On the other hand, this matter is addressed expressly in the MDB and Gold Book, which provide that if the Engineer (M) or Employer's Representative (G), fails to respond

118. *FIDIC Guide*, p. 311.

within the timeframe required in Sub-Clause 20.1, either Party may consider that the claim has been rejected by the Engineer (M) or Employer's Representative (G) and either Party is expressly entitled then to refer the matter to the DAB under Sub-Clause 20.4 (20.6 (G)).

'Dispute' under the Gold Book

9.127 Sub-Clause 20.6. The Gold Book goes further than any of the other Books in trying to deal with this important issue by making 'Dispute' a defined term. Dispute is defined as:[119]

"any situation where
(a) one Party makes a claim against the other Party;
(b) the other Party rejects the claim in whole or in part; and
(c) the first Party does not acquiesce,
provided however that a failure by the other Party to oppose or respond to the claim, in whole or in part, may constitute a rejection if, in the circumstances, the DAB or the arbitrator(s), as the case may be, deem it reasonable to do so."[120] (formatting added).

9.128 This clarification largely follows the propositions in the *Amec* case set out above, but is importantly limited only to a "claim" by either Party. It is however suggested that the word "claim" in the definition must be construed broadly. Such an interpretation of "claim" is required to be consistent with the wording of Sub-Clause 20.6, which refers to a Dispute "of any kind whatsoever". In the authors' view, "claim" in the definition should not be construed as a reference only to claims under Sub-Clauses 20.1 and 20.2. The definition does not refer to these Sub-Clauses. Moreover, Sub-Clause 20.6 includes a wide, non-exclusive list of the kinds of disputes that may be referred to the DAB, including for example, a dispute arising out of or in relation to a certificate or instruction of the Employer's Representative. Such disputes may not be the subject of a claim under Sub-Clauses 20.1 or 20.2.

9.129 A Party's right to refer a dispute in respect of a determination by the Employer's Representative on a claim by the Contractor under Sub-Clause 20.1 or by the Employer under Sub-Clause 20.2, with which either Party is dissatisfied, is expressly made conditional upon the dissatisfied Party giving a Notice of dissatisfaction under Sub-Clause 20.1 or 20.2 (as appropriate) and the referral being made within 28 days of issuing that Notice.

9.130 It should also be noted that, as with the other Books, the Gold Book also expressly identifies two examples of disputes that may arise:

- Sub-Clause 14.11—where the Contractor is dissatisfied with the amount certified in the Final Payment Certificate Design-Build.
- Sub-Clause 14.15—where the Contractor is dissatisfied with the amount certified in the Final Payment Certificate Operation Service.

119. Sub-Clause 1.1.31 (G).

120. The authors consider that, as a matter of drafting, it was unnecessary to refer to the DAB or the arbitrator(s) in this context. Although the test is defined in terms of what the DAB or arbitrator(s) deem reasonable, it is suggested that the issue should be determined, objectively, whether it is reasonable in all the circumstances to consider that the failure to respond or oppose the claim amounts to a rejection.

9.131 In addition, as indicated above, under Sub-Clause 20.1 of the Gold Book, if the Employer's Representative fails to respond to a claim by the Contractor in accordance with the procedures and timetables set out in the Sub-Clause 20.1, either Party may refer the matter to the DAB in accordance with Sub-Clause 20.6.

9.132 The DAB is also entrusted to decide matters outside the scope of Sub-Clause 20.6 (and 20.10):

- Under Sub-Clause 20.1, if the Contractor fails to give Notice of a claim within the required 28-day period or fails to provide the basis of the claim within the 42-day period (or at otherwise approved) but considers that there are circumstances which justify the late submission, the Contractor may submit the details to the DAB for a ruling. The DAB is then required to decide, whether "in all the circumstances, it is fair and reasonable that the late submission be accepted" and may overrule the time limits. Note that, in the authors' view (as discussed at Chapter 6, paragraphs 6.234 and 6.254), the Contractor may also request the DAB to make such a ruling even before the relevant time period has expired.
- Under Sub-Clause 10.3, if the Parties are unable to agree the Auditing Body, the matter is to be referred to the DAB which is required to make the appointment. The DAB is then required to decide, whether "in all the circumstances, it is fair and reasonable that the late submission be accepted" and may overrule the time limits.

9.133 Sub-Clause 20.10. Sub-Clause 20.10 simply states that "Disputes arising during the Operation Service Period . . . shall be settled by" the Operation Service DAB and that the "procedure for obtaining a decision from the Operation Service DAB shall be in accordance with Sub-Clause 20.6". It is suggested that the 'Disputes' that can be referred to the Operation Service DAB should be construed broadly and 'Disputes' is intended to be interpreted in a manner consistent with the first paragraph of Sub-Clause 20.6.

The referral

9.134 The DAB becomes seised of the dispute[121] when either Party refers it to the DAB in writing, with copies to the other Party and, in all the Books apart from the Silver Book, to the Engineer (R/M/Y) or Employer's Representative (G).[122] The reference must state expressly that it is given under the relevant Sub-Clause.

9.135 Generally, no formal notice of a dispute is required under the FIDIC forms[123] and thus the dispute[124] that is being referred to the DAB will be defined by the contents of the referring Party's referral. However, under the *ad hoc* DAB arrangement in the Yellow and Silver Books, before submitting its referral to the DAB under Sub-Clause 20.4, the referring Party must give notice to the other Party under Sub-Clause 20.2 of "its intention to refer a dispute to DAB in accordance with Sub-Clause 20.4" so that steps can be taken to appoint the DAB. In these circumstances, the contents of that notice of intention to refer

121. "Dispute" (G).
122. Sub-Clause 20.4 (20.6 (G)).
123. Here a distinction is made between a notice of a dispute and the Notice of dissatisfaction given under Sub-Clauses 20.1 or 20.2 of the Gold Book, which is a condition precedent to referring a Dispute in respect of the Employer's Representative's determination given under these Sub-Clauses to the DAB.
124. "Dispute" (G).

a dispute and any description of the dispute provided to the potential DAB (or appointing entity) must be drafted with care. On the one hand, any description of the dispute must be sufficiently defined so as to enable a member(s) with appropriate background(s) to be appointed. On the other hand, the notice should not be drafted so as to unduly restrict the referral to be made under Sub-Clause 20.4.

9.136 As to the contents of the referral, the *FIDIC Guide* helpfully explains:[125] "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".

9.137 Timing of the referral. Under both the standing and *ad hoc* arrangements in the Red, MDB, Yellow and Silver Books there is no general restriction on when either Party may refer a dispute to the DAB. However, it is implicit that, where there is a standing DAB, the dispute must be referred to the DAB prior to the expiry of its appointment.

9.138 On the other hand, under Sub-Clause 20.6 of the Gold Book, where a Party has given Notice of dissatisfaction to the other Party in relation to a claim under either Sub-Clause 20.1 or Sub-Clause 20.2, the referral must be made within 28 days of issuing the Notice. If the referral has not been made by the dissatisfied Party within this 28-day period, the Notice of dissatisfaction is to be "deemed to have lapsed and no longer be considered to be valid". In this case, under Sub-Clauses 20.1 and 20.2, the position would be deemed to be as if no Notice of dissatisfaction had been given within the 28-day period in which such Notice must be given in these Sub-Clauses such that "the determination of the Engineer's [sic: Employer's] Representative shall be deemed to have been accepted by both Parties".[126] Given these provisions, it is particularly important for the referring Party to comply with the time limit and formalities in making the referral.

