

A CASE FOR INDEPENDENT PROJECT OVERSIGHT

Help that Project Reduce Surprises

Introduction. Industry statistics being quoted at construction conferences and workshops reveal the chances of successful cost and schedule performance of a capital project are slim to none. Two recent take-aways...

“70% of projects are not completed within 10% of budgeted cost and schedule”

“98% of megaprojects experience overruns that average 80% over budget and 20 months late”

Opposing business goals of owners and contractors, a well-recognized roadblock to project success, is among the root causes of deficient capital project performance currently being actively addressed by academic and construction industry institutions.¹ This article highlights benefits of one often misused element of project management that, when administered with prudence, offers significant opportunity to overcome owner/contractor misalignment and potential elimination of negative performance factors. Relative functions and benefits of independent project oversight, consultant selection, and contract considerations are discussed, and recent example on the impact of deficient oversight on a capital project is described.

The Problem. Opposing business goals have long been a motivator behind the common practice by owners of energy sector operating companies and their financial backers for engagement of independent project oversight of capital project contractor performance. To best resolve this complex issue, the need for the services should be a prime consideration by conceptual planners. Unfortunately, selection and management of truly effective independent and objective third-party design and construction specialists to oversee project planning, engineering, procurement, and construction is a process too often poorly executed or even intentionally avoided.

Owners and lenders involved in medium to mega-size projects frequently lack objective or adequate in-house resources to oversee management of complex engineering, procurement, and construction (“EPC”) operations. Inaction to overcome the deficiency can lead to missed targets and a failed project outcome.

Likely adding fuel to this fire is an increasing movement away from a traditional design-bid-build project approach to the design-build delivery method wherein all deliverables are produced by a single entity (the fox in the hen house) which is believed by some users to come with a reduction in transparency. An optimal level of owner participation is considered essential by design-build proponents. Failure to arrange oversight of technical and commercial project execution functions is seen to impair cost and schedule performance and exacerbate necessary stakeholder collaboration.

Project oversight services by the performing design entity in a design-build arrangement can be less than adequate for a number of reasons including potential conflict of interest, weak designer construction expertise, differences in opinion of scope and cost, or even an adversarial owner/contractor relationship. Some owners are known to mistakenly treat the design-build method as

¹ The Construction Industry Institute at the University of Texas (“CII”) and the Construction Industry Roundtable are partnering to develop *Operating System 2.0 – Collaboration to Reform the Construction Industry*.

a turnkey operation and intentionally avoid employee or engaged representation until pre-operation and hand-over functions are ongoing. Depending on the nature and size of a project, hiring an owner's representative or oversight consultant may not be deemed cost effective. Even in such cases an independent engineer ("IE") or owner advisor can perform impartial assessment and important due diligence functions.

In the financial world lenders, investors and sureties monitor the execution phase of supported projects by engaging independent lender or bank engineer ("LE") services as part of their risk management process. The same practice is available to project owners in need of oversight in the form of advisory or supplemental assistance, even when a project management contractor is involved. Independence is often maintained in such cases if the IE is nominated by an owner and compensation is built into contract provisions. A best and essential practice is to ensure a clear description of consultant duties and limitations is understood by all involved parties.

Consultant Functions. Roles of an oversight consultant, IE or LE can be many, but as a minimum they generally include technical and financial services such as design office and site visits and attendance at project status meetings to evaluate the health of an ongoing project, followed by periodic reports. In addition to addressing technical aspects of a project's cost, schedule and quality performance, tasks can involve tracking and evaluation of contractor performance relative to commercial and contractual obligations such as proper use of funds, ability to service debt, and comparison of payment disbursements to actual progress.

Other critical project execution areas wherein an oversight consultant can add value may include, but are far from limited to, independent and objective opinions on issues or options arising in project progress meetings; quality of process safety review, HAZOP, or value engineering sessions and their follow up activities; soundness of project risk and change management program implementation; and level of contractor technical and business competence. Detailed design and construction oversight may involve compliance of equipment and materials with specifications; cost and schedule analysis and optimization; process equipment storage, installation, commissioning, and certification testing; construction safety and labor relations program administration; operation and maintenance manual preparation; and project close-out planning and implementation.

Oversight Benefits. Oversight payback crosscuts all phases of project execution. For example, front end focus by an added level of best practice knowledge on substantive issues often identifies obstacles in time to take corrective action and serves to support owner or lender confidence in the health of a project as it progresses through completion. An impartial focus on design and procurement functions can reduce possible design recycle and construction rework. Independent eyes on the safeguarding of the value for money when large funds are being spent during execution helps optimize cost performance. An added level of assurance that processes and products used on the project are in line with its overall goals is made available. Overall trust among stakeholders is strengthened.

Consultant Selection. An oversight consultant should be seasoned enough to fully address the substantive issues that tend to arise within any phase of a project's execution. Extensive experience in both home office and field operations is a basic qualifier. A strong ability to communicate easily with all levels of project management and labor is an asset. Other key attributes include knowledge of construction budgeting, cost and schedule reporting and forecasting, risk identification and resolution, contract administration and change management, dispute avoidance, and jobsite safety management. Ideally, engagement early in a project's front-end planning or detailed engineering phase will enable the

most comprehensive understanding of project objectives, including planned design, procurement and construction activities, roles of key stakeholders and the project's overall goals and expected outcome.

Contract Provisions. Effective monitoring of technical and commercial due diligence aspects of a capital project can involve numerous complex and even contentious services. Up front clarity of the scope of oversight between the hiring, performing and monitored parties is essential. Oversight consultant, LE, or IE services need to be well defined in a contract with no misunderstanding between the parties regarding approved activities; yet flexibility to address unexpected issues is necessary. Certain objectives such as evaluating project performance relative to recognized and generally accepted good practice and industry standards; tracking of identified project milestones or goals; and the quality of work related to financial, construction, health and safety, or technical products are commonly understood. However, oversight activity can lead to argumentative findings or even fraud. For this reason, full understanding by all parties of the independent and objective nature required of an oversight party and its intended purview is imperative. Clear and detailed documentation of a consultant's scope of services within an engagement agreement and matching provisions among project contracts can help avoid misunderstandings.

An Example. Following is a summary of a disastrous experience known to this writer that would likely have been avoided by the owner of a severely delayed and overrun project, or certainly reduced in impact, had adequate representation and oversight been arranged in its conceptual phase.

In 2007 the mid-sized exploration and production firm engaged a natural gas engineering company on a non-competitive basis to design and construct its gas processing plant under a cost reimbursable not-to-exceed EPC contract arrangement and a design-build delivery method. The process design involved first of its kind technology. Product delivery was date-certain under a sales agreement with liquidated damages. The location was in a remote mountainous region.

Strangely, the owner assigned a plant operator with no engineering and little construction experience as its project manager and sole representative through the engineering phase, and leader of a team of plant operators during construction. No other representation or independent oversight was involved in the project.

The marginal level of owner involvement contributed to inadequate project management and overlooked and unresolved findings at design reviews, eventually resulting in needless repetition of process safety analyses by multiple consultants to satisfy OSHA's process safety management mandates. Design recycle overlapped well into construction and even commissioning phases of the project resulting in rework of numerous installed components.

By the end of 2013 investment tax credit milestones were missed and project costs more than doubled. As of 2018 the plant remained unable to produce intended product. Ultimately liquidated damages in the tens of millions were lost in litigation due to failed delivery, and the firm suffered a seven-fold decline in stock price.

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