HP | Project Management

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Creating a 'win-win' between construction contractor and project owner—Part 1

Numerous articles have been written about the key elements to a successful construction project.[1–6] The important considerations for a successful project, which have been widely accepted, are: scope, cost, schedule, safety and quality. Success is defined as achieving satisfactory levels of all five attributes. Often, improvement in one area is achieved at the expense of another. For example, the project's schedule can be improved by increasing costs. A successful project is one in which all five requirements are carefully balanced to achieve the desired end result.

The previously mentioned literature primarily discusses construction from the point of view of the owner or the engineering company. The challenges faced by the construction company are discussed here. It may be noted that construction represents the biggest cost component of a large project. Furthermore, construction also carries the greatest risk. Some of the challenges faced by a construction company are availability of skilled labor, poor labor productivity, poor scope definition, complex regulations, tight budgets and short schedules.

Unlike an operating company that has the luxury of cashflow over the lifecycle of a production plant (e.g., more than 30 yr), a construction company has to deliver on each and every project that has a short lifecycle (less than 2 yr). No margin for error exists, and poor execution can result in untenable losses or even bankruptcy. Therefore, construction companies have to manage projects very tightly to ensure flawless execution and bottom-line profitability. It is essential for the construction company to ensure a successful project for the owner *and* to look after its own interests. In this article, a "win-win" is defined as a project in which the owner gets a completed project on budget and on schedule, and the construction contractor makes a fair profit (FIG. 1).

CHALLENGES FOR THE CONTRACTOR

Many challenges exist for construction contractors when they perform work with the project owner. Conflict between the project owner and the contractor can occur anywhere in the project lifecycle. Differences can arise as soon as the project owner puts the project out for bid and requests the contractor to go through a prequalification process, with corporate purchasing people running the process and requesting mounds of information. The contractor may then be asked to endure a competitive—or worse, reverse auction—process to win the bid, deal with a poorly defined scope or poorly communicated project scope, and fight over who is responsible for fixing any real or perceived quality issues after the project has been completed. The following sections describe some of the challenges faced by the contractor during the project lifecycle. This is not an all-inclusive list.

Prequalification. Most contractors know that they must provide the owner with numerous pieces of information. Owners generally request safety information (e.g., OSHA logs, historical experience modification ratings, safety manuals and procedures), financial information (e.g., audited financial statements, Dun & Bradstreet rating), and a questionnaire regarding the contractor's capabilities. The challenge is that the questionnaires are inconsistent. Instead of the contractor being able to submit its own internal questionnaire, the contractor often winds up spending time entering information onto the customer's document, whether it is in PDF format, a Word document, an Excel document or an online portal. Regardless, this is a time-consuming process for which the construction company is not compensated. Several new platforms exist to help bring some order and consistency to the prequalification process. However, additional costs are incurred to use these platforms.[a]

Proposal phase. After becoming qualified, the contractor searches for opportunities to provide its services to the company. First, the owner defines the business objectives for a project, which could be a combination of the following: reduce costs, expand production, reduce

FIG. 1. A win-win outcome is defined as a project in which the owner gets a completed project on budget and on schedule, and the construction contractor makes a fair profit.

energy, lower emissions or improve reliability. Once the project scope is defined, a contractor becomes engaged to bid on the project for the owner. Challenges can occur at the very beginning of the process if the owner does not have a well-defined scope of work. Additionally, problems arise if final approved drawings are not available. Whether or not the work scope is well-defined, the contractor should perform an onsite walkthrough, ideally with the project owner. For an existing plant site, where an expansion or modification project is planned, this would be a physical walkthrough the plant site. For a new project, the walkthrough would be in an office, using a 3D CAD model. It is essential to ask detailed questions to get a better understanding of the project scope. This walkthrough serves multiple purposes. First, it provides the contractor with better information on the project, enabling a more in-depth and thorough proposal. Second, the owner gains insight of the contractor's capabilities by the interaction during the walkthrough. Finally, at the end of the walkthrough, both parties should have a better idea of the scope and depth of the project, and an indication of the potential project cost range prior to receiving the contractor's proposal.

