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Study of Risk in Construction Contracts

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Abstract:
The Risk Allocation concepts described in this Briefing have been shown to be effective conflict prevention approaches in construction matters. In other complex contractual arrangements, realistic assessment of risks and allocation of responsibility consistent with control over risks should be the first step and the foundation stone in an effective dispute prevention and resolution system. Risk in construction is common and are enormous and hence the construction industry is subject to major risk the following complementary charts, showing dispute resolution steps and construction contract options, demonstrate how Realistic Risk Allocation fits into a system of superior conflict management that starts with prevention and ends with efficient conflict resolution devices.

Keywords*: Construction, Risk, Contract, Operators, Contractual risks, Financial, Risk analysis*

1. Introduction

The handling of risk in construction contracts varies considerably. This depends on the nature and location of the work, the operator and contractor involved and the prevailing contracting climate. Each of these varies over time and there are also outside influences such as banks, governments and the insurance market. The document can be used by operators and contractors to identify areas where risk may threaten the integrity of a contract. Parties to a contract often do not realize that the person who manages the risk under a contract may not necessarily be the person who carries the financial consequences of the risk becoming a reality. The risks should be allocated to the party best to assume the risk. In recent years, operators and contractors have remarked that the balance and handling of risks in some contracts was not ideal and this document aims to promote dialogue between all parties to try to improve this situation.
The risks of nonperformance and of nonpayment are shared by owners, contractors and subcontractors of all tiers. Both of these risks can affect the timely and on-budget completion of the project. For this reason, owners often require contractors to post a performance bond, which typically obligates the issuer of the bond (known as the “surety”) to complete the project if the contractor is terminated, and a payment bond, which typically obligates the surety to make payments due from the contractor to subcontractors if the contractor does not do so. Likewise, contractors will require payment and performance bonds from subcontractors to mitigate the risk of subcontractor nonperformance and failure of subcontractors to pay sub-subcontractors or suppliers. In some instances, contractors will use “subcontractor default insurance” that will reimburse the insured contractor for damages incurred as a result of the subcontractor’s failure to perform.

2. Risk in Construction Projects

Risks of construction and engineering projects are many, due to the number of the parties involved, differing tasks of the contractor, engineer, employer, subcontractor and the inherent nature of the works.

- Allocating Risk to the Party That Is in the Best Position to Control That Risk;
- Allocating Risk Through Indemnity Provisions
- Backing Up Indemnity Provisions With Insurance
- Insurance Is a Fundamental Way to Manage Risk
- Design Professionals Contractors and Subcontractor
- Surety Bonds Are Also Used to Manage Risk
- Design Professionals
- Contractors and Subcontractors
- Surety Bonds Are Also Used to Manage Risk
- Before Signing, Have Contracts Reviewed by a Knowledgeable Attorney and Read Contracts for Consistency.
- Don't Rely on Certificates of Insurance

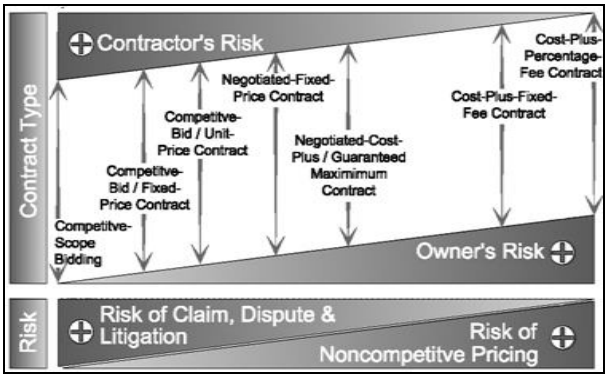

Figure 1: Construction risk

2. Contracting

During the contracting process:

- An operator wants to achieve a goal;
- The operator does not want to take the risk of doing the work itself. This could be for a variety of reasons: it does not have the skill, personnel, equipment, time, desire, etc.;
- Contractors offer to do the work on the operator's behalf. Why? The contractors are established to have the skill, personnel, equipment, time, desire etc.;
- However, the capability of the bidding contractors varies. They may all be able to Complete the work, but some can accept
- A large number of contracts are completed under the lump sum/turnkey regime. The reason for this is that

2.1. Risk Areas

The main areas of risk in these contracts are:

- Contractual (C)

The following areas of risk are discussed in this appendix below:

- Performance (PE)
- Financial (F)
- Political (PO)
- Technical (T)
- Geographical (G)
- Operator (O)

The risks are grouped, numbered and annotated as shown in the brackets above for ease of cross reference.

