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Creating a 'win-win' between construction contractor and project owner—Part 2

For large projects, construction represents the biggest cost component and the greatest risk. Some of the challenges that construction contractors face are shortages of skilled labor, poor labor productivity, unclear scope definition, complex regulations, tight budgets and short schedules. For a project to be successful, five important considerations—scope, cost, schedule, safety and quality—must be addressed at satisfactory levels.

Within the completion of a project, a "win-win" is defined as a project in which the owner ends up with a completed project that is on budget and on schedule, and the construction contractor makes a fair profit. Part 1 of this article, featured in the May issue of *Hydrocarbon Processing*, discussed challenges faced by construction contractors.⁷ The following will provide recommendations for creating win-win situations for both owners and construction contractors. Specific recommendations include engaging the construction contractor in early project phases, along with forming an integrated team, ensuring frequent communication and presenting well-defined financial incentives.

Recommendations. It may appear that the owner and the construction contractor have conflicting goals. However, in reality, they are united in their desire to achieve project success by reaching satisfactory levels of the five considerations listed. To increase the chances of meeting these goals, it is best to bridge the gap between these two parties. This can be accomplished in a few ways. One example is to involve the contractor

early in the owner's bid and engineering phases of a project to help identify value improvements that can make a project more financially attractive and to improve constructability in the field. The challenge in this approach is to justify the expenditure of upfront money for the contractor, with the idea that this expenditure and team arrangement will pay off as the project progresses. A further challenge for the owner is to select a contractor that will be a good fit for the project. While early involvement ensures this work for the contractor, there is often little money to be made during these early stages.

In addition to involving the contractor in the project's bid process, it is often beneficial to include the contractor in the design process, as well, to help the combined team stay focused on the project's objectives. Contractors that are involved in the design process can envision design modifications that will expedite construction. For example, the contractor may suggest to the design team that time and money could be saved by modularizing certain portions of the project. Construction personnel can also prioritize design elements that are crucial from a schedule standpoint.

Under the previously mentioned scenarios, the ultimate question is how construction costs will be determined and monitored if the design is incomplete. This question is at the heart of how to ensure that a project will be successful. The best way may be to have the contractor closely involved in determining the project's estimated costs, and to

continue its project involvement as engineering proceeds. This method allows the contractor to be continuously aware of the design status and project scope. Contractor involvement in the upfront decision-making and design processes can be handled on a time-and-materials contract basis, and lump-sum prices can be requested for completed design aspects. As package prices are received, these will clearly indicate if the project is on track. Ultimately, the owner has overall cost responsibility, but the contractor is responsible for these defined packages. If the contractor appears to be veering off track from a cost perspective, other contractor quotes can be obtained for completed design packages.

Another recommendation is for the owner to conduct a site walkthrough prior to any project bid submission. This can be done on a one-on-one basis with a specific contractor, or with all potential contractors present. Walkthroughs provide contractors with key information about the project landscape (e.g.,

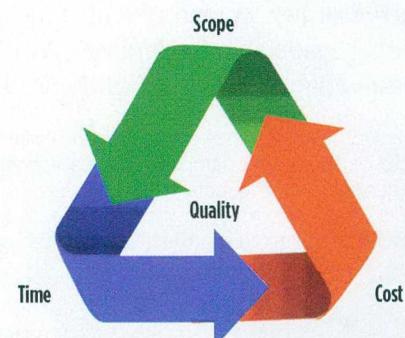


FIG. 2. The project management triangle.

scope, facilities, layout, environment, etc.) so they can develop their bid proposals, along with their plans on how the project can be executed in the most cost-efficient and timely manner. Contractors can point out areas of conflict to the owner, resulting in a more refined project scope for the owner and in better bid proposals from the contractors. The owner can interview the contractors regarding their qualifications, capabilities and experience.

To achieve a win-win outcome, it is prudent for the contractor to have the opportunity for an in-depth discussion with the owner about the contractor's bid proposal. Most owners do not offer this opportunity, and instead rely on the information provided within the contractor's written proposal, with a primary focus on the bottom-line bid value. This approach exposes the owner to a host of issues that could have been avoided through a conversation with the contractor.

Most contractor bids identify high-level scopes of work and assumptions, along with stipulations and exclusions.

Unless they are well versed in construction activity, owners will not have a clear understanding of what the contractor may be excluding in the proposal. Awarding the project strictly on bottom-line value exposes the owner to conflicts with the contractor over future change orders. Having a direct discussion with the contractor provides the owner with better information on the quality and thoroughness of a contractor's proposal. It also enables the owner to better gauge the value of one proposal over another, and gives the contractor an opportunity to refine its estimate based on a much clearer scope of the work. The more complex the project, the more beneficial it is to have a face-to-face project bid proposal discussion to help ensure a successful result.

