Ports & Terminals

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## HFW's Robert Blundell discusses the pros and cons of the industry's favoured EPC contract.

Engineer, Procure and Construct (EPC) contracts are the standard form of procurement worldwide for large infrastructure projects, and ports and terminals are no exception.

The FIDIC Silver Book is the most popular standard form EPC contract in the international market. It is also arguably the only truly 'turnkey' form under which the contractor's scope for adjustment of his price is generally only limited to express variations made by the owner. Entitlements to extensions of time for performance are also very limited.

FIDIC also has the advantage in the ports sector that it has related forms for Design-Build-Operate structures of procurement (the Gold Book) and also a specific contract form for dealing with dredging (the Blue Book).

The ICC Turnkey Conditions of Contract are another well established EPC form, albeit not used as widely as FIDIC. It is also regarded as a more 'balanced' form, although this is at the cost of transferring more risks to the owner and also introducing extensive obligations in respect of the exercise of good faith in dealings between the parties.

The Engineering Advancement Association of Japan Model form is the preferential form used by the major Japanese EPC contractors, for obvious reasons. It has a significant advantage over the FIDIC approach in that it is dedicated for use for process and power plant and so has greater flexibility built into its terms for these projects. However, this means it is more rarely seen on projects which primarily require significant civil engineering works being undertaken.







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Other forms can be adapted to create an EPC risk profile where the majority of risk is carried by the contractor. But to achieve this with a non-EPC form is usually a detailed, and rather convoluted, task which goes beyond a simple deletion of the various grounds on which the contractor would otherwise make claims for time and money.

## **Identity crisis**

The primary focus of any EPC contract form should be the identification of the requirements followed by the appropriate apportionment of design and procurement risk. Forms which are originally drafted with a split between an owner and contractor in design responsibility, or forms which contain a requirement for further design input from the owner will not lend themselves easily to EPC procurement.

It is said that EPC contracting gives 'turnkey' responsibility. By this it is meant that an owner gains the benefit of a single point of responsibility for the satisfaction of the performance specification that he has provided. After the contract is signed there is nothing for the owner to do other than turn up on the expected completion date, take delivery of the facility and to operate it.

Crucially, this highlights an essential requirement of true EPC works: that the project must be capable of standing on its own and not dependent on the completion of other, related works. For this reason, the construction of ports facilities tend to lend themselves quite well to the simplicity of this structure. Only once interfaces are introduced, and there is a degree of responsibility for performance of the works that is not assumed by the contractor, can the work truly be labelled 'turnkey'.

In any EPC form, the risks of design and the methodology of procurement remain with the contractor. Some forms then go further by qualifying the standards of this liability.

FIDIC Silver obliges the contractor to accept a 'fitness for purpose' obligation. This is on the assumption (often erroneous in practice) that the purpose is clearly, briefly and objectively set out. If the purpose is not clearly set out there is a danger that the contractor is expected to undertake, at his own cost, significant design development to ascertain whether the purpose is in fact achievable.

Where the Silver Book goes a step further than most other forms is that it also expressly transfers to the contractor the liability for the content and accuracy of the owner's requirements. This is a significant burden, as a contractor is being expected to price for the risk despite the fact that such requirements may be actually unachievable.

## **Risk limitation**

In a competitive market, contractors will build in to their tender certain margins for identifiable risks, but the FIDIC approach means that the risk of achievability of the requirements will be a leap of faith for many contractors. The contractor will only be able to assess and price for the risks in the owner's requirements if he is afforded the time and opportunity to analyse the requirements at the tender stage. Otherwise, conservative, yet capable, contractors will be discouraged from tendering, while others will be encouraged to gamble with low bids.

While this may seem like an effective risk transfer for an owner, it begs the question of whether a low bidding contractor is truly capable of delivering under the contract.







Where EPC contracting really comes into its own is the area of specialist engineering (marine works, power and process plants, etc.). In these sectors, there are a number of specialist contractors who are skilled and adequately knowledgeable to manage, let alone price, the major risk of failure in performance of the end product. Many of these contractors also hold the necessary intellectual property rights to bring bespoke solutions to discharge the particular requirements.

Ground risks (including hydrological considerations) may be frequently left with the owner, and the ease with which this is passed to the contractor depends on the degree to which the contractor is afforded the opportunity to scrutinise this risk during the tender period. The reasoning behind this is that ground risks are inherently impossible to quantify exactly prior to commencing the works. To approach them otherwise is to encourage the risky tendering activities mentioned above.

The FIDIC Silver Book approach of allocating ground risk entirely to the contractor is probably out of step with most other industry practice in this regard. This form even omits the practice (found in other FIDIC forms) of permitting the claim in respect of those conditions which were unforeseeable.

A further point of distinction in EPC contracts is that they generally contain onerous obligations with respect to the contractor's right to bring claims. Many of these restrictions are founded on the principle that an EPC contractor should be taking the lead in administration as well as procurement.

As a result, it is common to see strict time periods and formats for claims to be raised, with the contractor forfeiting his rights if a claim is brought outside the time period or in the wrong form.



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## **ROBERT BLUNDELL**

While EPC contracting may seem like a simple means of transferring risk for an owner, it may ultimately come at a much greater cost later in the project if an imbalanced risk serves only to stimulate disputes. Any party considering procurement of a major infrastructure project on this basis should first engage in a detailed consideration of the actual and potential risks to assess whether the margins which may be charged for passing this risk to contractors are truly proportionate to the costs of the project.

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