

The FIDIC EPC Conditions of Contract (the “Silver Book”) – the Criticisms

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“The European International Contractors advises, in the strongest possible terms the member companies of its member federations, not to tender for or execute any works under the FIDIC Conditions of Contract for the EPC Turnkey Contracts (the ‘Silver Book’) First Edition published in September 1999.”¹ (emphasis added)

1.0 Introduction

The Federation Internationale des Ingenieurs-Conseils (“FIDIC”) published in August 1999, the first edition of its standard form, “*Conditions of EPC and Turnkey Projects*”, commonly referred to as the “*Silver Book*”. Publication of the Silver Book followed its earlier distribution of the test edition of this form, following which FIDIC amended certain provisions to take account of the comments received.

The first edition of the Silver Book has given rise to criticism from commentators and contractor groups,² including the European International Contractors (“EIC”),³ who have advised their member organisations not to tender for or execute works under the Silver Book in its present form. The EIC has identified four areas of concern in the Silver Book which it considers are likely to give rise to disputes:⁴

- inadequate definition of the scope of work;
- disruption of the design and construction process;
- inequitable allocation of risk; and
- claims and dispute resolution.

¹ European International Contractors, Press Release, Berlin, Germany, 16 October 2000.

² Refer to Gaede A. H., “*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 ICLR 477. On the other hand, Huse J. A., in his article, “*The use of the FIDIC Silver Book in the Context of a BOT Project*” (2000) 17 ICLR 384, at 414, refers to the Silver Book as being “*a good starting point for the drafting and negotiation of the EPC contract in a BOT*”, albeit with “*numerous areas requiring review and careful consideration to ensure its successful use in such a project.*”

³ The EIC is listed by FIDIC in the “*Acknowledgements*” to the Silver Book as having reviewed and commented upon the drafts of the Silver Book, and FIDIC also acknowledges that EIC has expressed reservations about some clauses of contract.

⁴ Kennedy, Frank, M., “*EIC Contractor’s Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects (the Silver Book)*” (2000) 17 ICLR 504, at 513.

This article briefly examines the characteristics of “build-operate-transfer” (“BOT”) projects and reviews some of the main provisions of the Silver Book from a risk perspective, in the context of EIC’s criticisms.

2.0 Characteristics of a BOT Project

The term BOT is typically used to describe a particular type of project, generally falling within the category of private project financing intended to fund major public infrastructure projects. Under this type of project structure, a company, often called a special purpose vehicle (“SPV”), formed by private sponsors, is established solely for the purpose of developing a single infrastructure project. The SPV, which usually has no real assets, obtains a concession from the host government to own and operate the project for a defined period of time, raising money to repay the debt from income generated through the concession agreement. Any income in excess of that required to service the debt is distributed to the shareholders.

The SPV, under the terms of the concession agreement, is obligated to design and construct the works, and to operate the project during the concession period.

BOT projects are particularly attractive for governments in the developing world. Lacking public funds for costly infrastructure works such as power plants, roads, bridges, railways etc., private investors raise the finance and take most of the commercial risks. Even in developed nations, governments are increasingly adopting the BOT model, in preference to use of scarce public funds. In addition, governments have also taken the view that private industry is more able to efficiently operate specialised and technically complex infrastructure projects.

The engineering, procurement and construction (“EPC”) contract is of fundamental importance in a BOT model because it is the vehicle by which the only income generating asset of the SPV is designed and constructed, and which is ultimately transferred to the host government. Clearly, both the host government and the lenders will have a major interest in the quality, costs, risks and security of the asset, as reflected in the terms of the EPC.

FIDIC, in its introduction to the Silver Book, note that the form is specifically intended to be used in BOT type projects (emphasis added):

“During the 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, are 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 costs to the Employer than is allowed for under the allocation of risks provided for by FIDIC’s traditional forms of contracts. Often the construction project (the EPC - Engineer, Procure, Construct - Contract) is only one part of a complicated commercial

venture, and financial or other failure of this construction project will jeopardise the whole venture.”