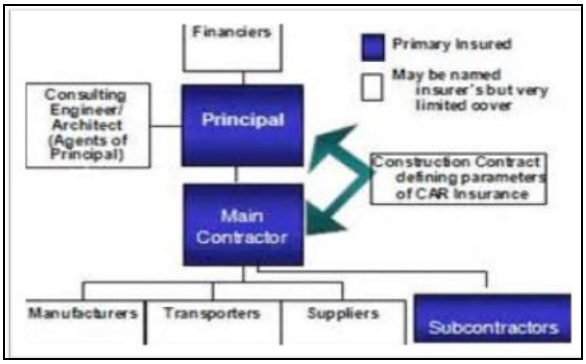

Figure 2: Construction contracts defining various parameters

2.1.1. Profitability

Contractors generally aim to make a certain percentage profit margin. The industry has reported that profit margins have been low or negative for several contractors on several projects in recent years. Some contractors have accumulated several loss making projects such that their whole annual result has been negative and this viability-threatening situation for several contractors has been one of the drivers for this document. A number of operators have commented on this unsatisfactory state of affairs as well.

Clearly, features in the commercial process such as competitive bidding impact on profit margins, but this model has served the industry well. During difficult commercial times, contractors are presented with the difficulty of bidding too high and missing the award. If this occurs, their expensive facilities (offices, workforce, fabrication yards and vessels) will be idle. If there is a large incentive to keep these facilities active (at almost any cost) then bids submitted too low with no (or negative) profit margin in desperation to win work. The work is later completed at a loss and the situation can only get worse for all parties. This situation is unsustainable.

Nearly all of the risks discussed in this document have the capacity of eroding profit margin and moving the project from a profit making into a loss-making venture. In the hypothetical case of a contractor with a project target profit margin of 5%, it should be noted that it takes only a small swing in the contract price of 5% to erode 100% of its margin. Further, it should be noted that the contractor only has recourse to the project duration (a few years at most) to achieve its return. The producing life of the facility that the contract was put in place to deliver clearly has a longer time for the operator to break even plus the opportunity to charge more highly if necessary/appropriate/possible for its products later in the facility's life. Of course, a 5% swing in the contract price for the operator is simply 5%, not 100% of his profit.

2.1.2. Timing of Risk Identification

Risks need to be identified early enough to do something about them. Project risks should be considered from the earliest conceptual stage. For example, risks from environmental loading are key drivers in choice of conceptual design and so are considered on day one. This document indicates that risks should be considered throughout the process from conceptual screening through more detailed front end engineering and design (FEED), the bid process, award and project execution. A risk inventory can run through from phase to phase, so nothing is lost between phases when the contracting parties may change. It can continue right through into the production phase where it may have an influence on maintenance, for example. The key message is that the earlier the risk is identified the better.

2.1.3. Who Retains the Risk?

After the risks are identified, it is critical to see which parties retain this risk in practice and through the contract clauses. Limiting values and circumstances may need to be defined.

3. Risk Importance

A conventional risk analysis can be used to rank the importance of the risks in descending order from: High risk + high value, through high risk + low value or low risk + high value, to low risk + low value.

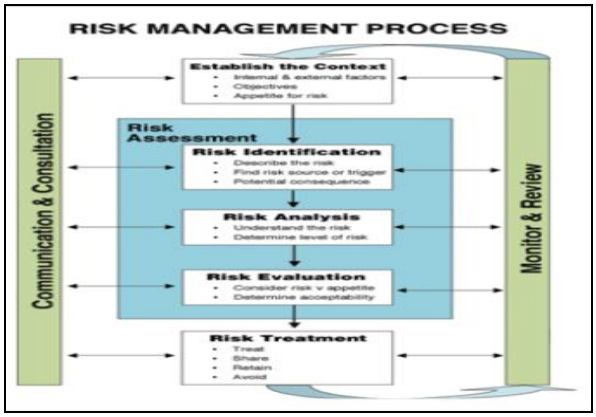

Figure 3: Model Development of Risk Management Process

3.1. Target Audience for this Document

The target audience for this document is:

Operators:

- Operator during conceptual development, bidding, construction
- Operator during production
- Partners

Contractors:

- Prime contractors
- Sub-contractors
- Vendors

Others:

- Finance community
- Host governments/national oil companies
- Insurance market/brokers.

The key targets are the operators and prime contractors during conceptual development, bidding and construction. The other stakeholders in the list can influence the risks and their allocation and need to be aware of the issues.