While a site walkthrough is the ideal situation, the contractor also knows that sometimes an owner representative will not be present, or worse, the contractor may be unable to walk the job. This can lead to project scope disconnect: The contractor may be using one set of assumptions on the project, while the owner, through a loosely defined scope, is operating under a different set of assumptions. The contractor will attempt to make stipulations within its bid submission document that may not be fully understood by the project owner. The stipulations can be overlooked if the project owner pays scant attention to the verbiage in the contractor's quote, and instead bases an award decision solely on the project's bid price. When this happens, both parties are at different ends of the spectrum, and the relationship starts off on the wrong foot. These issues become compounded when the contractor provides only a brief written bid description, rather than discussing the bid directly with the owner. However, negotiations may take place prior to the final bid submittal where the owner is looking for the best (usually lowest) price from the contractor. The contractor must be extremely careful in how much it reduces the bid price proposal to be able to win the work. At present, skilled labor costs are increasing due to the lack of available, qualified tradespeople; business insurance costs are increasing: and benefit plans are being beefed up to increase the retention of existing personnel. If the contractor fails to keep these costs in mind, its bid may be extremely tight, with the potential to be at risk for a negative outcome.

Contract development. Presuming that the contractor has won the award, another set of challenges arises relative to the project schedule. The owner's contractual documents have a number of clauses regarding project start time, drawings, project schedule and billing structure, among others. Those contractual documents may be received by the contractor within days or weeks of being awarded the job. Little time, if any, is built into the schedule by the owner for the contractor's review of these documents. Depending on the scope and complexity of the project and the contractual language, the contractor can spend many days reviewing the information and identifying potential areas of conflict. In the event that the contractor strikes out, or adds, certain language, the owner must respond to the potential changes—whether it is rejection or acceptance of the contractor's verbiage (e.g., the owner states retainage at 10% for the entire scope of work, and the contractor requests retainage be reduced to 5% after 50% of the work is completed). This type of issue can take time to resolve, which is unaccounted for in the project schedule. Contractors should not initiate any project work until a fully executed document is in place. Otherwise, the contractor has now inadvertently accepted additional risk.

Execution. After settling on contractual language, the contractor normally engages in an internal project kickoff meeting that brings together the pre-construction and project execution teams. This meeting is critical so that the execution team understands the details of the project's scope, defines the critical milestones, and identifies any potential weaknesses and opportunities with the project's scope. After this meeting, the contractor's project execution team should schedule a site walkthrough with the owner. The contractor should get confirmation of the project scope, understand the interdependencies that can exist with other trades, and confirm the project's schedule and deliverables. The owner may view this as either a reaffirmation that both parties are on the same page, or an impression that the contractor has identified multiple areas of gaps that will result in costly change orders to the owner. If the latter is the case, conflicts can occur.

Change orders. After beginning the project, the contractor will likely have identified gaps between the owner-defined scope and the actual realities in the field. These gaps will be viewed differently by the two parties. To the contractor, these gaps will be considered change orders. To the owner, these gaps may be considered as a poor estimate by the contractor of things that should have been within the project scope. While the aforementioned walkthrough may have resulted in both parties being on the same page, it often becomes a point of contention when the dollar value of those gaps is determined. The contractor will have supporting documentation detailing why the request is above and beyond the project scope, and will identify the added time and cost needed to be able to complete the project. The contractor will often assume that the owner will be resistant to any changes to the price and schedule, and that the owner may even be of the mindset that the contractor is trying to gouge the owner. The contractor-submitted change orders will be reviewed with a great deal of scrutiny and pushback prior to any approval. Both parties are protected, as extra work will not be performed until formal approval from the owner is in place, as is typically provided in the owner's contract documents.

In another scenario, the owner might identify changes to the scope and request the contractor to complete those changes as an owner-directed change order. The contractor will provide an estimate on costs and additional time needed as a result of the owner-directed change. Contention may occur, because the contractor will request formal owner approval of the change order prior to doing the additional work, while contractual language may state that the contractor will work on the change order while approval is being considered. The contractor is at risk, since it is doing the work without any certainty that it will receive approval and compensation for the change order costs.