By these introductory comments to the Silver Book, FIDIC has recognised the commercial reality viewed by the financiers in the BOT project model of the need to balance the risk in favour of the Employer, and thereby, in favour of the lending institutions financing the project. FIDIC’s recognition of the financiers' commercial reality has given rise to much of the criticism of the Silver Book from commentators and industry groups, including those by the EIC referred to above.

3.0 Risk Allocation

From a risk management perspective, projects run more smoothly and efficiently, with lower net cost and time and with minimal risk of a major dispute, if risks are allocated appropriately between the parties. The established tenets of risk allocation can be summarised as follows:⁵

- Risks should be explicitly identified and conscious decisions should be made as to how each risk is to be managed. Some commonly used risk management strategies include risk retention, risk transfer and risk sharing. The adopted scheme should then be expressed as a term in the contract.
- Allocation of risks should be as clear, complete and unambiguous as possible.
- The assignment of risk should have the effect of motivating the particular party to deal with it in the most effective way. This implies that the party who accepts the risk should be able to:
 - influence its magnitude
 - control the effects of the risk once it has occurred; and
 - should have an incentive for minimising and controlling the risk.

The underlying rationale for this approach is that the employer, in theory, will pay only for the actual conditions the contractor encounters, rather than for substantial contingencies in the contract price, which may or may not be needed.

These principles are not cast in stone, and are often disregarded wholly or in part in order to shift the balance of risk away from one party to another. The commercial reality is that employers are often reluctant to accept any risk on a construction project which they can legitimately transfer to the contractor. This in itself does not inevitably lead to problems, providing there is no “*blurring*” of the risks in contract documents, and providing contractors have sufficient time to assess the risks, to price them properly, and to plan for the risk at tender stage. However, for some types of projects, for example, projects

⁵ See O'Reilly's summary in “*Risk, Construction, Contracts and Construction Disputes*”, CLJ.

involving significant underground works, contractors may not be able to satisfy these requirements.

FIDIC's Red and Yellow Books, its standard forms of contract for works of civil engineering construction and for electrical and mechanical works respectively, have been in use for several decades, and have been recognised for embodying principles of balanced risk between the parties. However, the Silver Book, recognising the unique features of BOT projects and the influence of financiers, departs substantially from the balanced principles embodied in the Red and Yellow books.⁶ The remainder of this article examines the allocation of some key risks in the Silver Book, and compares these risks against "*balanced*" risk principles.

4.0 Design Risk

The lenders in BOT projects usually require a single point of responsibility for the design and construction of the works, reflecting their desire to ensure no "gaps" in liability, and to look to only one party for recourse in the event of default. Lenders therefore require the contractor to assume the risk of any defect or error in the design, including any defect or error in the Employer's Requirements. This is expressed in Sub-Clauses 5.1 and 5.8 of the Silver Book.

"5.1 General Design Obligations

The Contractor shall be deemed to have scrutinised, prior to the Base Date, the Employer's Requirements (including design criteria and calculations, if any). The Contractor shall be responsible for the design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Employer shall not be responsible for any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information except as stated below. Any data or information received by the Contractor, from the Employer or otherwise, shall not relieve the Contractor from his responsibility for the design and execution of the Works.

However, the Employer shall be responsible for the correctness of the following portions of the Employer's Requirements and of the following data and information provided by (or on behalf of) the Employer:

- (a) portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer,
- (b) definitions of intended purposes of the Works or any part 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."

⁶ Continued in the new FIDIC "*Construction*" and "*Plant and Design-Build*" Books.

“5.8 Design Error

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor’s Documents, they and the Works shall be corrected at the Contractor’s cost, notwithstanding any consent or approval under this Clause.”