Powers of the DAB

9.139 The powers of the DAB when a dispute is referred to it are set out in the Procedural Rules, principally in Rule 8 for the standing DAB arrangement included in the Red Book and MDB, Rule 5 for the *ad hoc* DAB arrangement included in the Yellow and Silver Books and Rule 10 for the DAB under the Gold Book. This Rule is identical in all the Books.

9.140 The powers set out in this Rule are expressed as not being a comprehensive statement by the words "among other things". The DAB is empowered:

(a) to establish the procedure to be applied in deciding a dispute;[127]
(b) to decide upon its own jurisdiction and the scope of any dispute referred to it.[128] This is the equivalent of the arbitral tribunal's '*kompetenz-kompetenz*' power; and
(c) to conduct any hearing as it thinks fit, not being bound by any rules or procedures except those in the Contract and the Procedural Rules.[129] The DAB has the power to decide to conduct a hearing at all.[130] It also has the power to choose to allow (or

125. *FIDIC Guide*, p. 336.
126. See Chapter 6, paras. 6.280–6.282.
127. Rule 8(a) (R/M); Rule 5(a) (Y/S); Rule 10(a) (G).
128. Rule 8(b) (R/M); Rule 5(b) (Y/S); Rule 10(b) (G).
129. Rule 8(c) (R/M); Rule 5(c) (Y/S); Rule 10(c) (G).
130. Rule 6 (R/M/G); Rule 3 (Y/S).

not allow) legal submissions, by advocates, and the use of experts to give evidence if it wishes to do so, unless the Parties agree otherwise.[131]

9.141 These powers should be read in conjunction with sub-paragraphs (d) and (e), by which the DAB/DB can take the initiative to ascertain the facts/matters required for a decision and can make use of any specialist knowledge it has. Put together, this means that the DAB can proceed inquisitorially and/or informally in gathering material for its decision and is not bound by any quasi-judicial model. The power to adopt an inquisitorial procedure is also expressly recognised in the Rules[132] "except as otherwise agreed in writing by the Employer and the Contractor". By sub-paragraphs (f), (g) and (h), the Board is given further powers to enhance its decision-making capability. By (f) it can "decide upon the payment of financing changes [e.g., interest] in accordance with the Contract". By (g) it can provide interim or conservatory measures by way of provisional relief and by (h) it can open up, review and revise any "certificate, decision, determination, instruction, opinion or valuation of the [Engineer/Employer's Representative/Employer]", relevant to the dispute.

Procedure

9.142 As stated above, the DAB is empowered generally to decide the procedure to be adopted in deciding the dispute referred to it (except for certain matters which the Parties can agree between themselves). In choosing any method of proceeding, but perhaps especially a more formal approach, the DAB must have regard to its overriding duties to:

- "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
- "adopt procedures suitable to the dispute,[133] avoiding unnecessary delay or expense".[134]

Importantly, these duties, however, are not absolute duties but are stated to be "Subject to the time allowed to give notice[135] of a decision and other relevant factors". The purpose of this qualification, in particular, is to make it clear that these duties must be seen in the overall context of the limited time within which the DAB must give its decision.

9.143 These overriding duties will, to some extent, have to be weighed together. The key words in such a balancing exercise are "reasonable" and "unnecessary". The DAB should also take into account the wishes of or agreements between the Parties, who cannot lightly be called upon to incur expenditure of time or money which they regard as unnecessary.

9.144 Only the Gold Book lays down any specific requirement as to the procedure in that Sub-Clause 20.6 requires the respondent Party to send to the DAB a response to the referral within 21 days of the referral.

131. The agreement otherwise between the Parties must be in writing: Rule 7 (R/M); Rule 4 (Y/S); Rule 9 (G).
132. Rule 7 (R/M); Rule 4 (Y/S); Rule 9 (G).
133. "Dispute" (G).
134. Rule 5 (R/M/G); Rule 2 (Y/S).
135. "Notice" (G).

9.145 All communications and documentation must be copied to all DAB members and the other Party throughout the reference.[136] The DAB, acting proactively under its inquisitorial powers, can request the submission of any documents and can ask for written documentation and arguments prior to any hearing.[137]

9.146 It is usual, but not mandatory, for there to be a hearing. These hearings are typically more informal than hearings in arbitration or litigation. If a hearing is proposed, the *FIDIC Guide* offers[138] detailed templates for procedures that might be adopted for a complex dispute from response to hearing and for the hearing itself:

- Full procedure to hearing:
  - (a) Reference: claimant's position paper;
  - (b) Response: respondent's position paper;
  - (c) Reply: claimant's response paper to the Response ((b) above);
  - (d) Rejoinder: respondent's response paper to the claimant's Reply ((c) above) (if any);
  - (e) Formal hearing.
- Hearing procedure:
  - (a) Claimant's oral presentation;
  - (b) Respondent's oral presentation;
  - (c) Brief response by claimant;
  - (d) Brief response by respondent;
  - (e) DAB's questions to Parties and Engineer/Employer's Representative (G).

Decision of the DAB

9.147 Under Sub-Clause 20.4 (20.6 (G)), the decision of the DAB must be given within the time specified, be in writing, be reasoned and state that it is given under that Sub-Clause. In addition, the Gold Book expressly states that this decision must be given to the Parties.[139]

9.148 The Procedural Rules[140] set out the process to be adopted by the DAB in reaching its decision. Firstly, the DAB must "not express any opinions during any hearing concerning the merits of arguments advanced by the Parties". Then, if the DAB is comprised of three persons:

- The DAB is required to "convene in private after a hearing, in order to have discussions and prepare its decision"; and
- The DAB must "endeavour to reach a unanimous decision". If this is not possible, the decision must 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 Contractor".

9.149 The Rules further provide that "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

136. Procedural Rules, Rule 4 (R/M/G); Rule 1 (Y/S).
137. Procedural Rules, Rules 4 & 6 (R/M/G); Rules 1 & 3 (Y/S).
138. *FIDIC Guide*, pp. 336–337.
139. This express stipulation is arguably unnecessary but provides useful clarification.
140. Procedural Rules, Rule 9 (R/M); Rule 6 (Y/S); Rules 11 and 12 (G).

a decision" unless either Party does not agree that they do so or if the absent member is the chairman and instructed the other members not to make a decision.

Timing of the decision

9.150 The decision of the DAB must be given within the time specified in Sub-Clause 20.4 (20.6 (G)) (or other period proposed by the DAB and approved by both Parties). Here, the time period is calculated differently, depending on whether it is a standing DAB as under the Red Book or MDB, a standing DAB under the Gold Book or an *ad hoc* DAB as under the Yellow and Silver Books:

- Red Book and MDB: within 84 days after receiving the reference.
- Gold Book: within 84 days after receiving the response, or if no response is received, within 105 days after receiving the reference.
- Yellow and Silver Books: within 84 days after receiving the reference or within 84 days after receiving the advance payment of estimated total expenses and 25% of estimated daily fees, which is payable by the Contractor upon invoice by the DAB Member,[141] whichever date is later.

9.151 Where the DAB consists of three persons, to provide certainty for the purposes of timing, the DAB is deemed to have received the reference or, in the Gold Book, the reference and the response (if any) on the date when they are received by the chairman of the DAB.

