

Can Operators Help Reduce Supplier Costs?

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As the oil and gas industry continues to look for lower-cost solutions, their efforts often lead to the question: "What drives the cost?" There are supplier-controlled cost components to the goods and services provided to the oil and gas operators by the service companies. There are also customer-related costs that are created by the way our industry does business that cannot easily be removed by the service companies.

To be competitive and to improve their profit margins, service companies are committed to cost reduction. They seek lower-cost suppliers and less-expensive raw materials; they look for ways to minimize employee costs; and they work on improving manufacturing efficiencies and quality. While all of these are areas where cost

reduction is appropriate, it is usually difficult for suppliers to do more than simply hold their cost flat. Recent cost reductions have been offset by increases in raw materials, rising insurance costs and the cost of employee benefits like health care. Market volatility leads to high employee turnover, which adds the costs of retraining and the loss of critical lessons learned. Technology innovations sometimes decrease operator costs, but often the new technology results in additional costs to the supplier for engineering, changes in manufacturing and recovery of research and development costs. These new technologies may improve the life-cycle cost to the operator, but may not result in a lower cost for suppliers.

Customer-Related Costs

Many costs incurred by service companies are the indirect results of meeting their customer needs. While some of these costs are valid, many could be reduced if the oil and gas operators could make changes in the way they deal with their suppliers. Specific examples include:

Project Cycle Times. Major oil and gas projects have significantly different development times from the discovery well to first oil. While there have been some successful fast track projects, it is more typical for major projects to require many years from initial discovery until production. Often, the operator continues to delay their decision on the preferred production alternative and then try to compress the execution phase of the project. Such schedule compression inevitably results in technical compromises that ultimately cost both operator and supplier both time and money.

Distribution of Risks. Suppliers often take on project risks that they cannot define just to ensure they win the work. They usually hope that the risk will not materialize or that the operator will support them if these risk activities occur with the resulting delays and extra costs. While this is sometimes the case, it is more common for the supplier to bear the brunt of any unexpected risks that are incurred. Part of this phenomenon is driven by



the increase in insurance rates that are driving operators to push more risk onto the suppliers. And as we move into deeper water, operators face unknown production characteristics, such as flow rates and reservoir uncertainties. Neither contractor nor operator may have the right experience to identify and manage these risks. Eventually, in this or some future project, risk money is added by suppliers to compensate for risks that are ill defined and poorly understood. The suppliers' loss experience will culminate in risks being priced too high without the price tag being exposed to the operator. This lack of transparency erodes trust between operators and contractors, and often results in higher costs than would be necessary if the risks were better defined and priced accordingly. The operator cannot evaluate the actual nameplate price of its project due to this hidden "pool" of risk price added by the contractor.

Fixed-Price Bidding. This type of bidding was once common to our industry, but is being phased out in favor of target-priced reimbursable and unit pricing. However, in major projects in West Africa and Asia Pacific, it is still the dominant contracting style.

Fixed-price bidding rarely provides the lowest cost to the operator; it is merely the starting point. Operators are tempted to select the lowest price when they should be selecting best value. The supplier submits a low price to win but often is expecting variation orders or ambiguous terms and conditions to result in a price increase in the future. Offering very low prices with zero or below-zero margins drive a supplier into the "protection" mode rather than the "collaboration" mode. This means the supplier must look for variation orders to modify the price or schedule in a way that benefits their bottom line. In situations where suppliers have underutilized equipment or manufacturing capacity, they may "buy" projects and then rapidly get into trouble during the execution phase. In their quest to trim costs, they may deviate from their normal practices – for instance, utilizing untried but inexpensive subcontractors that prove unable to meet project schedule and quality requirements. This is usually discovered well into the project and may require a significant effort to recover from schedule delays and quality failures. At the end of the project, the ultimate installed price can be far higher than the original fixed-cost bid and could have been lower if the operator and supplier worked in a more collaborative mode or if the operator had selected on value and life of field cost rather than lowest price.

Selecting the Right Benchmarks. Our industry prefers to utilize benchmarks from previous projects/operations to determine if the cost for the next project, service

or product is competitive. Unfortunately, many of our benchmarks are for shallow-water projects and not applicable to some of the floating and deepwater projects now being contemplated. They are also based on "as bid" instead of "as installed"; rarely do these figures agree.