In summary, Sub-Clause 5.1 imposes upon the Contractor liability for the design of the Works and for the accuracy of the Employer’s Requirements, which the Contractor is deemed to have thoroughly examined, subject to specific exceptions. The Employer’s Requirements, for the purpose of interpretation of the Contract, has a higher level of precedence than the Contractor’s tender, in the event of any discrepancy or ambiguity between the documents forming the Contract.⁷

The EIC’s and other commentators’ criticisms of this provision are related to the uncertainty of the definition of the Contractor’s scope of work and inappropriate allocation of risk. In particular, their criticisms are directed at waiver of accountability of the Employer even in circumstances where the Employer itself is responsible for errors, inaccuracies and omissions in the Employer’s Requirements and other data reflected in Sub-Clause 5.1.⁸ This provision is clearly contrary to the principle that risk should be allocated to the party best able to appreciate and control the risk. However, the real criticism is the way employers implement this provision. First, employers may be tempted to include complex prescriptive design obligations as part of the Employer’s Requirements, rather than adhering to broad performance based requirements. This can result in abuse of the EPC form where the employer requires the contractor to accept responsibility for parts of the project effectively designed by the employer’s consultants. This can be a means by which employers seek from the contractor fitness for purpose warranties for its consultants’ design for which the consultants themselves would not provide (and for which the consultants are unlikely to be able to secure professional indemnity cover in respect of).

Secondly, the related problem that the Employer is unlikely to give the Contractor sufficient time during the tender period to carry out the onerous task of establishing whether the Employer’s design criteria and other data are factually correct for a myriad of technical matters, and to determine whether they are suitable for the desired performance and intended purpose of the Works.

These problems can be avoided to a large extent by the Employer drafting appropriate performance based Employer’s Requirements, rather than prescriptive design specifications, and giving the Contractor sufficient time at tender to check and confirm these and other data provided by the Employer, and to match its tender bid against these requirements. From the Contractor’s perspective, it has also been suggested that the

⁷ Sub-Clause 1.5.

⁸ Refer, for example, to Henchie, Nicholas, D. J., *"FIDIC Conditions of Contract for EPC Turnkey - The Silver Book Problems in Store?"* (2001) 18 ICLR 41, at 47, and Gaede, A. H., at p481.

Contractor should establish its individual design criteria to ensure suitability with its own design and to integrate it as part of the tender as a safeguard.

The exceptions to Sub-Clause 5.1 are of fundamental importance to the Contractor's design obligation. Pursuant to Sub-Clause 5.1(a), the Employer is responsible for the correctness of "*portions, data*" etc. which are stated in the Contract as being immutable. For the avoidance of uncertainty, the Employer should clearly set out in the Employer's Requirements which criteria and data etc. are deemed to be "*immutable*", and not leave it to post-contractual interpretation and dispute. In the alternative, the Contractor should consider specifying in its tender which parts of the Employer's Requirements it considers to be immutable.

Similarly, pursuant to Sub-Clause 5.1(b), the Employer is responsible for the definition of intended purposes of the Works, and it seems likely that the Employer retains responsibility for ensuring that the description adequately fulfils its needs. To avoid uncertainty, the Employer should expressly set these out in the contract, since the Contractor's warranty of fitness for the purpose for the Works is cross-referenced to the purposes "*as defined in the Contract*".

Sub-Clause 5.1(d) provides that the Employer is responsible for "*portions, data and information*" which "*cannot be verified by the Contractor*". This is likely to give rise to the greatest uncertainty and thereby potential for dispute. It is not clear what is meant by the words, "*cannot be verified*", but they may be interpreted as impossible or impractical to verify. This is likely to give rise to arguments from the Contractor relating to the practicality of verifying such data as site and environmental conditions in the time available at tender. Sub-Clause 5.1(d) is likely to be deleted by most lenders. If Sub-Clause 5.1(d) is not removed, the parties can reduce the uncertainty by expressly agreeing and stipulating which parts of the Employer's Requirements are deemed not be verified by the Contractor.

5.0 Construction Risk

Both the Employer and the lenders will require from the Contractor a focal point of responsibility for the actual construction of the project. This general allocation of construction risks to the Contractor is stipulated in Sub-Clause 4.1, "*Contractor's General Obligations*", which includes that:

“The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed the Works shall be fit for the purposes for which the Works are intended as defined in the Contract.”