9.152 Whilst Sub-Clause 20.4 (20.6 (G)) makes provision for a different period in which the DAB must be given to be proposed by the DAB and agreed by the Parties, the FIDIC forms do not contain any provision which empowers the DAB unilaterally to extend the time for giving its decision. The FIDIC forms do not state expressly whether a decision given out of time would be binding and enforceable. Unless the Parties have agreed between themselves to be bound by the decision, in the authors' view, such a decision is unlikely to be binding and enforceable. This is supported by an Interim Award given in ICC Case 10619[142] in relation to a decision given by the Engineer outside of the 84-day period required under Sub-Clause 67.1 of the 4th Edition of the Red Book. In this case, the Respondent argued that decisions made by the Engineer more than 84 days after the Claimant's request for decisions pursuant to Sub-Clause 67.1 cannot bind the parties. This was accepted by the arbitral tribunal, which concluded that:

> "in the absence of any evidence at this stage that both parties had, whether in express terms or impliedly, agreed for the Engineer not to stick to the time condition in [Sub-Clause] 67.1, it is the Tribunal's opinion that the Engineer has no authority to depart from a rule which remained binding on the parties".

9.153 Accordingly, the tribunal refused to grant an interim award for the enforcement of these decisions by the Engineer.[143]

141. General Conditions of Dispute Adjudication Agreement, Clause 6.
142. Extracts of the Award were published in the *ICC International Court of Arbitration Bulletin*, Vol. 19(2), 2008.
143. See paras. 9.217–9.220 below in relation to the enforcement of a binding DAB decision.

Amendments and corrections

9.154 The Red, MDB, Yellow and Silver Books do not give the DAB the power to correct or amend its decision once it has been given. On the other hand, Rules 7 and 8 of the Procedural Rules in the Gold Book make provision for correction and clarification of a DAB's decision.

9.155 Under Rule 7, the DAB has a broad power to correct "errors of fact or principle" in a decision by way of an addendum to that decision which must be issued within 14 days of giving the decision. Under Rule 8, either Party may seek clarification from the DAB of any ambiguity in the decision. Any such request must be made within 14 days of receiving a decision and in writing, with a copy given to the other Party. The DAB is then required to respond to the request within 14 days of receiving the request, with a copy to the other Party. If the DAB considers that "the decision did contain an error or ambiguity, it may correct its decision by issuing an addendum to the original decision".

Binding decision

9.156 In the Red, MDB, Yellow and Silver Books,[144] the decision of the DAB is expressed as being binding on the Parties "unless and until it shall be revised in an amicable settlement or an arbitral award". Sub-Clause 20.6 of the Gold Book states that the decision is binding "on both Parties and the Employer's Representative". Although the Gold Book does not include the express qualification found in the other Books, the decision will still nevertheless be interim binding on the Parties unless and until unless it is revised by agreement or by an arbitral award.

9.157 The binding effect of the decision is also expressly confirmed in all the Books. The Red, MDB, Yellow and Silver Books require that the Parties must "promptly give effect" to the decision.[145] The Gold Book uses a slightly different wording and states that the Parties and the Employer's Representative must "promptly comply with [the decision], notwithstanding that a Party gives a Notice of dissatisfaction which such decision".[146] The inclusion of the references to the Employer's Representative and the Notice of dissatisfaction are not strictly necessary but provide useful clarification.

9.158 If the effect of the DAB's decision is that the Contractor is entitled to payment of an amount from the Employer and the decision is given during the course of the project, such amount should be included in the Contractor's next Statement under Sub-Clause 14.3(f) (14.3(j) (G)) as part of his applications for interim payment. It is suggested that the Engineer in the Red, MDB and Yellow Books will then be required to certify this amount in the next Interim Payment Certificate as part of the amount that he "fairly determines to be due" under Sub-Clause 14.6. Even if the Employer or the Engineer disagrees with the decision and whether or not notice of dissatisfaction has been given, the decision is binding on the Parties unless and until it is revised in an amicable settlement or an arbitral award. A failure by the Engineer to include this amount in the Interim Payment Certificate would, it is suggested, be a failure to comply with his duty of fairness. This issue is beyond doubt

144. Sub-Clause 20.4 (R/M/Y/S).
145. Sub-Clause 20.4 (R/M/Y/S).
146. Sub-Clause 20.6 (G).

in the Gold Book which, in Sub-Clause 14.7, expressly requires the Employer's Representative to include in an Interim Payment Certificate "any amounts due to or from the Contractor in accordance with a decision by the DAB made under Sub-Clause 20.6". The Employer's obligation to pay these amounts is further repeated in Sub-Clauses 14.8(b) and (c) of the Gold Book.

9.159 In addition, Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*] in the Gold Book also confirms the immediate binding effect of the DAB's decision in relation to a Dispute regarding an extension of time by providing that "the Contractor shall be immediately entitled to any extension of the Time for Completion of Design-Build which is decided by the DAB under Sub-Clause 20.6".

9.160 Finality of decision. In all the Books, the decision becomes *final* and binding unless at least one of the Parties challenges it by giving the other Party notice[147] of its dissatisfaction with the decision within 28 days from the issue of the decision. Once the decision becomes final, it cannot be challenged subsequently by either Party at arbitration.

Notice of dissatisfaction

9.161 To prevent the DAB decision becoming final and binding, a Party must give notice[148] of its dissatisfaction[149] to the other Party and, in the Gold Book, to the chairman of the DAB.[150] This notice[151] should be regarded as a condition precedent to the commencement of an arbitration under Sub-Clause 20.6 (20.8 (G)). It is therefore important that a dissatisfied Party ensures that it complies strictly the provisions contained in Sub-Clause 20.4 (20.6 (G)) regarding the giving of this notice[152] and the formalities set out in Sub-Clause 1.3.

9.162 Notice of dissatisfaction must be given within 28 days after receiving the decision. It must also refer to the Sub-Clause under which it is given[153] and must "set out the matter in dispute and the reason(s) for dissatisfaction". However, while the requirement for reasons is mandatory and should be complied with to avoid questions as to the validity of the notice, the significance of it is reduced by the qualification that "Neither Party shall be limited in the proceedings before the arbitrator(s) . . . to the reasons for dissatisfaction given in its notice[154] of dissatisfaction".[155] Nevertheless, delineating the matters in dispute and the reasons for dissatisfaction are necessary if any useful attempt is to be made at achieving a settlement of the dispute prior to arbitration.

147. "Notice" (G).

148. "Notice" (G).

149. In the MDB, the dissatisfied Party is required to give "notice of its dissatisfaction with the decision *and intention to commence arbitration*" (emphasis added) (Sub-Clause 20.4 (M)).

150. Sub-Clause 20.4 (R/M/Y/S); Sub-Clause 20.6 (G). In the Gold Book, where the DAB is constituted of only one member, it is suggested that the reference to the "chairman of the DAB" must be read as "the DAB".

151. "Notice" (G).

152. "Notice" (G).

153. i.e., Sub-Clause 20.4 (R/M/Y/S); Sub-Clause 20.6 (G) and also Sub-Clause 20.10 (G) if the decision of the DAB is in respect of a Dispute arising during the Operation Service Period.

154. "Notice" (G).

