

# Article

❖ Worlds Apart: a comparison of EPC  
and EPCM contracts

By Nick Henchie, Partner - Construction & Engineering  
April 2008

# Worlds Apart: a comparison of EPC and EPCM contracts

For many years now it seems that the most desired way for an Owner to procure a major construction project, particularly one being project financed, was via a fixed price, lump sum turnkey route; the so-called engineering, procurement and construction contract (or “EPC contract”). More recently, in response to market conditions and an improvement in the negotiating position of EPC contractors, there has been a significant increase in use of the EPCM contract procurement route for international infrastructure and major construction works. Although historically this method was certainly not uncommon in the mining sector, the use of EPCM contracts has now become more prevalent in other sectors of construction.

It seems to the authors that the meaning of EPCM (as opposed to EPC) is still relatively unknown amongst a large part of the construction fraternity. The key confusion which often arises is that whilst the “C” in “EPCM” stands for “Construction”, this is in the context of “CM” i.e. Construction Management. Under the EPCM model the contractor does no building or construction – rather he develops the design and manages the construction process on the Owner’s behalf.

## Key differences

An EPC contract is a design and construct contract where a single contractor broadly takes responsibility for all elements of the design (engineering), construction and procurement. In contrast, an EPCM contract is a professional services contract which has a radically different risk allocation and different legal consequences. Services provided under an EPCM contract are typically: engineering /design; procurement of necessary materials and equipment; and management and administration of construction contracts.

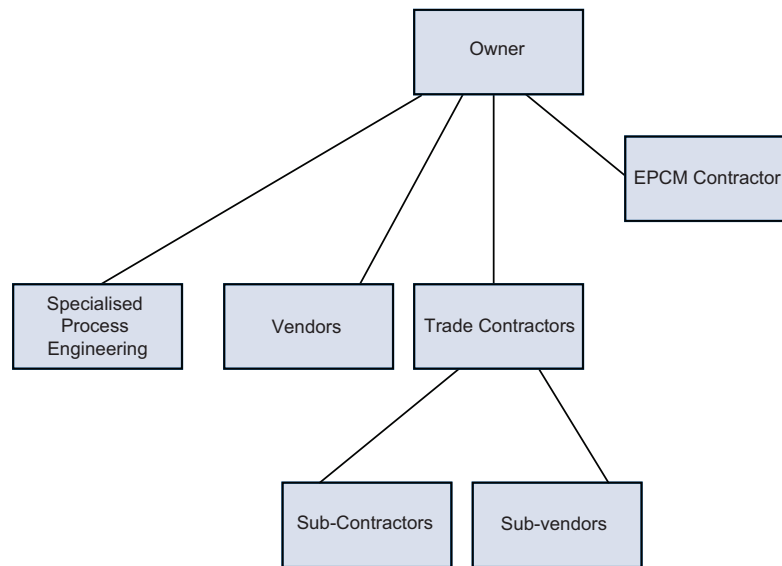
The EPCM contractor acts as the Owner’s agent and creates (on behalf of the Owner) direct contractual relationships between the Owner and the suppliers and trade contractors. The EPCM contractor will not usually take full responsibility for delivering the completed project by an overall completion date (thus rarely are there liquidated damages provisions in EPCM contracts for delay to the project as a whole), nor will the EPCM contractor take responsibility for care of the works or for the ultimate cost to the Owner of the project.

The principal potential liabilities of the EPCM contractor relate to breach or negligence in:

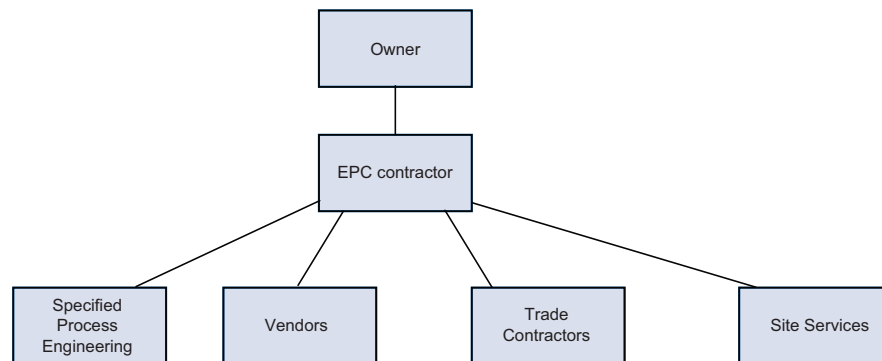
- the performance of the design work;
- the preparation of the budget cost estimate;
- the preparation of the estimated duration of the work;
- managing the procurement and administration of the trade contracts; and
- co-ordination of the design and construction between the trade contractors.