This provision also includes the fitness for purpose obligation common in design and build contracts, and normally implied in commonwealth jurisdictions. Sub-Clause 4.1 also specifies the Contractor's obligations for providing Plant, Contractor's Documents etc, "*required in and/or this design, execution, completion and remedying of defects*",

and includes all work necessary to satisfy the Employer's Requirements, or is implied by the Contract.

6.0 Unforeseen Ground Conditions

The treatment of risks for site conditions deserves special consideration, given the high proportion of disputes which arise from differing ground conditions. The approach taken for allocating the risk for site conditions will depend upon:

- the desire to prepare a contract to reduce claims for latent site conditions;
- the commercial bargaining power of the parties;
- the economic state of the industry; and
- attitudes, perceptions and policies.

From a risk allocation perspective, the project is best served by a balanced and equitable allocation of risk for site conditions between the parties. If the contractor is best able to assume responsibility for site conditions, the employer should require and provide for an adequate time for him to investigate the site. The employer should reveal all existing site data, clearly state the uncertainties in the data and describe the contractor's responsibility in clear language. This is the approach adopted by FIDIC in its Red and Yellow books, which allocate the risk of encountering unforeseen physical obstructions or conditions upon the Employer by giving the Contractor the opportunity to claim costs and extensions of time if he encounters physical obstructions or conditions which were not foreseeable by him as an experienced contractor.

In contrast, Sub-Clauses 4.10 to 4.12 of the Silver Book are a significant departure from FIDIC's approach for the allocation of site conditions risk set out in the Red and Yellow Books:

"4.10 Site Data

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on subsurface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date.

The Contractor shall be responsible for verifying and interpreting all such data. The Employer shall have no responsibility for the accuracy, sufficiency or completeness of such data, except as stated in Sub-Clause 5.1 [*General Design Responsibilities*]."

"4.11 Sufficiency of Contract Price

The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price. Unless otherwise stated in the Contract, the Contract Price covers all the obligations under the Contract (including those under Provisional

Sums, if any) and all things necessary for the proper design, execution and completion of the Works and the remedying of any defects.”

“4.12 Unforeseeable Difficulties

Except as otherwise stated in the Contract:

- (a) the Contractor shall be deemed to have obtained all necessary information as to the 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.”

The language in these provisions place the risks for unforeseeable difficulties upon the Contractor. The EIC describes this clause in the following terms:⁹

“It is difficult to imagine a clause which would be more threatening to contractors and which would leave them more open to unscrupulous Employers who could allege that any difficulty, however, conceivable at tender stage, could be laid at the Contractor’s door under this Sub-Clause. Contractors should beware!”

The only potential exception to the Contractor’s obligation is that pursuant to Sub-Clause 4.10, the Employer is responsible for such data to the extent provided for in Sub-Clause 5.1, which presumably includes *“portions, data and information which cannot be verified by the Contractor”*. Whilst this may allow a Contractor to argue that there was insufficient time during the tender period for the Contractor to verify Site data provided by the Employer, the effect of this provision is uncertain, and it may lead the Employer not to disclose Site data in its possession.

To some extent, FIDIC has recognised in its introductory comments to the Silver Book the difficulty of this provision for projects involving substantial underground work or where there is insufficient time during the tender period for the Contractor to assess the conditions, by stating that the Silver Book is not suitable for use in circumstances:

- (1) *“If there is insufficient time or information for tenderers to scrutinise and check the Employer’s Requirements or for them to carry out their designs, risk assessment studies and estimating (taking account of Sub-Sub-Clauses 4.12 and 5.1).”*
- (2) *“If construction will involve substantial work underground or work in other areas which tenderers cannot inspect.”*

⁹ Kennedy, Frank, M., *“EIC Contractor’s Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects (the Silver Book)”* (2000) 17 ICLR 504, at 513.