155. Sub-Clause 20.6 (R/M/Y/S); Sub-Clause 20.8 (G).

9.163 Failure of DAB to give decision in time. In addition, if the DAB has failed to give the decision within the time period required, a Party may also give to the other Party notice[156] of its dissatisfaction within 28 days after the date by which the decision should have been given. After the giving of such notice,[157] arbitration in respect of the dispute[158] that was referred to the DAB for its decision may then be commenced.[159]

Enforcement of a decision of the DAB

9.164 Although the decision of a DAB is binding on the Parties and they are required to give effect to,[160] or, in the Gold Book, to comply with it,[161] promptly, one Party may nevertheless refuse to implement it. When the DAB gives a decision, the following outcomes are possible:

(i) Neither Party gives notice[162] of dissatisfaction, so that the decision becomes final and binding. Both Parties accept and implement it.
(ii) Neither Party gives notice[163] of dissatisfaction, so that the decision becomes final and binding. One Party (or both) refuses to implement the decision.
(iii) One Party (or both) gives notice[164] of dissatisfaction. One Party (or both) refuses to implement the decision.

9.165 In outcome (i), there is obviously no need for either Party to enforce the decision. However, in outcomes (ii) and (iii), such a failure to comply with a decision once it has become binding may be enforced by reference to arbitration. Enforcement of decisions at arbitration is considered further in para. 9.217 *et seq* below.

9.166 In addition to enforcement at arbitration, there are other remedies in the FIDIC forms which are available to a Party if the other Party fails to comply with the DAB's decision. If the DAB decides that the Employer is required to pay the Contractor a sum of money, the Contractor may wish to consider the exercise of his rights of suspension and termination under Sub-Clauses 16.1 and 16.2 in the event that the amounts are not certified (not Silver Book) and/or paid by the Employer. Similarly, the Employer may wish to consider giving a notice[165] to correct under Sub-Clause 15.1, which, if not complied with, may give rise to an entitlement to terminate under Sub-Clause 15.2(a).

AMICABLE SETTLEMENT

Generally

9.167 As mentioned in the section on development of the FIDIC DRPs at paragraphs 9.5–9.14 above, the story of the initial introduction of an 'amicable settlement' Clause into

156. "Notice" (G).
157. "Notice" (G).
158. "Dispute" (G).
159. Under Sub-Clause 20.6 (20.8 (G)).
160. Sub-Clause 20.4 (R/M/Y/S).
161. Sub-Clause 20.6 (G).
162. "Notice" (G).
163. "Notice" (G).
164. "Notice" (G).
165. "Notice" (G).

FIDIC contracts was a remarkable one. All the current FIDIC forms include an amicable settlement Clause: Sub-Clause 20.5 (20.7 (G)).

Amicable settlement Clause in the FIDIC forms

9.168 Sub-Clause 20.5 (20.7 (G)) is headed "Amicable Settlement" and can be considered to contain the second stage in the multi-tiered dispute resolution mechanism found in the FIDIC forms.

9.169 This Sub-Clause contains two sentences and can be considered in two parts. In the Red, MDB, Yellow and Silver Books, Sub-Clause 20.5 provides:

- "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." (first sentence);
- "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." (second sentence)[166]

9.170 Sub-Clause 20.7 is identical in the Gold Book except that the date when arbitration may be commenced is reduced to the 28th day on which Notice of dissatisfaction was given and other minor changes to reflect the structure and defined terms in this Book.

Amicable settlement procedure

9.171 No procedure is stated in Sub-Clause 20.5 (20.7 (G)) that the Parties must adopt to attempt amicable settlement. The *FIDIC Guide*[167] explains that this is "in order that the Parties have the greatest flexibility". The options are numerous and include negotiation, mediation, conciliation, facilitation, non-binding expert appraisal and mini-trial/senior executive appraisal. The most appropriate method will depend on a variety of factors, including the issue(s) in dispute, the relationship between the Parties and the stage that the Contract has reached.

9.172 The best approach to the amicable settlement stage, it is suggested, is to consult with the other Party, with or without legal advisers, at an early stage after the service of the notice[168] of dissatisfaction, to ascertain whether there is sufficient common intention to try to avoid the necessity of arbitration by seeking a mutually acceptable settlement. If it appears that there is, agreement needs to be reached quickly on the method of seeking settlement which both Parties believe has the best chance of success and is also cost effective and comfortable for them (for example, familiarity/unfamiliarity may be a factor). Direct negotiation could be undertaken if the Parties' relationship and behaviour is such that it could be productive. This could be between the Parties' representatives, possibly at senior management level if the scale of the dispute warrants it, since this may be more objective

166. In the MDB, the wording of the second sentence of Sub-Clause 20.5 differs slightly and refers to "a notice of dissatisfaction and intention to commence arbitration" in place of "notice of dissatisfaction".

167. *FIDIC Guide*, p. 314.

168. "Notice" (G).

and based on commercial realities than negotiation between staff of the Parties who have been engaged in the project where relationships may have become strained, particularly against the background of the dispute. Alternatively, it could be carried out with, or exclusively between, legal advisers, especially if the Parties feel the need for caution in the exploratory contacts or are concerned about inexperience of their staff.

9.173 Mediation and conciliation have been increasingly successful in achieving settlements in construction-related disputes and the appointment of a third-party neutral can be of particular assistance to the Parties.

9.174 Confidentiality and privilege. The Parties will usually wish to ensure that any amicable settlement process is confidential and that any admissions made during this process are not admissible in any subsequent arbitration. The FIDIC forms do not, however, adopt a common approach to the Parties' duty of confidentiality.[169] Moreover, Sub-Clause 20.5 (20.7 (G)) does not state expressly that any amicable settlement process is to be confidential or conducted on a without-prejudice basis. The Parties may, therefore, wish to agree specifically that the process is confidential and on a without-prejudice basis,[170] when agreeing the amicable settlement process to adopt.

Condition precedent to arbitration

9.175 Sub-Clause 20.5 (20.7 (G)) contains an inherent contradiction between the first and the second sentences. The first sentence uses mandatory language: "Where notice of dissatisfaction has been given . . . both Parties *shall* attempt to settle the dispute amicably *before the commencement of arbitration*" (emphasis added). On the other hand, the second sentence expressly provides that arbitration may be commenced "even if no attempt at amicable settlement has been made". The *FIDIC Guide* maintains that "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".[171] However, depending on the governing law, the mandatory language of the first sentence may mean that there is a legal obligation to *attempt* to achieve a settlement before the commencement of arbitration.

9.176 On the basis of the clear words of Sub-Clause 20.5 (20.7 (G)), and despite the contradictory provisions, it is the authors' view that arbitration may be validly commenced on the 56th (28th (G)) day even if no attempt has been made for amicable settlement.[172]

9.177 It should also be added that the FIDIC forms do not restrict the Parties' attempt to reach amicable settlement to this period: they are free at any time to pursue amicable

169. Under Sub-Clause 1.12 (1.13 (G)).

170. Note, however, that the laws of certain jurisdictions, for example, Saudi Arabia and other Middle East countries, do not recognise the concept of without prejudice settlement discussions. Consequently, the Parties may wish to seek legal advice as to how best to structure any amicable settlement process under the applicable Laws.

171. *FIDIC Guide*, p. 314.

172. In this way, the authors respectfully disagree with Glover and Hughes, when they state that "An attempt to obtain an amicable settlement for a prescribed time of 56 days is also a condition precedent to a referral to arbitration". (Jeremy Glover & Simon Hughes, *Understanding the New FIDIC Red Book* (2006, Sweet & Maxwell), p. 391)

settlement. This may be before a referral of a dispute to the DAB for a decision, during and in parallel to a referral to the DAB, or after any arbitration has been commenced.