Cashflow. Another area of conflict deals with contractor cashflow. Most major projects are set up by the owner for the contractor to bill only once per month, with retainage being applied. The concept of retainage is to provide the owner with some protection to ensure that the contractor performs all of the agreed-upon work to the owner's satisfaction. Typically, the owner will pay 90% of the gross monthly contractor billing. Only after the contractor's work effort is complete, and approval from the owner is obtained, can the contractor bill the remaining 10% of its project cost. Owner payment terms are disclosed within the contract language. Generally, this is 45 d–60 d after receipt of a correct and complete contractor invoice. It should be noted that this applies to non-retainage billings. The owner will not pay the retainage billing until after the entire project scope is complete, with all punch list items addressed and all paperwork completed and filed. Depending on the contractor's involvement in the scope, the contractor may have to wait as much as one year to receive its final invoice payment. This process presents a cash flow challenge for the contractor.

THE OWNER'S PERCEPTIONS

In literature, the challenges of all parties involved in construction are described.[1] The construction industry is volatile, and numerous peaks and valleys exist for all involved. The goal of each party (i.e., owner and contractor) is to make the situation bearable as everyone is vigilant in protecting their entity. In basic terms, one party is spending money and the other is trying to make money. While this sounds simple, incorrect perceptions often cause the situation to be even worse than if there were a common understanding on both sides. While the word *adversarial* may be strong, the situation can be at least contentious as each party strives to meet its goals and protect their respective companies.

For a project to move forward, the owner must do significant work to justify the cost-benefit analysis of the project. Whether a final product is produced or whether efficiency improvement is the stated goal, the owner's studies likely show a narrow threshold for the capital outlay.

When it comes to executing construction, the owner can become concerned if it appears that the contractor does not understand capital constraints. The goal of the owner adhering to a tight budget vs. the contractor making money comes into conflict. A common owner perception is that a contractor will define a tight scope so that it can make significant money on change orders. This is possible since the contractor knows the nuances of construction and can define "traps" that are unknown to the owner. Often, the owner does not have construction-savvy people to spot these scope-growth possibilities.

Typically, most owners initiate the contract using their standard documents. Through years of experience, the contractor is often viewed as the master of structuring a contract that favors its company. The goal is always to reduce risk, and the contractor will strive to push off as much risk as possible to the owner. An unknowing owner may accept contract terms that will have a significant impact during execution. This is especially true with a contract where schedule is very important. A common solution for this situation is to impose liquidated damages on a contractor for being late, but a contractor may use late owner drawings as a hedge on lateness, even if the drawings did not affect the lateness.

Owners are often concerned with contractor opportunities to hide significant profits or margins. A common area of concern is indirect costs. Indirect costs are not directly accountable to a project, and typically include administration, insurance and taxes. Indirect costs can be applied to a project as a fixed number or as a percentage against each direct hour billed. In whatever manner applied, the owner is often concerned that some components of the indirect costs may reflect an opportunity to provide additional profit margin. One way to address this issue is to provide time and material rates to the owner. An easy way to check these numbers does not exist, which is a concern.

Another area of concern is contractor markup of material procurement. Since there is no way to know the actual cost to procure material, the owner has no way to know if contractor markups are reasonable. Owners frequently will purchase large-dollar items and free-issue them to the contractor to avoid procurement markups, but this can lead to finger-pointing if it impacts the schedule.

The authors' perception is that the gap between owner and contractor has increased over the years. In prior years, there was more give and take in project execution, and if there were problems, there was an openness by both parties to work out the issues without harming the party. At present, money is tight for both parties and both entities work diligently to protect their companies. This scenario shows signs of continuing, so it is to everyone's benefit to determine some means to make the construction phase of a project work more smoothly.

Part 2. The conclusion of this work, which will appear in the June issue of *Hydrocarbon Processing,* will present recommendations that create a win-win for both the owner and contractor. Specific recommendations include early engagement of the contractor, an integrated team, frequent communication and well-defined financial incentives. HP

NOTES

[a] Refers to platforms such as BROWZ, SAP and ISNetworld

REFERENCES

Complete literature cited available online at HydrocarbonProcessing.com.

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