Clearly, contractors should consider carefully accepting the site conditions provisions in the Silver Book for works involving substantial underground works.

One mitigating aspect of the Contractor's obligation is that the Silver Book sets a limit on total liability in Sub-Clause 17.6, "*Limitation of Liability*", which declares that:

“[t]he total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [*Electrical, Water and Gas*], Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Material*], Sub-Clause 17.1 [*Indemnities*] and Sub-Clause 17.5 [*Intellectual and Industrial Property Rights*], shall not exceed the sum stated in the Particular Conditions or (if a sum is not so stated) the Contract Price stated in the Contract Agreement.”

Limitation of total liability to the value equivalent to the Contract Price would generally be tolerated by the financial institutions. This is subject to the caveat that the Contract Price is an accurate approximation of the total completion cost.

7.0 Interference of the Design and Construction Process

An Employer should only chose a turnkey contract form if he is confident in the competence and resources of his potential contractor. In practice, this often requires a lengthy pre-qualification period, and post-tender negotiations with one or two contractors concerning the design and technology proposed, and the detailed terms of the contract. The EIC argue that after this process there should be no justification for detailed supervision and interference by the Employer in the Contractor's design and construction process, potentially leading to delay and disruption.¹⁰

The EIC refer to the following provisions of the Contract as being instances of the Employer's interference:

- (1) the Employer's unilateral right to vary the Works which, pursuant to Sub-Clause 13.1, may be initiated at any time prior to the issuing of the Taking Over Certificate for the Works;
- (2) the restrictive grounds that permit the Contractor to object to a Variation, being:
 - (a) the Contractor cannot readily obtain the Goods required for the Variation (Sub-Clause 13.1(i));
 - (b) it will reduce the safety or suitability of the Works (Sub-Clause 13.1(ii)); or
 - (c) it will have an adverse impact on the achievement of the Performance Guarantees (Sub-Clause 13.1 (iii)); and

¹⁰ Kennedy, Frank, M., "*EIC Contractor's Guide to the FIDIC Conditions of Contract for EPC Turnkey Projects (the Silver Book)*" (2000) 17 ICLR 504.

(3) the Employer's right to review Contractor's Documents pursuant to Sub-Clause 5.2.

The EIC suggest that the Contractor should have sole discretion to refuse or accept a Variation if the price offered is inadequate, the Variation will have an adverse impact on the Contractor's obligations, or the Employer is unable to provide evidence of satisfactory finance for the variation.

With respect to the Employer's right to review the Contractor's Documents, the EIC suggest that since the Contractor has total responsibility for performance, that the Contractor's Documents should be given to the Employer for information only, and that the Contractor should be free to proceed to construct the Works at its own risk.

The commercial reality is that lenders and employers, even after lengthy post-tender negotiations to define the scope of work, will be anxious to ensure that their principal security (in the case of the lenders), and their principal asset (in the case of the employer) is constructed in accordance with the provisions of the Contract. This necessarily requires some review and monitoring of the design and construction process.

On the other hand, an Employer can abuse the design and construction process by not allowing the Contractor sufficient freedom to design and construct the Works within the framework of the design and build contract. This can happen where the Employer interferes by commenting upon and amending very detailed aspects of the Works. If the parties view this as a concern, further restrictions can be drafted on the types of variations that can be instructed by the Employer, and "deemed" periods of approval for Contractor's Documents.

8.0 Testing

Pursuant Sub-Clause 9.1, the Works must pass Tests on Completion to exhibit their substantial completion prior to the Employer issuing to the Contractor a Taking Over Certificate under Sub-Clause 10.1. In the event that the Works fails on repeated attempts to pass the tests, the Employer may elect to reduce the Contract Price by a pre-determined amount if a Taking Over Certificate is issued in any event (Sub-Clause 9.4(c)).