ARBITRATION

Generally

9.178 From the earliest editions, more than 50 years ago, the FIDIC contracts have treated arbitration as the final stage of the multi-tier dispute resolution procedure. The 1st Edition of the Red Book, published in 1957, provided for submission to "arbitration within the meaning of the Arbitration Laws of the country to the Law of which the Contract is subject".[173] However, by the time of the 2nd Edition of the Red Book in 1969, there had been a transition from *ad hoc*[174] arbitration with its seat in the country of the governing law of the contract to institutional arbitration[175] under the Rules of Conciliation and Arbitration of the International Chamber of Commerce (ICC). Thus began the strong preference by FIDIC for ICC arbitration which is part of the relationship between the two organisations.[176]

9.179 It is not necessary to speculate why FIDIC chose to make arbitration the final stage of dispute resolution and has continued to do so for over 50 years. Historically, arbitration was perceived as likely to be quicker and cheaper than litigation in the courts of most countries. The procedure and timetable would be likely to be more flexible and more comfortable for the parties since the arbitrator is 'the servant of the parties' and should accommodate their convenience as much as possible. The parties can benefit from choosing a tribunal whose expertise is closely matched to the demands of the dispute, which may be legal or technical or both. The proceedings are in private.

9.180 In international projects, particularly, there are additional attractions of arbitration, possibly the most significant of which is the enforceability of arbitral awards under the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards 1958, commonly known as the 'New York Convention'. This Convention has been ratified by many countries (at the time of writing, 144 states)[177] and could be described as the cornerstone of international arbitration. It requires courts of contracting states to give effect to an agreement to arbitrate, and to recognise and enforce awards made in other states,

173. Clause 66.

174. *Ad hoc* arbitration may be understood to mean arbitration without the involvement of an arbitral institution and not under any arbitration rules selected by the parties, with the appointment of the tribunal and procedure generally being governed by the law of the seat of the arbitration. In addition, arbitration under the UNCITRAL Arbitration Rules is frequently referred to as *ad hoc* arbitration.

175. Institutional arbitration is generally understood to mean arbitration where the parties have agreed that an arbitral institution (e.g., ICC, LCIA) will administer the arbitration and that it will be conducted in accordance with the arbitration rules of that institution.

176. For further explanation of the relationship, see Chapter 1, paras. 1.32–1.47.

177. Article 1(3) of the New York Convention allows States, on the basis of reciprocity, to ratify the Convention on the basis that it will only enforce arbitral awards under the Convention if made in another Contracting State. Most States have ratified the Convention on this basis. See status table on the UNCITRAL website for a list of signatory countries and whether they have made reciprocity and commercial reservations as to the application of the Convention (www.uncitral.org/uncitral/en/uncitral_texts/arbitration/NYConvention_status.html).

subject to specific limited exceptions.[178] The parties may also, justifiably or unjustifiably, have concerns about certain court systems and even their judiciaries.

Arbitration agreement in the FIDIC forms

9.181 Where parties have agreed in their contract to arbitration as the final stage of dispute resolution,[179] the submission to arbitration is usually found in what is commonly described as the 'arbitration Clause'. The arbitration Clause sets out, not only the agreement to arbitrate, but also the terms on which the parties have agreed to arbitrate, including which matters may be referred to arbitration, the procedural rules (if any) that are to apply and the institution (if any) that is to administer the arbitral proceedings.

9.182 In the FIDIC forms, the arbitration Clause is actually contained in three Sub-Clauses, Sub-Clauses 20.6, 20.7 and 20.8 (20.8, 20.9 and 20.10 (G)). These Sub-Clauses must also be read in conjunction with the other provisions of Clause 20.

9.183 Sub-Clause 20.6 (20.8 (G)) [*Arbitration*] represents the principal way in which the Parties will come to arbitration. Under this Sub-Clause, the Parties may refer a dispute,[180] in respect of which the DAB's decision has not become final and binding and which has not been settled amicably, to be finally settled by arbitration. It is the final stage in the multi-tiered dispute resolution procedure in the FIDIC forms.

9.184 Sub-Clauses 20.7 [*Failure to Comply with Dispute Adjudication Board's Decision*][181] and 20.8 [*Expiry of Dispute Adjudication Board's Appointment*][182] (20.9 and 20.10 (G)) relate to:

- the enforcement by arbitration of a Party's failure to comply with a DAB's decision (Sub-Clause 20.7 (20.9 (G));
- the Parties' right to arbitrate a dispute[183] where there is no DAB in place (Sub-Clause 20.8 (20.10 (G)).

Both these Sub-Clauses provide that any referral to arbitration in such circumstances is to be in accordance with Sub-Clause 20.6 (20.8 (G)).

9.185 As a general point, at the tender stage the Parties may wish to give consideration to the matter of joinder, that is whether provision should be made for a multi-party arbitration, for example in relation to disputes concerning the Contractor, the Employer and subcontractors or between the Employer and different contractors working under separate contracts on the same project. This is a complex drafting exercise. On the other hand, joinder is more feasible with an *ad hoc* arbitration where the parties to the dispute(s) are already identified and the dispute is known, although such a joinder would require the agreement of all parties. In the FIDIC forms there is no provision for joinder in the General Conditions and the Guidance for the Preparation of Particular Conditions does not advise

178. UNCITRAL website (www.uncitral.org/uncitral/en/uncitral_texts/arbitration/NYConvention.html).
179. As opposed to submitting to the jurisdiction of a particular court or, more generally, to the jurisdiction of any court competent to hear the dispute.
180. "Dispute" (G).
181. "*Failure to Comply with Dispute Board's Decision*" (M).
182. "*Expiry of Dispute Adjudication Board's Appointment*" (M).
183. "Dispute" (G).

on how it should be achieved, observing that such Clauses "usually need to be prepared on a case by case basis by a suitably qualified lawyer".

Rules, institution, tribunal, seat and law

9.186 When agreeing to arbitrate, parties may also agree various matters in relation to the arbitration procedure. These are:

- rules of arbitration and institution;
- number of arbitrators;
- language of arbitration;
- seat of arbitration and procedural law.

9.187 Apart from the seat of arbitration and procedural law, the Red, Yellow, Silver and Gold Books all specify these matters in Sub-Clause 20.6 (20.8 (G)), and these provisions will apply "unless otherwise agreed by both Parties". Seppälä[184] explains the reason for this approach as being that, given the difficulties in drafting arbitration Clauses, FIDIC felt it best "to provide in the contracts themselves for a *completely self-sufficient* arbitration Clause, providing for *international* arbitration, in keeping with the *international* character of the FIDIC contracts" (emphasis in article). As discussed below, the MDB does not fit exactly with the intentions of the draftsmen of the other Books.

Rules of arbitration and arbitral institution

9.188 Sub-Clause 20.6 (20.8 (G)) of all the Books apart from the MDB provides, as the default position, that "the dispute[185] shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce" (ICC Rules). However, the possibility of the Parties choosing a different set of rules of arbitration or a different institution is recognised by inclusion of the words "unless otherwise agreed by both Parties".

