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IF YOU HAVE A HAMMER...NOT EVERYTHING IS A NAIL

OPTIMIZING CONTRACTOR PROJECT GOVERNANCE AT THE BID STAGE

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INTRODUCTION

Project governance has several meanings, depending on whether you are a board member, a general counsel or a project manager/participant. Project governance in general might be defined simply as knowing what corrections to make in a project life cycle to lead the project to a predictable and positive outcome.

The best opportunity to achieving effective project governance over proposal preparation requires a systematic, documented discipline that can be audited for compliance. The procedures that define that discipline should follow accepted industry practice:

- Consistent – provide clear methodology and limit variances in application by controlling the use of judgment and documenting when judgment is used to take exception to the stated methodology.
- Accountable – note the key decisions in executing the procedures, identify who has the authority to make them and create a record or document so that compliance with the procedure can be audited.
- Transparent – facilitate management and subject matter experts becoming engaged in proposal decisions to acquire project information and status of the proposal easily and efficiently.

This paper addresses the fundamental objectives and practical approaches toward developing/optimizing project governance systems for a contractor's bid processes. The focus is a step-by-step approach to evaluate a contractor's bidding governance, to identify commonly overlooked issues, and to offer suggestions to address those

overlooked issues. The described process shows that when you have a robust project governance system, a hammer, not every issue must be treated as a nail.

STEP 1. COLLECTING BIDDING DATA

Types of proposals: Contractors may receive hundreds of bid opportunities to respond to each year. It is essential to understand the types of proposals and time allowed between receipt and submission (bid cycle) to develop an effective project governance structure and bidding procedures to support it.

Contractor entities of significant scale likely have several different proposal characteristics to document that are important to their business. Some contractor entities may not have a detailed record of their past proposals. Interviews with contractor management, coupled with a log of awarded proposals, usually provides an adequate initial picture of the proposal data set.

The metrics to record should be considered carefully based on the nature of the contractor and the organization of the contractor entity. (i.e., fabrication contractor data sets may be different from that of an engineering, procurement, and construction (EPC) firm). In addition, legal counsel may want to weigh in on how this metric is retained and documented, due to the sensitivity of the information and its security, as well as for possible discovery in future litigation. Below are typical example metrics often used in the development/optimization of project governance systems:

Proposal name – Identify the proposal; for larger contractors this is usually a number.

RSBW – Was the proposal only Received and not bid; was the bid Started and then stopped; was it Bid but not won or was it Won through proposal?

Why (if known) it was no bid or it was not won – Usually recorded in 10 words or less.

Proposal budget and percentage expended – This data may not be available for all contractors, but, if available, it can provide observations into the strengths/weaknesses of the contractor in preparing certain types of proposals and in estimating the proposal preparation cost. A great deal of information can be acquired to focus and narrow the breadth of future analyses by comparing similar types of bids with budgets and budget performance.

Date bid was received/due – This provides bid-cycle information and provides an indication of how many bids of what type may have seasonality, which means they are received about the same time each year. This can influence the selectivity of bid responses due to bidding resource limitations. It can also be used to forecast peak proposal resource requirements. Most importantly, the time frame required to prepare and submit the proposal may limit the estimate methodology used in the proposal.

Scope of Work – E (Engineering), P (Procurement services), C (Construction, construction management), EPC (Engineering, Procurement and Construction), EPCPG (Engineering, Procurement and Construction with Performance Guarantees), L (Licensed technology), OMS (Operations and/or maintenance services), EQ (Equipment fabricator/vendor supply only), OS (Other Services), etc. The scope of work is a critical metric to track as the scope content of the bid greatly affects bid estimate requirements, the cost to prepare the proposal and the time required to develop the needed information.

Compensation type - UQ (Uncommitted Quotation), CQ (Committed Quotation), R (Reimbursable), GMP(Guaranteed Maximum Price), LS (Lump Sum), etc. Compensation type is also a critical metric to track. Proposals for projects with a fixed price or limits to compensation often require greater estimate accuracy due to the increased financial risk and, as a result, more resources, time, and possible alternative estimate methodologies (databases, etc.) may be required.

Industry sector – Simple categories like power gen, transmission, oil upstream, oil downstream, pipelines and distribution, NG – gas fields, petrochemical, SC - specialty chemical, transportation, marine, etc. Reoccurring difficulties with proposals (i.e., starting a proposal but not submitting it, exceeding proposal budgets, etc.) in a particular industry sector can often identify systemic issues relating to the types of proposals called for frequently in that industry.

Client – Tracking difficulty with proposal budgets, starting but then stopping proposals before bid submission, and unusually short bid cycles with a particular client may lead to business decisions regarding the bids from the client or adjustments to bid methodologies in some circumstances.