However, Contractors should be aware that, pursuant to Sub-Clause 9.4(c) and Sub-Clause 11.4(c), *"if the failure deprives the Employer substantially the whole benefit of the Works or Section"*, the Employer is entitled to reject the Work, terminate the Contract, and to recover all sums paid for the Works, in addition to financing costs, the cost of dismantling the Works, clearing the Site and returning Plant and Materials to the Contractor.

The rationale for such a provision from the Employer and the lenders in a BOT project is that such a failure of the Works is likely to be a fundamental breach of the underlying concession agreement, and threaten the existence of the SPV itself. The exercise of such

a clause would obviously place significant financial burdens on the Contractor and can only be justified in the most extreme circumstances of total failure of consideration.

The Silver Book also contemplates a series of Tests after Completion. Sub-Clause 12.1 provides for Tests after Completion if stipulated in the Contract, and Sub-Clause 12.2, "*Procedure of Tests after Completion*", , provides that "*the Contractor shall carry out the Tests after Completion... as soon as is reasonably practicable after the Works or Section has been taken over by the Employer.*"

9.0 Time for Completion

Of the three principal elements of any construction project of time, cost and quality, time is often the major economic issue. Employers' (and the lenders) assessment of the financial worth of a project can often mean that even short delays in project revenue streams as a proportion of the project life can have a significant effect on the project's viability.

Time is also the factor which gives rise to the most conceptually difficult and protracted disputes. Extension of time claims and associated prolongation, acceleration, or disruption monetary claims are difficult and time consuming to prove, whilst at the same time being potentially financially rewarding to contractors.

Pursuant to Sub-Clause 8.2 of the Silver Book, the Contractor is responsible for completing the Works within the Time for Completion.

"8.2 Time for Completion

The Contractor shall complete the whole of the Works and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) completing all work which is stated in The Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*]."

The Contractor's entitlement to extension of the Time for Completion is set out in Sub-Clause 8.4, as follows:

"8.4 Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [*Taking Over of the Works and Sections*] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for completion has been agreed under Sub- Clause 13.3 [*Variation Procedure*]),

- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions, or
- (c) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Employer in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time under Sub-Clause 20.1, the Employer shall review previous determinations and may increase, but shall not decrease, the total extension of time."

Sub-Clause 8.4(b) is a reference to the following provisions of the Contract, which entitle the Contractor to an extension of time, and in some cases cost and/or profit:

- Failure by the Employer to allow the Contractor admission and control of the Work site (Sub-Clause 2.1) (Cost plus reasonable profit added to the Contract Price);
- Discovery of items of geological or archaeological importance (Sub-Clause 4.24) (Cost but no profit added to Contract Price);
- Delayed testing caused by the Employer (Sub-Clauses 7.4 and 10.3) (Costs plus reasonable profit added to Contract Price);
- Delays caused by Authorities (Sub-Clause 8.5) (Extension of time only);
- Suspension initiated by the Employer (Sub-Clauses 8.9 and 16.1) (Cost but no profit added to the Contract Price);
- Interference with testing by the Employer (Sub-Clauses 10.3 and 7.4) (Cost plus reasonable profit added to Contract Price);
- The time consequence of variations are dealt with in Sub-Clause 8.4(a) (Sub-Clause 13);
- Changes in legislation (Sub-Clause 13.7) (Costs but no profit added to the Contract Price);
- Contractor's entitlement to suspend work (Sub-Clauses 16.1 and 8.9) (Costs plus reasonable profits added to Contract Price);
- Employer's risks (Costs but no profit added to the Contract Price); and
- Force Majeure (Sub-Clause 19.4) (Costs but no profit added to the Contract Price);

The range of remedies available to the Contractor for the specific situations should be noted. Generally speaking, the remedies available are more favourable to contractors

than some of the precedent EPC contracts for drafted by the leading law firms. However, if contractors are comparing the Silver Book to the Red and Yellow Books, the Silver book does not include the following circumstances which would give rise to a time extension under the other forms:

- exceptionally adverse climatic conditions;
- unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions; or
- in the event of adverse physical conditions.