9.189 In the MDB, arbitration under the ICC Rules is not the default position. Instead, Sub-Clause 20.6 of the MDB provides that "Unless otherwise agreed by both Parties":

- "for contracts with foreign contractors, international arbitration with proceedings administered by the institution appointed in the Contract Data conducted in accordance with the rules of arbitration of the appointed institution, if any, or in accordance with UNCITRAL arbitration rules, at the choice of the appointed institution." (sub-para. (a))
- "for contracts with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer's country." (sub-para. (d))

9.190 The departure in the MDB version is not radical, but it is significant. In this context, it should be recognised that Sub-Clause 20.6(a) requires the Parties to select an arbitral institution. The Sub-Clause does not provide that, if the Parties fail to select an arbitral institution, then the UNCITRAL Arbitration Rules are to apply. The UNCITRAL

184. Christopher R. Seppälä, "The Arbitration Clause in FIDIC Contracts for Major Works", [2005] 22(1) ICLR 4 at 9.

185. "Dispute" (G).

Rules will only apply "at the choice of the appointed institution". Since most arbitral institutions publish their own sets of arbitration rules, the authors suggest that it is unlikely that the chosen institution would decide to apply the UNCITRAL Arbitration Rules in preference to its own set of rules. More fundamentally, however, since the right to submit a dispute to arbitration arises only upon the agreement of the Parties, the chosen arbitral institution may require the Parties to confirm definitively their choice of arbitration rules, prior to that institution accepting any reference to arbitration, on the basis that the institution has no role in determining the applicable set of arbitration rules.

9.191 Choice of institution (if any). If the Parties have opted, by default or positive choice, for ICC arbitration, they obtain the benefit of administrative assistance by ICC's Secretariat in the operation of the arbitration and scrutiny of the arbitral award by the ICC International Court of Arbitration.[186] The ICC charges fees on a scale based upon a percentage of the sum in dispute.

9.192 The ICC is not, however, the only choice of arbitral institution available to the Parties. Perhaps the greater emphasis on flexibility implicit in the MDB in specifying no institution is the recognition of the rise of regional arbitration centres. Whilst the ICC and, for example, the London Court of International Arbitration (LCIA) continue to prosper as institutions serving the world, regional centres are of increasing importance. The Stockholm Chamber of Commerce serves not only Scandinavia but parts of Eastern Europe, the Dubai International Arbitration Centre serves not only the UAE but the wider Gulf region,[187] the Singapore International Arbitration Centre and Hong Kong International Arbitration Centre contend for the vast Asia-Pacific market, whilst the China International and Economic Trade Arbitration Commission (CIETAC) serves a growing demand for international arbitration in the People's Republic of China. The traditional FIDIC-ICC relationship and ICC's own merits as a provider of institutional arbitration services are likely to ensure the continuation of ICC's strong position, but the departure in the MDB version is perhaps significant as a recognition that there are other choices and that the UNCITRAL Rules are widely accepted.

9.193 No institution. In principle, the Parties may agree to avoid using an arbitral institution. However, if the Parties choose non-institutional arbitration, it will be left to them to proceed to appoint the arbitral tribunal under the rules of arbitration that they have agreed will apply (if any), for example the UNCITRAL Rules, or, if no rules are agreed, then under the arbitral law of the seat of the arbitration.[188]

9.194 As an institution which does not appoint arbitrators or administer arbitrations,[189] FIDIC is understandably anxious at the prospect of the Parties being left to themselves, even if it is by clear choice, and provides extensive guidance, even encouragement for the

186. The ICC International Court of Arbitration is the arbitration body attached to ICC and overseas arbitrations conducted under the ICC Rules. In ICC's 2007 statistics, the ICC Court commented on 317 awards but approved 32 awards without commentary. The Court also requested the arbitral tribunal to resubmit its award for approval on a further 35 occasions. (Ellis Baker, "International Arbitration: Making Good Decisions", a paper presented at the Construction Law Summer School at Fitzwilliam College, Cambridge, UK, 2–4 September 2009).

187. Separately from the Dubai International Arbitration Centre, in February 2008 the Dubai International Financial Centre (DIFC) and the LCIA launched a joint venture to provide for arbitration in the DIFC. There are, accordingly, now two separate arbitral institutions in Dubai.

188. See paras. 9.200–9.203 below.

189. *FIDIC Guide*, p. 316.

Parties to make appropriate provision where the assistance of the ICC (or another institution) is declined. The Guidance for the Preparation of Particular Conditions in the Red and Yellow Books, for example, warns that:

"If the UNCITRAL (or other non-ICC) arbitration rules are preferred, it may be necessary to designate in the Appendix to Tender, an institution to appoint the arbitrators or to administer the arbitration, unless the institution is named (and their role specified) in the arbitration rules. It may also be necessary to ensure, before so designating an institution in the Appendix to Tender that it is prepared to appoint or administer".

9.195 The *FIDIC Guide*[190] further suggests that, at the very least:

"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".

9.196 The *FIDIC Guide*[191] also advises that "Arbitrations under UNCITRAL rules may be administered by the ICC or another arbitral institution; or they may be ad hoc". This advice is capable of misinterpretation. The UNCITRAL arbitration rules require the parties to select an "appointing authority" in their arbitration agreement. The "appointing authority" does not oversee the arbitration, but has a limited role in relation to the appointment and removal of arbitrators;[192] in the absence of any express choice by the parties, the "appointing authority" shall be determined by the Secretary-General of the Permanent Court of Arbitration at The Hague.[193] The ICC, LCIA and other arbitral institutions are prepared to act as the 'appointing authority' under the UNCITRAL arbitration rules, but they do not, in case of such an appointment, administer the arbitration more generally. The advice in the *FIDIC Guide* clearly derives from a praiseworthy concern that Parties who are inclined to prefer non-institutional rules nevertheless get whatever help they need for the successful operation of the arbitration.

Number of arbitrators

9.197 The Red, Yellow, Silver and Gold Books provide that the dispute[194] "shall be settled by three arbitrators" (unless the Parties agree otherwise). This default position of three arbitrators has much to recommend it, except for small disputes where cost is an overriding factor where the Parties may opt for a sole arbitrator. This default provision can be varied by agreement between the Parties.

9.198 The MDB dispenses with any provision for number of arbitrators (although it refers to arbitrators in the plural), leaving the number to be agreed by the Parties themselves or under the rules of the appointed institution (if any) or the UNCITRAL rules,[195] or, for contracts with domestic contractors, under the arbitration law of the Employer's country.

190. *Ibid.*
191. *Ibid.*
192. Articles 6(3), 7(2), 7(3) and 12(1).
193. Article 6(2).
194. "Dispute" (G).
195. Article 5 of the UNCITRAL Rules provides: "If the parties have not previously agreed on the number of arbitrators (i.e. one or three), and if within fifteen days after the receipt by the respondent of the notice of arbitration the parties have not agreed that there shall be only one arbitrator, three arbitrators shall be appointed".

Language of arbitration

9.199 In all the Books, the arbitration is to be conducted in the language for communications as defined in the Contract under Sub-Clause 1.4 unless otherwise agreed by both Parties or, in the Gold Book, unless otherwise stated in the Contract Data.

Law and seat of arbitration

9.200 Generally, the Parties are free to choose the 'venue' or place of the arbitration, commonly described as the 'seat' of the arbitration. Often Parties will choose a neutral seat to give the impression of impartiality in the conduct of the arbitration proceedings. The convenience of the seat, taking into account the physical locations of the Parties, will also be a factor. However, the selection of the appropriate seat of arbitration is more fundamental than simply a question of location. Generally, the law of the seat of arbitration (i.e., the law of the country or jurisdiction where the seat is located) will apply to the arbitral procedure and determine the extent to which the courts may interfere in the arbitral process and review or set aside the award.[196] The seat of arbitration will also be relevant for the enforcement of any arbitral award under the New York Convention.