Geography can play a large role in determining benchmarks. For example, best practices in the North Sea will often not be the same in other areas, such as West Africa or Brazil. Legislative requirements in some parts of the world can significantly impact costs, whereas in other areas there may be no other requirements than that of the operator. The cost of operating in countries with limited infrastructure is usually higher than in developed countries. The need for local partners and/or facilities in these less-developed areas can often increase total cost, although this may decrease fabrication/transportation costs and may be well received by national oil companies working in that region.

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Operator preferences can also affect benchmarks because they can vary from generic functional specifications to highly prescriptive requirements. Service companies and suppliers may offer a lower-cost solution, but operators may reject this offering because it doesn't fit a particular operator's general engineering specification or was "not invented here." Project managers for the operators are generally motivated to look for the lowest capital costs rather than optimizing the costs over the life of field. One of the most difficult problems faced in large projects is convincing national oil companies that the lowest capital cost bid may not be the best bid overall. It can be difficult to demonstrate that spending more up front results in a higher reserve recovery and a lower life of field cost. The final variant in benchmarks is cost of raw materials and currency exchange. A 10 percent swing in steel costs can render a benchmark meaningless.

Possible Solutions

All of the above leads back to the question of "Can operators help reduce supplier costs?" I would like to suggest the following possible solutions to the issues raised above.

Plan for Project Life Cycles. Preferred equipment suppliers, not just engineers, should be involved early in project planning when the different field development schemes are being evaluated. Normally, the oil companies utilize engineering firms for this purpose but the engineering firms may not have the latest knowledge regarding field development alternatives. Equipment suppliers and installation contractors often have new concepts or lessons learned that might not be known by the engineering companies. Operators can benefit from this information if they work directly with those suppliers from which they intend to procure services and equipment before they actually go out to bid. Involving these suppliers in the early days of the project may bring to light alternative solutions that are more cost effective or that will lead to achieving first oil more quickly. The engineering consultants can help evaluate alternative concepts but should not be the operator's sole source of information regarding supplier/contractor capabilities.

Selecting a preferred field development strategy and then freezing designs as early as possible can significantly reduce operator cost. While this may not result in the optimum design, sometimes "better is worse than good enough." The continual optimization and changing of a project development scenario is often confusing to suppliers and contractors. It may be more effective to pick the preferred scenario, such as a floating production system with subsea trees, and work on ways to move forward with this concept as quickly as possible. A 5 percent cost penalty can be easily offset by achieving first oil at an earlier date.

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Our industry needs to move to standardized designs and processes. Repeatable processes are the cornerstones of quality. Unfortunately, most project teams are put together for a specific activity and follow their own process in regards to planning, gaining supplier/contractor input and the bid process. The responding suppliers and contractors must adapt to these ever-changing needs and often have to respond with the same information multiple times in different formats.

Embrace the "one team" approach to achieve the project goal of a specific first oil date. Many operators talk about improving their project cycle time and achieving first oil on a fast-track basis. However, some operators

continue to study development options, change their requirements, change their project personnel and continue to delay a firm decision on what the development scenario will be and who will provide the equipment/services for their project. The sooner they pick a team of their own personnel and those of their suppliers, the faster this group can work together to meet the end goal.

Distribute Risks. Operators need to recognize the symbiotic relationships between themselves and the supplier community. This should include standardized contract terms, identification of all risks and who is responsible for these risks, with the end result of reducing the "risk money" in bids. While frame agreements can be useful, pricing needs to be based on philosophies of development and not just standardized equipment. Standardized equipment can help reduce costs but it is not uncommon for the equipment design to change during a project or for the next project. A better solution is to have agreed pricing that is based on certain functional requirements with motivation to both the operator and contractor project team members to exceed pre-agreed requirements, such as project schedule, project costs, quality and safety targets.

As mentioned previously, it is important to identify the risks and determine who best understands and can mitigate these risks. For example, installers should not assume product liabilities, and equipment suppliers should not assume installation risk. There are some risks that should not be borne by suppliers as they are best mitigated by the operators or may be less expensive if managed by the operators.