Whether or not the construction contractor is involved early in the project, the owner should have at least one person on its team with extensive construction experience. This will provide the owner with the ability to monitor the project's progress and challenges as

the project is scoped and executed. In a perfect world, owners would probably prefer a lump-sum price for the entire construction effort, but this is generally not possible due to the time lag in engineering. A modified approach of ongoing construction involvement and discreet bid packages is one way to provide a level of construction control.

Several contract options are available for the construction of a major project, but one possibility may be a combination of time-and-materials and lump-sum contracts. As previously described, time-and-materials contracts can be used during the early phases of a project (e.g., project development and engineering), and lump-sum contracts can be used for final construction packages. Another possibility is a time-and-materials contract with a fixed fee, but this involves a significant involvement of time by the owner to manage cost and scope. Recently, design-build and not-to-exceed contracts have become popular to manage challenging projects. Different contract types are discussed in literature.⁶



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The two main contract types are:

- **Lump sum.** This contract is suitable for situations where the scope is well defined. The contractor carries the cost, scope and schedule risks. This approach can lead to conflict and a poor outcome if the scope or external conditions change.
- **Reimbursable.** These contracts are suitable when there is a high degree of uncertainty in a project. This can be due to scope, labor market, material prices, remote area or new technology. While this arrangement addresses risk, it is not an effective method of controlling cost.

Depending on the nature of the project, it is possible to structure a mix of these two main contractual arrangements for different phases of a project. This can be done by creating alliances, hybrid and unit price contracts.

From an owner's perspective, a successful project will be one that is completed on time, on budget, and with high quality and minimal change orders. The owner must also be confident that it is being billed fairly for construction services. From the construction contractor's perspective, it is important to achieve an acceptable profit level, and to receive professional acknowledgments for a job well done.

Aligned objectives. As stated previously, construction projects have five main objectives—scope, cost, schedule, safety and quality—that must be carefully balanced to achieve success (FIG. 2). The nature of construction projects is such that trade-offs must usually be made. For example, adding to the project's scope can be accommodated by increasing the cost and schedule. The parties involved must align their efforts to handle additional scope items by increasing costs, lengthening the project's schedule or a combination of both. Quality is not an objective that should be compromised. However, if a clear decision is not made, all three of these objectives (cost, schedule and quality) can suffer, resulting in an undesirable outcome. Having a clear alignment on these objectives is essential to achieve the desired result. If the owner and construction contractor have conflicting perspectives, resulting in misalignments of these objectives, then the project will suffer. Avoiding this unsatis-

factory outcome is the main rationale for having a single-team approach.

Financial incentives. Experts in the field of construction management have developed the following guidelines for implementing a single-team approach:

- Strong and empowered leadership
- Clear communication
- Co-location of key team members
- Team identity (team lunches, team jackets, etc.)
- Financial incentives (bonuses/penalties).

Financial incentives warrant further discussion, as they can yield significant benefits for a small investment. For example, a large construction project can cost hundreds of millions of dollars. A group of 10–20 key individuals from both the owner's and contractor's teams can make or break such a project. By defining a significant performance-based bonus or penalty (e.g., approximately \$10,000/person), it is possible to change a person's behavior for a relatively modest investment (e.g., \$100,000–\$200,000). This bonus represents a small percentage of the overall construction project (e.g., less than 2%), and is usually well worth the investment. The key is to structure the bonus (or penalty) in terms of results that are specific, measurable, achievable, realistic and timely (SMART). This technique is frequently used in human resource departments to reward people for individual contributions. It can be successfully applied to construction projects, as well.

Takeaways. Construction is the largest risk area of any project, and this leads all parties involved to be very guarded in their approach to this project phase. Owners and construction contractors may initially appear to be on opposing sides, as each party works to protect their respective entity while also striving to ensure a successful project. Generally, the focus is on the owner and its strategies for a successful construction phase. However, the contractor faces the enormous task of trying to define the scope of a project, which is often vague if the project's design is incomplete. The contractor's financial challenges are extremely daunting, since it cannot recover its money over the project lifecycle, but must make its profits strictly from the project at hand. Coupled with these chal-

lenges are the everyday project trials and tribulations, including weather, labor issues and timely deliveries of materials.

To facilitate a smoother project, the best solution is to close the gap between the owner and the construction contractor by supporting a common team concept rather than an adversarial relationship. This can be accomplished by involving the contractor as a team member early in the project. A contract can be structured to assist the contractor through tough scope definition points, and then the contract can be modified as the project progresses. This structure often involves a combination of a time-and-materials contract (early in the project) and a lump-sum contract as the project scope becomes clearer. Ultimately, the goal for both the owner and construction contractor should be to achieve a win-win during the construction phase of a project, and not to measure success by how much one party takes from the other. HP

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- 7 Berg, J., G. Shahani and C. Rentschler, "Creating a 'win-win' between construction contractor and project owner—Part 1," *Hydrocarbon Processing*, May 2018.



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