9.201 In this respect, the Guidance for the Preparation of the Particular Conditions[197] advise that:

"For major projects internationally, it is desirable that the place of arbitration be situated in a country other than that of the Employer or Contractor. This country should have a modern and liberal arbitration law and should have ratified a bilateral or multilateral convention (such as the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards), or both, that would facilitate the enforcement of an arbitral award in the states of the Parties".

9.202 However, all the Books apart from the MDB are silent on the law and seat of the arbitration. Unless the Parties specify the law and/or seat of arbitration, this important matter will be decided for them under the applicable rules of arbitration, possibly by the arbitral institution selected. For example, under the ICC Rules,[198] the ICC International Court of Arbitration will fix the seat, which will usually be neutral as between the Parties;[199] the LCIA arbitration rules provide that, in the absence of an express choice, the seat of the arbitration is to be London, unless the LCIA determines otherwise.[200] If these choices, or any uncertainties involved are unacceptable, the Parties have it in their power to agree law and seat in the Particular Conditions.

9.203 In the MDB, the place of arbitration for contracts with foreign contractors is to be "the city where the headquarters of the appointed arbitration institution is located", while for contracts with domestic contractors, the arbitration is to be "conducted in accordance with the laws of the Employer's country". Either of these default provisions can be varied by agreement of the Parties.

196. Baker, *op. cit.*, n. 186.
197. In the Red, Yellow and Silver Books ("Notes on the Preparation of Special Provisions" in the Gold Book).
198. ICC Rules, Article 14.1.
199. Seppälä, *op. cit.*, n. 184 at 10.
200. Article 16(1).

Referral of a dispute in respect of which the DAB's decision has not become final

9.204 Amicable settlement having failed, arbitration under Sub-Clause 20.6 (20.8 (G)) will not happen automatically. The subsisting dispute has to be referred to arbitration by one (or both) of the Parties. This reference, like most of the arbitral procedure, is not a FIDIC matter and therefore not a matter for this book, being dependent on the institution and rules (if any) selected, whether by positive choice or by default.

9.205 Sub-Clause 20.6 in the Red, Yellow and Silver Books provides:

"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".

9.206 This Sub-Clause in the MDB contains similar wording, but its application is qualified by the words "Unless indicated otherwise in the Particular Conditions". The reference to the DAB is also replaced with DB and the word "international" is deleted. Sub-Clause 20.8 in the Gold Book is almost identical to Sub-Clause 20.6 in the Red, Yellow and Silver Books but includes the qualification "and subject to Sub-Clause 20.9" and replaces "dispute" with "Dispute".

Who can make the referral?

9.207 It is a condition precedent to a Party's right to commence arbitration in respect of a dispute which has been referred to the DAB for its decision that a notice[201] of dissatisfaction has been given in accordance with Sub-Clause 20.4 (20.6 (G)). While this is indicated by the words "any dispute which has not become final and binding", it is made beyond doubt by the sixth paragraphs of Sub-Clause 20.4 (R/M/Y/S) and Sub-Clause 20.6 (G)): "neither Party shall be entitled to commence arbitration of a dispute[202] unless a notice[203] of dissatisfaction [with respect to that Dispute (G)] has been given in accordance with this Sub-Clause".

9.208 This gives rise to the question as to whether only a Party that has given a notice[204] of dissatisfaction under Sub-Clause 20.4 (20.6 (G)) may refer the dispute to arbitration or whether the other Party also has this right. In this respect, the *FIDIC Guide*[205] states that "The notice [of dissatisfaction] establishes the notifying Party's right to commence arbitration at any time after a further 56 days". It would therefore seem to have been the intention of the draftsmen of the Red, Yellow and Silver Books that only the Party that has given notice has the right to commence arbitration under Sub-Clause 20.6 (20.8 (G)).

9.209 However, it is suggested that such a restriction is not reflected in the drafting of the relevant provisions. Only the MDB alludes to the restriction by requiring the dissatisfied Party to give notice to the other Party of its dissatisfaction *and* "intention to commence arbitration". Nevertheless, in all the Books, the right to arbitrate a dispute[206] upon which the DAB has given a decision is only stated to be conditional upon the

201. "Notice" (G).
202. "Dispute" (G).
203. "Notice" (G).
204. "Notice" (G).
205. *FIDIC Guide*, p. 314.
206. "Dispute" (G).

dispute[207] having not become final and binding and that "*a* notice[208] of dissatisfaction" (emphasis added) having been given in accordance with Sub-Clause 20.4 (20.6 (G)). Consequently, it is difficult to construe the relevant provisions as placing any restriction on which Party may refer the dispute.[209]

9.210 It is therefore suggested that reference to arbitration under Sub-Clause 20.6 (20.8 (G)) need not be by the Party who has issued the notice[210] of dissatisfaction. Nevertheless, it will often be the Party who had given the notice[211] of dissatisfaction with the DAB decision which makes the reference, because it is the Party that seeks to have the decision changed in its favour.

Timing of referral

9.211 Unlike the 4th Edition of the Red Book,[212] in all the Books apart from the Gold Book there is no express time by when the referral to arbitration must be made.[213] Conversely, the Parties are not required to wait until the completion of the Works before commencing arbitration: the final paragraph of Sub-Clause 20.4 (20.6 (G)) "Arbitration may be commenced prior to or after completion of the Works".[214]

9.212 The only general restriction is the *minimum* time stated in Sub-Clause 20.5 (20.7 (G)) that must elapse after notice[215] of dissatisfaction has been served under Sub-Clause 20.4 (20.6 (G)) before arbitration can commence.

Jurisdiction and powers of the arbitral tribunal

9.213 Under Sub-Clause 20.6 (20.8 (G)), the matter that is referred to the arbitral tribunal is defined by reference to the dispute[216] "in respect of which the [DAB's/DB's] decision has not become final and binding". The scope of the arbitration is not, however, defined by the arguments previously presented, since the third paragraph of this Sub-Clause provides that "Neither Party shall be limited in the proceedings before the arbitrator(s)[217] to the evidence or arguments previously put before the [DAB/DB] to obtain its decision, or to the reasons for dissatisfaction given in its notice[218] of dissatisfaction". The decision of the DAB is admissible in evidence in the arbitration, although the member(s) of the DAB cannot be called as witnesses in the arbitration.[219] Sub-Clause 20.6 (20.8 (G)) makes it clear that the

207. "Dispute" (G).
208. "Notice" (G).
209. "Dispute" (G).
210. "Notice" (G).
211. "Notice" (G).
212. Under Sub-Clause 67.1 of the 4th Edition of the Red Book, the Parties were required to refer the dispute to arbitration within 70 days after giving a notice of intention to refer the dispute and, if no referral was made within this time limit, the right of recourse to arbitration was lost.
213. This is, however, subject to the rules on limitation of actions in the applicable law.
214. Unlike the 1st and 2nd editions of the Red Book, where the Engineer's decision was binding pro tem until the completion of the work, so that arbitration could not be commenced during the running of the project.
215. "Notice" (G).
216. "Dispute" (G).
217. "arbitrators" (M).
218. "Notice" (G).
219. General Conditions of Dispute Adjudication Agreement, Clause 5(b).