3.1.1. Main Risk Areas

The main areas of risk in these contracts are:

- Contractual
- Performance
- Financial
- Political
- Technical
- Geographical
- Operator

3.2. Contractual risks

The Contractual risks may include:

- Operator group and contractor group property and personnel
- Project works (including both operator and contractor supplied items)
- Pollution
- Third parties
- Consequential losses
- Warranty obligations
- Unlimited liability/damages at large
- Insurance cover
- Force majeure and suspension
- Delay
- Variation orders
- Free access to worksite
- Intellectual property rights

- Termination by operator for convenience
- Operator's obligation to pay contractor.

3.2.1. Operator group and contractor group, property and personnel
The contract should define the costs of loss of or damage to the parties' respective groups' property and personnel of whatsoever nature, irrespective of cause (including negligence).

3.2.2. Project works (including both operator- and contractor-supplied items)
The contract should define the responsibility for loss of or damage to the project works if such loss or damage is caused by an act or omission on the part of the contractor group whilst the project works are in the care, custody and control of the contractor group.

3.2.3. Pollution
The contract should define the responsibility for the effects of pollution and contamination of whatever kind emanating from the contractor groups' spread and onshore facilities, operator's facilities, the work and the facilities of others (third parties).

3.2.4. Third parties
The contract should define the legal liability for third parties' losses caused by each, including in circumstances where a contractor is required to perform work in an area of close proximity to any existing facilities.

3.2.5. Consequential losses
The contract should define the indemnities for each party's group's respective indirect or consequential losses howsoever caused or arising (including negligence) – whether or not foreseeable at the date of the contract.

3.2.6. Warranty obligations
Warranty obligations and defective performance liabilities (including post termination for default) and all other implied liabilities should be expressed in the contract in terms of magnitude, time and remedy.

3.2.7. Unlimited liability/damages at large
The contract should define or limit the contractor group's total cumulative liability under the contract and at law, in order to enable him to assess his overall exposure resulting from, for example, liability for delay, damage, rework, re-performance and/or replacement and default (whether or not such actions are carried out by a third party).

3.2.8. Insurance cover
The full details of the insurance policy terms, conditions, limits and exclusions (and any alterations) should be available to all parties and define the cover available or not for the project.

3.2.9. Force majeure and suspension
In the event that the contractor is prevented from performing the work due to force majeure or suspension by the operator, the contract should define whether the contractor has the right to remove any vessel from site once a maximum period agreed in the contract has been exceeded.

3.2.10. Delay
The contractor's liability for delay and liquidated damages should be defined and should be the operator's sole financial remedy under both the contract and at law.

3.2.11. Variation orders
The contract should define the contractor's obligations to perform the operator instructed variation orders taking account of contractor's other existing commitments, any change to the risk profile of the workplace and a mutually agreed adjustment to price and schedule where appropriate

3.2.12. Owner/Client's Obligation to Pay Contractor
Payment by the Owner/Client to the contractor is a material term of the contract and time critical.

3.2.13. Access to worksite
The contract should define the access to the work site and remedies in the event of delay or additional costs incurred as a result of restricted access to the work site by the operator or any party (other than a member of the contractor group), including intervention by an action group whether or not such intervention is defined as force majeure.

3.2.14Intellectual property rights
Intellectual property rights (IP) in terms of the party who developed those IP before or during the project should be clearly identified.

3.2.15. Termination by operator for convenience
Should the operator terminate the whole or part of the work for its convenience then the contract should define the entitlement to payment for all work performed, materials including cancellation costs relating thereto and all vessel and equipment costs and termination fee.

3.2.16. Operator's obligation to pay contractor
Payment by the operator to the contractor is a material term of the contract and time critical.

4. Conclusion

Construction contracts founded on the principal of fixed price, low bid award are extremely competitive by their very nature. With this competition return bids having extremely tight margins of error or none at all, significantly increasing the risk to the builder. Funding to complete the project is often times as tight for the owner as the bid proposal is for the contractor.
The owner anticipates and expects to receive a complete and usable facility for the {amount, the quantity, the number} of the bid with a modest amount set aside for contract modifications. There are no winners when written agreement disputes are elevated beyond the control of the immediate parties and placed into the hands of the judicial system. Claims and disputes are counterproductive to the ultimate goal each party is making an attempt to achieve; that being timely and cost effective delivery of quality construction. Arbitration as a dispute resolution technique has reduced the requirement to use litigation to resolve contract claims. The Disputes Review Boards appear to be making significant progress toward fulfilling this need.

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