

# Risk in EPC Contracts

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Consulting Engineers (the 'Red Book'). This is a traditional form of contract where the employer appoints its own designers to design the works and the contractor is only responsible for constructing the works to the employer's design.

In recent years the 1999 FIDIC Conditions of Contract for Plant and Design – Build (the 'Yellow Book') has also become more widely used. Under this form of contract the contractor accepts responsibility for both the design and construction of the works and the resulting single point responsibility is seen as being a significant advantage for employers.

However neither of these forms of contract is suitable for use where infrastructure projects are concerned, for example oil, gas or petrochemical plants or where the project is financed through third party lenders. FIDIC recognised this throughout the 1990's and in 1999 published its Conditions of Contract for EPC / Turnkey Contracts (the 'Silver Book'). The introductory note to the Silver Book states that "during recent years it has been noticed that much of the construction market requires a construction contract where certainty of final price and often of completion date are of extreme importance. Employers on such turnkey projects are often 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". The note continues "for such projects it is necessary for the contractor to assume responsibility for a wider range of risks than under the traditional Red or Yellow Books".

The aim of the Silver Book is therefore to transfer certain risks (which would normally fall to the employer) to the contractor in order to achieve a degree of time and cost certainty while recognising that contractors will, of course, price the degree of risk they are expected to bear. The upshot is that employers will, in all likelihood, pay more for a project procured under the Silver Book than they might otherwise do, were the same project procured under say the Yellow Book. However in return employers achieve a greater degree of time and cost certainty which is appealing to banks and lenders. This article highlights some differences between the risk allocations of the Yellow and Silver Books.

## Ground Conditions

The issue of responsibility for the physical conditions of the site is an example of risk transfer under the Silver Book. The Red and Yellow Books (at clauses 4.10 to 4.12) treat this issue in the same manner. The employer is required to have made available to the contractor all relevant information in his possession prior to the base date on sub-surface and hydrological conditions at the site. The contractor is responsible for interpreting this data.

The contractor is deemed to have obtained all necessary information as to risks, contingencies and other circumstances that may affect the tender or the works, although this investigation is limited to the extent practicable taking account of cost and time. The contractor is also deemed to have satisfied himself as to the sufficiency of the accepted contract amount however the contractor is deemed to have based the accepted contract amount on the data and interpretations referred to above.

Notwithstanding these provisions, the existence at the site, of unforeseen physical conditions will allow the contractor to claim an extension of time and payment of any additional cost incurred provided the contractor complies with the relevant procedural requirements and the condition is 'Unforeseeable' as defined in the Red and Yellow Books.

The position is however different under the Silver Book as while, according to clause 4.10, the employer is

to make available to the contractor all relevant data in his possession on the subsurface and hydrological conditions at the site, the employer shall have no responsibility for the accuracy, sufficiency or completeness of such information. The contractor is responsible for verifying and interpreting the data and the contract price is stated to cover all of the contractor's obligations under the contract. Under clause 4.12 the contractor is deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may affect the works and by signing the contract the contractor accepts total responsibility for having foreseen all difficulties and costs of successfully completing the works. The contract price shall not be adjusted to take account of any unforeseen difficulties or costs.

Under the Silver Book therefore the risk of unforeseeable ground conditions falls to the contractor. While the contractor will undoubtedly allow for this in his tender, lenders and employers are afforded certainty with regard to their potential exposure to additional costs in this regard. Where employers are not willing to pay for this certainty an alternative form of contract should be used.

## **Design**

Design is another issue where the contractor's obligations under the Silver Book, differ from those under the Yellow Book. Both contracts impose a fitness for purpose obligation on the contractor which is a high standard to comply with in the first place. However under clause 5.1 of the Yellow Book the contractor is to review the employer's requirements after receiving the notice of commencement and to give notice to the engineer (within a certain number of days to be agreed on a case by case basis) of any fault, error or defect found in the employer's requirements. On receipt of the notice, the engineer shall determine whether a variation is to apply. If an experienced contractor exercising due care would have discovered the error, fault or other defect before submitting the tender, the time for completion shall not be extended and the contract price shall not be adjusted.

In addition, under clause 1.9, if the contractor suffers delay or incurs cost as a result of an error in the employer's requirements and an experienced contractor would not have discovered the error when conducting the clause 5.1 review referred to above, the contractor shall notify the engineer and shall be entitled to an extension of time and payment of its costs plus reasonable profit.

The test therefore is whether an experienced contractor would have found the error when conducting his previous reviews of the employer's requirements. If not, the contractor shall be entitled to relief.

As would be expected, a different line is taken in the Silver Book. Clause 5.1 of the Silver Book provides that the contractor shall be responsible for the design of the works and for the accuracy of the employer's requirements except in four limited circumstances. The employer is not responsible for any error, inaccuracy or omission of any kind in the employer's requirements and any data 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.

This clause coupled with the contractor's liability under clause 4.12 for unforeseen difficulties (referred to above) and the overall fitness for purpose obligation means that the contractor is under significant obligations with respect to design (including any design which may be contained in the employer's requirements). While it is open to the contractor to negotiate on these points, the single point of responsibility of the contractor is likely to be on the employer's 'wish list', even if it means that the employer will pay more for the works than would otherwise be the case.

## **Other Risks**

The Silver Book imposes additional risks on the contractor in other areas too. Examples include the provisions regarding extensions of time and employer's risks. In relation to extensions of time, the contractor is not entitled, under the Silver Book, to extensions of time in respect of exceptionally adverse climatic conditions or for unforeseeable shortages in the availability of personnel or goods caused by

epidemic or governmental actions. The contractor is entitled to an extension of time in respect of these events under the Red and Yellow Books.

Under clause 17.3 of the Red and Yellow Books the employer assumes the risk of the occurrence of certain events. Under the Silver Book the contractor bears responsibility for the following risks, the occurrence of which would be an employer risk under the Red or Yellow Books:

- Use or occupation by the employer of any part of the permanent works, except as may be specified in the contract
- Design of any part of the works by the employer's personnel or by others for whom the employer is responsible
- 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 measures

EPC contracts are, by their nature, different to traditional or design and build forms of contract and are intended for entirely different types of project. The risk allocation contained in them means that the contractor is required to assume a greater degree of risk, although the rewards for the contractor can also be greater, especially if the priced risks do not arise. Many of the risks referred to in this article will be the subject of negotiation but in today's market, where projects are few and contractors are many, contractors might be willing to assume this degree of risk.

In addition the types of projects to which EPC contracts are suited are often highly complex and there are often a limited number of contractors with the skills and experience to perform the relevant works. In such cases it is perhaps proper for contractors to assume a greater degree of risk as they are best able to manage the occurrence of those risks and to mitigate the consequences of those risks should they occur.