Engineer or Employer's Representative (G) may be called as a witness on any matter relevant to the dispute.

9.214 Arbitration of the dispute is not an appeal on the DAB's decision but a rehearing of the dispute. In this context, the *FIDIC Guide*, however, notes[220] that "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".

9.215 The second paragraph of Sub-Clause 20.6 (20.8 (G)) grants the arbitral tribunal the "full power to open up, review and revise any certificate, determination, instruction, opinion and valuation of the [contract administrator], and any decision of the [DAB/DB] relevant to the dispute". It therefore follows that the arbitral tribunal has the power to revise, not only the decision of the DAB which is the subject of the notice[221] of dissatisfaction, but other decisions of DAB provided that are "relevant to the dispute".[222] Although not stated expressly, it is suggested that the arbitral tribunal may not revise any decision of the DAB which has become final and binding upon both Parties.

9.216 It is frequently the case that the respondent party in an arbitration may wish to include counterclaims. Counterclaims are permitted by the ICC Rules.[223] It is, however, suggested that the dispute to which the counterclaim relates must first have been referred to the DAB and that the counterclaim relates either to the enforcement of the decision of the DAB on that dispute under Sub-Clause 20.7 (20.9 (G)) or notice of dissatisfaction has been given in relation to that decision, the period for amicable settlement under Sub-Clause 20.5 (20.7 (G)) has elapsed, and the counterclaim is advanced in the arbitration by way of a rehearing of that decision of the DAB under Sub-Clause 20.6 (20.8 (G)).

Enforcement of a DAB's decision

9.217 Although a decision of the DAB on a dispute is binding on the Parties, and they are obliged under Sub-Clause 20.4 (20.6 (G)) 'promptly' to give effect to it,[224] the Party in whose favour the decision is given may wish to seek to enforce the decision if the other Party does not comply with it.

Final and binding decision

9.218 Under Sub-Clause 20.7 (20.9 (G)), a Party may refer to arbitration the failure of the other Party to comply with a *final* and binding DAB decision. This Sub-Clause expressly excludes the application of Sub-Clauses 20.4 and 20.5 (20.6 and 20.7 (G)) to such a reference. Thus, the failure to comply with the decision of the DAB may be referred directly to arbitration as soon as the decision has become final, without any need for the failure itself to be referred back to the DAB or having to wait for 56 days (28 days (G)) to

220. *FIDIC Guide*, p. 325. Also repeated at p. 316.
221. "Notice" (G).
222. "Dispute" (G).
223. Article 5(5) provides that counterclaims are to be included in the respondent's answer to the request for arbitration. The respondent would require the permission of the arbitral tribunal under Article 19 to include a new counterclaim after the signature or approval of the Terms of Reference.
224. Sub-Clause 20.6 of the Gold Book phrases the obligation slightly differently, and requires the Parties and Employer's Representative to "promptly comply" with the decision.

attempt to reach an amicable settlement in relation to the failure to comply. Such a reference would be by the Party in whose favour the DAB's decision had been made, seeking not to change, but to enforce it.

Binding but not final decision

9.219 In the Gold Book, under Sub-Clause 20.9 (G), the right of a Party to refer directly to arbitration a failure of the other Party to comply with a decision of the DAB is not dependent on whether the decision has become final. Accordingly, the position is the same as that outlined above, where a Party seeks to enforce a decision of the DAB in relation to which a Notice of dissatisfaction has been given.

9.220 The other Books do not contain an express right of a Party to refer to arbitration a failure of the other Party to comply with a decision of the DAB where notice of dissatisfaction has been given by either Party. It is, however, suggested that a Party may include in an arbitration commenced under Sub-Clause 20.6 a claim for an interim award to enforce the decision of the DAB, pending a final resolution of the dispute by the arbitral tribunal.[225]

Arbitration of dispute where there is no DAB in place

9.221 The third situation in which an arbitral tribunal has jurisdiction is where, under Sub-Clause 20.8 (20.11 (G)), a dispute[226] arises where there is no DAB in place, "whether by reason of the expiry of the DAB's appointment "or otherwise". In these circumstances, the dispute[227] may be referred directly to arbitration under Sub-Clause 20.6 (20.8 (G)) without first having to comply with the other steps set out in Sub-Clauses 20.4 and 20.5 (20.6, 20.7 and/or 20.10 (G)) that would ordinarily be required as a condition precedent to refer a dispute to arbitration.

9.222 The rationale for this provision is clear. As stated above, the referral (at the very least) of a dispute[228] first to the DAB is a condition precedent to arbitration of that dispute.[229] However, if there is no DAB in place, it may not be possible for a Party to make the referral first to the DAB, which gives rise to an uncertainty as to whether the dispute can nevertheless still be referred to arbitration, or whether that Party must instead pursue the dispute through litigation in a competent court.

9.223 Whilst the most obvious situation in which there will be no DAB in place is by reason of expiry of the DAB's appointment, the scope of this Sub-Clause is far wider in light of the words "or otherwise". These words allow, for example, a Party who has sought to refer the dispute to a DAB but where it has not been possible to appoint a DAB (whether standing or *ad hoc*) and conclude the required tripartite Dispute Adjudication Agreement(s) to seek resolution of the dispute at arbitration. In this situation, the *FIDIC Guide*

225. See ICC Case No. 10619, *op. cit.*, n. 142, where a party obtain an interim award on the enforcement of a binding, but not final, decision by the Engineer given under Clause 67 of the 4th Edition of the Red Book. See also Christopher R. Seppälä, "Enforcement by an arbitral award of a binding but not final engineer's or DAB's Decision under the FIDIC Conditions" [2009] 26(4) ICLR 414.

226. "Dispute" (G).

227. "Dispute" (G).

228. "Dispute" (G).

229. "Dispute" (G).

states[230] that "If a dispute arises thereafter, either Party can initiate arbitration immediately . . . without having to reconvene a DAB for a decision and without attempting amicable settlement". This provision is required to ensure that any right of the Parties to avail themselves of *any* of the contractually agreed dispute resolution procedures, and most importantly arbitration, is preserved.

9.224 However, the words "or otherwise" give rise to a potentially far more problematic consequence where an *ad hoc* DAB arrangement has been adopted as in the Yellow and Silver Books. This is because Sub-Clause 20.8 (20.11 (G)) applies if a dispute [231] arises and there is no DAB in place but, by the very nature of an *ad hoc* DAB, it is only appointed *after* a dispute arises. The *FIDIC Guide,*[232] perhaps optimistically, suggests in this situation that the Parties "should . . . comply with Sub-Clauses 20.2 and 20.3 before invoking Sub-Clause 20.8". Nevertheless, taken at face value, this would potentially offer an opportunity for a Party to circumvent the requirement for a DAB decision under Sub-Clause 20.6 or 20.7 (20.8 or 20.9 (G)). This was clearly not the intention of the draftsmen, as can be seen from the wording of Sub-Clause 20.2 of the Yellow and Silver Books: "Disputes arising . . . *shall* be adjudicated by a DAB in accordance with Sub-Clause 20.4".[233]

230. *FIDIC Guide*, p. 317.
231. "Dispute" (G).
232. *FIDIC Guide*, p. 317.
233. Seppälä, *op. cit.*, n. 184 at 13 (fn. 21).

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