It is important to identify and evaluate the true "risk price" in any equipment/services bid when constructing contract models. The operators need to determine what they pay for when they review the contracts. Onerous contracts will generally have higher pricing and the operator may be paying for risk that they should be taking themselves.

Consider Life-of-Field Approach. Most operators have departments to handle projects that are independent from their long-term operating groups. It is important that suppliers interact with both of these groups. While one solution might have the lowest capital cost, it may not have the lowest operating costs, and this should be evaluated during the initial field development planning phase. Project teams should focus on total recovery versus the cost of the initial installed facilities.

Provide Supplier Incentives. The concept of a balanced scorecard to manage a company's overall activities is becoming accepted as a way to ensure that the employees are focused on the right results. This same

balanced scorecard concept can be utilized between operators and service companies to ensure the focus is on maximizing recovered reserves. Metrics might include:

- Equipment uptime
- Expandability
- Logistics and continued support services
- Health, Safety and Environment (HSE) goals
- Long-term support such as trained service personnel
- Initial selling price (including escalation for future orders)
- Shared risk pool
- Developing in-country capabilities
- Rewards for minimization of change orders

Embrace New Technology. The oil and gas business has been slow to accept new technologies. While we continue to improve as an industry, our technology developments are slow to be broadly accepted. Most operators are not ready to utilize "Serial No. 1" due to reliability concerns and not having a value proposition that supports risk taking. Oil company personnel are generally rewarded for meeting project schedule and cost goals, and not for employing new technology that might be beneficial to future projects. While we have had some notable exceptions over the years, such as the Hutton tension leg platform (TLP), which was installed in relatively shallow water in the North Sea but proved the TLP concept, our industry tends to stay with the "tried and true" even if there appears to be a better solution.

A well-known consulting firm has reported that the oil and gas industry is one of the slowest to accept new technology. They evaluated the time for 50 percent of the market to accept new technologies for various categories and found that for consumer products, this period was seven years; for pharmaceuticals, it was 12 years; for telecoms it was 16 years; and for the oil and gas industry it was 32 years from the time of introduction to a point where 50 percent of the market accepted the technology. While we do have exceptions to this, it is clear that overall our industry tends to be slow to embrace new technology. As an example, ABB installed the first subsea processing system in the Troll Field for Norsk Hydro in a pilot project. The system has now operated continuously for approximately three years with no problems and has in fact exceeded Norsk Hydro's expectations. However, no one has purchased System No. 2 although most industry surveys related to subsea developments have found that subsea production is listed as a very high technical need. Unfortunately, most project personnel are reluctant to try this new technology and tend to install surface facilities that are in line with their past experience.

As our industry improves in the area of automated oil-field with smart completions, permanent seabed seismic networks, and more facilities located subsea, we will continue to see a high amount of available technology. It will be interesting to see how quickly we embrace these technologies and use them to reduce costs.

A Cost-Conscious Checklist

So how can operators help reduce supplier costs? To summarize:

- Improve your front-end design by bringing in the companies that provide the products and services.
- Separate the risk from the product when you ask for pricing – and determine the real value of what you need.
- Bridge the gap between development and production; get the project team and the long-term operations team together to improve life-of-field cost.
- Understand the new technologies and embrace their potentials.

It has been said that insanity is "doing the same thing over and over and expecting a different result." Our industry needs to continuously challenge all of our current approaches so that we can reduce costs for all parties, as opposed to just repeating what we have done in the past. While suppliers will continue to focus on cost reduction, some of the most significant costs can be taken out by better collaboration between operators and contractors working together to provide the best life of field solution. ■

Until recently, Bruce Crager was president of ABB Offshore Systems, Inc. This position was made redundant with the merger of ABB Offshore Systems, Inc. into ABB Vetco Gray, Inc. Prior to joining ABB, he was senior vice president of Oceaneering International Inc. with responsibility for mobile offshore production systems. During his time at Oceaneering, he held several other senior positions related to worldwide marketing and the manufacture of subsea products. Prior to joining OII, Mr. Crager served in various management roles within Vetco-Gray Inc. and Hughes Offshore and as an engineer with Seaflo Systems and The Offshore Company (now Transocean Sedco Forex).

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