However, proving breach of these obligations is rarely straightforward, and in respect of preparing the budget cost estimate and estimated duration of the work, the Owner may struggle to establish a real loss, however negligent the EPCM contractor may have been.

### Typical EPCM Arrangement



### Typical EPC Arrangement



### Advantages and Disadvantages

The advantages of an EPC contract from the Owner's point of view is that the contractor takes full responsibility for the following:

- cost of completion if it is a lump sum (subject to limited adjustments);
- the time for completion (subject to extensions of time); and
- the quality of the design and work and achievement of performance guarantees (subject to any exclusion).

This means that the potential for multiple disputes is also avoided. However, the major disadvantage for the Owner of the EPC contract, when compared to an EPCM contract, is that the detailed design is the contractor's prerogative. Accordingly, in an EPC contract, great care needs to be taken that the Owner specifies and defines the design parameters and deliverables (including consumption of utilities and emissions) so that the Owner obtains a project of the required standard.

Equally, from the EPC contractor's perspective, recurring problem areas in EPC contracts are bridging interfaces between the basic engineering design and the execution under an EPC contract, in circumstances where the EPC contractor did not produce the basic engineering design itself. The EPC contractor is usually required to satisfy itself as to the accuracy of basic engineering, or is deemed to have done so even where the bid period is patently insufficient to allow it physically to do so.

From the Owner's point of view, resolving liability for and the consequences of basic engineering "defects" will be extraordinarily difficult and expensive which is why it is wise to try to place full responsibility for these on the EPC contractor. The contractor which accepts such a risk without having carried out a thorough evaluation of the basic engineering does so at its peril and is unlikely to have recourse against the perpetrator of the errors. It could be a costly miscalculation.

### Conclusion

The solution for the Owner in bridging the interfaces if the EPC contractor is not willing to assume responsibility for the basic engineering or it is considered unlikely at project inception that any EPC contractor would take such a risk is to consider alternative contract strategies including EPCM which has the potential for providing seamless and continuous responsibility for the engineering. But these issues need to be thought through at conception of the contract strategy taking into account the contractors' appetite for risk gauged according to the expected market conditions at the time of execution. Further, since the EPCM route splits responsibility for engineering and construction, the well advised Owner ought to be far more pro-active in its management of the project.

Thus, the Owner is well advised to ensure that it has sufficient in-house or other resources available to it to monitor and check the performance of the EPCM contractor during the basic engineering design and detailed design phases, to ensure that the Owner is getting exactly what it wants in terms of performance, operability, maintenance and whole of life cost and by passing as much of the risk as possible in relation to the cost of construction, time for completion and quality of the construction work to the trade contractors by effective trade contracts.

For the complete version full details of this article, see <http://www.mayerbrown.com/publications/article.asp?id=3995&nid=6>

*For further details on these or other construction issues please contact Nick Henchie or Jonathan Hosie, Partners in our Construction and Engineering Group.*

Nick Henchie

Partner

T +44 (0)20 7782 8857

E [nhenchie@mayerbrown.com](mailto:nhenchie@mayerbrown.com)

Jonathan Hosie

Partner

T +44 (0)20 7782 8343

E [jhosie@mayerbrown.com](mailto:jhosie@mayerbrown.com)

[Mayer Brown offices](#)

Bangkok Beijing Berlin Brussels Charlotte Chicago  
Cologne Frankfurt Guangzhou Hanoi Ho Chi Minh City  
Hong Kong Houston London Los Angeles New York  
Palo Alto Paris São Paulo Shanghai Washington DC

11 Pilgrim Street  
London EC4V 6RW  
T +44 (0)20 7248 4282

31st Floor, 30 St Mary Axe  
London EC3A 8EP  
T +44 (0)20 7398 4600

[mayerbrown.com](http://mayerbrown.com)  
[E london@mayerbrown.com](mailto:london@mayerbrown.com)

Mayer Brown is a global legal services organisation comprising legal practices that are separate entities ("Mayer Brown Practices"). The Mayer Brown Practices are: Mayer Brown LLP, a limited liability partnership established in the United States; Mayer Brown International LLP, a limited liability partnership incorporated in England and Wales; and JSM, a Hong Kong partnership, and its associated entities in Asia. The Mayer Brown Practices are known as Mayer Brown JSM in Asia.

0110con  
April 2008