10.0 Liquidated Damages

The Silver Book anticipates the incorporation of liquidated damages for certain performance faults and for delay.

In particular, Sub-Clause 8.7, “*Delay Damages*” caters for delay liquidated damages to a pre-arranged value specified in the Particular Conditions at a daily rate for every day of deviation from the fixed Time for Completion. Sub-Clause 12.4 also recognises the prospect of incorporating liquidated damages for non-performance pertaining to failure of the Works to pass the Tests after Completion.

A common clause in turnkey contracts that is usually included for the Contractor’s benefits is one which declares that the Employer is not to terminate the Contract before the cumulative value of liquidated damages adds up to the maximum amount. The Silver book does not provide for such a constraint. However, it should be noted that Sub-Clause 15.2 (Termination by the Employer) requires qualified reasons to be given for repudiations due to delays.

Prospective accountability for liquidated damages due to delay ends on the date of the issue of the Taking Over Certificate. The Contractor nevertheless still owes residual duties such as performing Tests after Completion and remedying any deficiencies and defects.

One difference between BOT and non-BOT projects, arising from the role of lenders, is that the daily rate of liquidated damages is often assessed to cover the true cost arising from late completion, whereas in non-BOT projects employers often stipulate a commercially reasonable rate. However, in most BOT projects, employers and lenders, will agree a cap on both performance and delay related liquidated damages.

11.0 Contractor’s Claims

Sub-Clause 20.1, “*Contractor’s Claims*”, sets out the procedure which the Contractor must follow in the event that he considers himself entitled to an extension of Time for

Completion pursuant to Sub-Clause 8.2 and/or additional payment under any of the Clauses of the Contract.

The Contractor's obligation is a two step process. First, if the Contractor considers himself entitled to an extension of Time for Completion and/or any additional payment, he is obliged to give notice to the Employer "*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.*"

The following paragraph of Sub-Clause 20.1 is the key provision for the Contractor:

"If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply."

After the initial notice of the claim, the Contractor is then obliged, within a period of 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Employer, the Contractor is obliged to submit a frilly detailed claim which includes full particulars.

The EIC's principal criticism is the penalty under this Sub-Clause for the Contractor failing to comply with the time requirements of this provision. Again, this provision is a reflection of the lenders requirement for certainty of price, and their general lack of any appetite for "surprises" as to the time required to complete the project and the cost of the project. The EIC's further criticism is that the provisions of this Clause will be very difficult for the Contractor to comply with for some claims in complex BOT projects. The task of compiling and interpreting the relevant facts to support a complex claim for delay and disruption, for example, is likely to be a time consuming exercise.

Employers should also review the effect of the Contractor's failure to provide the required condition precedent notice in circumstances where the Employer itself has caused the delay. In some jurisdictions, this could still have the effect of setting "time at large".

12.0 Conclusion

The Silver Book can form a good starting point for the drafting and negotiation of an EPC contract for BOT projects. Given that most of the major international law firms have been using their own precedents for EPC contracts for BOT projects over the last decade, it may take some time for employers and lenders to begin using the form. However, use of the Silver Book as a starting point may over time lead to greater familiarity with the provisions by contractors, employers and lenders, and ultimately will lead to shorter and less expensive negotiation periods.

The Silver Book departs from ideal risk-balance principles, and the EIC's criticisms are justified in the sense that this departure is likely to result in a greater proportion of disputes in BOT projects. The shift in risk is also a reflection of the commercial reality of the involvement of lenders in BOT projects, and the characteristics of BOT projects themselves. Notwithstanding this, contractors can reduce their risk exposure by measures such as negotiating overall limits of liability, as well as individual limits on liquidated damages for delay and performance, by minimising the extent to which they take responsibility for Employers' design, and carefully considering the characteristics of projects where the allocation of risk for ground conditions set out in the Silver Book may not be suitable. For non-privately financed design and build projects the FIDIC's new Yellow book remains the best option in terms of dispute avoidance and an allocation of risk that best suites the interests of the project.

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