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Two Worlds of Thinking: Risk Allocation between Construction and Industry in Large Infrastructure Contracts

Alexander and Partner

Large infrastructure projects commonly involve civil and plant construction. In case the whole project has to be delivered on a turnkey basis, civil construction and engineering companies have to team up.

For this process always two levels of contractual relations are concerned. Firstly the EPC contract between the customer and the partnership and secondly the joint venture or consortium contract between the civil and the engineering partner. The position of the partners towards risks in the EPC contract is closely related to the risk allocation between the partners in the joint venture or consortium contract. During many contract negotiations within the last 15 years, we have learned, that the different understanding of this risk allocation leads to inappropriate results in the customer contract as well as wrong calculations and gives room for disputes between civil and engineering contractor.

The following shall give an idea about the reasons for possible misunderstandings and shortcomings. It will deal with the main risks resulting from these misunderstandings, namely scope gaps and several forms of ground risks.

The dilemma

The distribution of liability between the civil works and engineering partners in its core is regularly ruled as follows:

- The consortium/joint venture members are jointly and severally liable to the customer for performance of the contract.



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- As between themselves, each consortium/joint venture member shall be liable for its scope of work.
- In case the risk cannot be allocated to one partner's scope or belongs to both partners scope, the liability is shared either equally or according to the scope values.

This regulation works as long as the risk that materializes during the project execution was well understood by both partners in the same way and is clearly allocated between them. One should think this is self-evident, but time constraints and familiar patterns of thought can lead to substantial misunderstandings.

Civil contractors are used to team up in working partnerships with other civil contractors in order to distribute high volumes of work and risk on several shoulders. Therefore, an important reason for these partnerships is risk sharing.

The engineering contractor usually teams up only with other partners, because he cannot deliver parts of the turnkey scope, like the civil works. His basic approach is to deal with his own portion and let the other partners deal with their scope. Looking at contracts from these different angles will lead to two areas of uncertainty, and therefore additional risk:

On the one side the links between the scope of different partners, so-called interfaces, are not dealt with adequate care, on the other side, some areas of risk are not sufficiently identified and allocated, due to the different bases of understanding of the partners. The latter materializes mainly in respect of the different types of ground risk.

Scope gaps

This risk emerges especially, when the customer's tender is based on a functional specification. The regular approach of the partners is to deal in detail with their part of the scope of works. For this part they feel responsible and prepared, the interfaces are frequently neglected. At a very late stage of the proposal procedure the issue will come up and it will be too late to deal with it appropriately. This happens, because the engineering partner only thinks about his own issues and the civil works

partner is aware of the common risk sharing cushion. As a result, the interfaces will not be identified in time and a risk contingency has to be priced in, which is not well founded, and therefore, will be adverse towards the competitiveness of the common offer. It is recommended to deal with the interfaces as early as possible in the proposal stage, so that a good scope allocation can be found by a careful and very detailed definition and allocation of scope.

Misunderstanding about risks and the allocation of it

As explained above engineering companies and civil construction companies have different approaches towards large turnkey contracts and the distribution of the involved risks. It is therefore important that both partners communicate in detail about the risks that the customer contract wants to impose on them and the content of these risks. The concern that otherwise misunderstandings can occur shall be shown by having a closer look at the ground risk in its occurrences as soil risk, unregistered substructures and findings of archeological artefacts.

Soil risk

The foundation of buildings or other structures is based on certain assumptions about the soil condition. In case the assumptions prove to be wrong, especially concerning the stability of the ground or ground water levels, considerable additional time and cost occur for the foundation of the respective structure. Since turnkey contracts regularly include a lump sum price and a delay penalty regime, the time and price risk is with the contractor, in case he takes the responsibility for the ground risk.

The engineering partner in such a case will always allocate this risk to the civil construction partner, since he will argue that the civil partner has to familiarize himself with the situation that can influence his cost and schedule and take all necessary precautions measures, like taking and analyzing of samples. This approach has its basis in the principal approach of



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the engineering contractor and also has reason, since the civil partner would not be prepared to take over liability, when the rolling stock partner delivers wrong engines which cannot take local fuel or if the local air quality is measured wrongly and the gas turbine of the power plant will not operate accordingly.

The civil works partner frequently will want to distribute this risk, since he categorizes it as unforeseeable, which, taking into consideration the civil construction risk sharing approach, is to be distributed between the partners. Especially in civil construction partnerships the ground risk is recognized as a common risk, since all civil construction companies know about its severity.

The recommendation is to clarify the mutual understanding about ground risk first. In case the ground risk has to be accepted by the contractor, then to allocate it to the civil construction partner according to the principle that the one who can handle a risk best shall take it. The civil partner is the one who can handle it best, since only he has the know-how to calculate the related cost and time and therefore the most accurate risk contingency.

Unregistered substructures

Mainly in older urban areas or regions with no proper land registration, hidden substructures cannot be identified reliably by publicly available maps. This causes the risk that during earth works unregistered pipes or cables will be found and have to be taken care of. With the same arguments as mentioned above, the engineering partner again will consider that this kind of risk has to be allocated with the civil works partner and the civil works partner will want to distribute it. Despite the fact that this risk cannot be mitigated by the civil contractor, like the ground risk, the recommendation to allocate it with the civil works contractor remains the same: The issue has to be made transparent between the partners and in case the risk could not be avoided during contract negotiations, it should be allocated to the civil contractor. The reason for this again lies in the experience and know-how of the civil works contractor about cost and time in respect of earth works. Since risks that cannot be

avoided have to be priced in the contract, the most accurate estimation can be made by the civil contractor, which gives the competitive advantage of the most reasonable pricing to the partners.

Findings of archeological artefacts

Especially in areas with an old colonization like Greece, Iran or Peru or areas with a strong awareness of its tribal or ethnical roots like the Arab countries or Australia Pacific, archeological findings are of high importance for the community. In case such findings are made during earth works, an immediate halt of the works is ordered by the authorities and not seldom lengthy official processes are initiated in respect of the further dealing with these findings. This can effect substantial delay and delay cost for the contractor. The recommendation here is to investigate sufficiently before contract signature about the local legal requirements and customs concerning archeological findings to be able to evaluate this risk. In case the contractual acceptance of this risk cannot be left with the client or at least be defined as a force majeure event, it should be distributed between the partners, since its sole consequence is the delay of the project, which will hit all partners. Therefore all partners have to calculate their part of the risk contingency in order to achieve the most competitive cost assumption.

All in all awareness and early and sufficient communication between the engineering and the civil construction partner are essential to avoid the described risks and achieve the best possible results for the partnership.



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