Region – If the contractor is global, then regions of the world where the facility/work is to be performed can be an important metric to track. Even identifying the domestic area of the country (i.e., which state) can be relevant due to availability/ reliability of labor data for example. This is often an important metric to track for a number of reasons. Engineering and procurement may have special regulatory approvals and reviews that add cost and time to execute. Construction labor data used for estimating may need to be adjusted (allowanced) for remote/understaffed labor pool areas.

Applicable law – The governing law of the contract stated in the proposal as planned to be submitted. The cost to prepare the proposal and the cost estimated to execute the work may be affected by the applicable law in the proposal.

Risk assessment – Whether there was a risk assessment performed beyond the bid/no bid analysis. Risk assessments affect estimates for cost, schedule, and performance. They are a critical aspect of each bid prepared. For this first step, **Collecting Bidding Data**, simply knowing if there is a risk assessment or not is adequate.

STEP 2. DOCUMENT THE CURRENT BID PROCESS

Large contractor organizations often have an array of different approaches and technical requirements for their bids. The approaches and requirements can be driven by the scope, contract compensation structure, risk profile, region of the world, or even the client.

Each bid procedure being evaluated should be flowcharted. This simple tool provides an easy way to communicate proposal steps. When a bid procedure step is adjusted or replaced due to a need to conform to industry accepted practices, (addressed in **Step 3. Gap Assessment Between Current Procedure, Practice, and Accepted Practice**) a flowchart structure allows easy replacement of the bid procedure into the flowchart and directs the analysis of other bid procedures that may be affected by the change.

In documenting the current bid procedure, there are a number of considerations. Below are some of the principal considerations. The flowcharts should:

- Be created for each different bid procedure. There may be a completely different bid/no bid decision process and estimate procedure for bidding fabricated equipment than there is for providing a construction management proposal for the erection startup and commissioning of that same equipment.
- Be detailed enough to document the decisions made in the execution of the bid procedure, including decisions made within other referenced procedures. For example, the bidding procedure: (a) may refer to another procedure, and (b) that details how to prepare an acceptable class of estimate. Who is responsible to decide if the estimate meets the technical requirements of that estimate class and what is used to make that decision should be recorded on the flowchart.
- Identify who is responsible for confirming that the procedure has been followed.
- Identify the document created from the decision – so that audit processes can track the process clearly.
- Be revised, finalized and dated after the flowcharting exercise and project governance development/optimization exercise is completed just like any other procedure.

STEP 3. GAP ASSESSMENT BETWEEN CURRENT PROCEDURE, PRACTICE, AND ACCEPTED PRACTICE

3.1 Accepted Practice Review

A review of the current bidding procedures (*"Procedures"*) against accepted industry practices (*"Accepted Practices"*) should be the first step to identifying needed adjustments and enhancements to procedures. Professional associations provide guidance documents and accepted practices for schedule and estimate development. A good place to start is the Recommended Practices of the Association for the Advancement of Cost Engineering International (AACE).[1] In addition to guidance from recognized professional societies, the expertise from an experienced expert/practitioner who is not part of the contractor organization or who, if part of the contractor organization, is at least completely independent from the contractor business unit or office having their procedures evaluated. Any material gaps between procedure and accepted practices should be documented in detail.

3.2 Practice Review

In order to further assure project governance over bid processes and on execution processes, it is critical to review not only the written procedures but also **how the procedures are applied**. (***"Practice"***). Contractors may have excellent written procedures but they do little good if they are not practiced on a consistent basis.

Evaluating practice will help identify important issues such as:

- Difficulties practitioners have complying with the procedure (i.e., not enough time in the bid cycles to meet the estimate requirements, unavailability of current data required in the procedure, etc.).
- Vague terms in the procedure that drive **interpretation** and **judgment** of the practitioners that is not anticipated by management nor documented by the practitioners.
- Errors in the procedure itself that drive practitioners to go outside of the procedure to arrive at the requirement estimates for the bid proposal.

Evaluating practice can be done in two ways. First, the practice for each procedure can be flowcharted. This can be time-

1. "AACE International Recommended Practices (RPs) are intended to be the main technical foundation of our educational, and certification products and services."AACE website http://web.aacei.org/resources/publications/recommended-practices. February 2017.

consuming, because the individual practice for each business unit or office applying the procedure should be evaluated on how the procedure is applied. The more interpretation/judgment required to complete the procedure, the greater chance there is of more significant variance between how each office, division and practitioner performs the practice. Second, the practice for each business unit or office applying the procedure can be audited for compliance against the procedure. Good proposal records are essential to taking the audit approach. The audit approach, will identify quickly what elements of the procedure were not followed and can be performed without much assistance from the staff busy with proposal development. The audit results can help to narrow, if not eliminate, the need to flowchart the practice by each business unit and office, if the audit reflects the same departures from the procedure between business units and/offices.

Practice should also be reviewed against accepted practice, especially when practice departs substantially from how the procedure was written. This provides insights into why some project estimates were far off from the execution cost or schedule.

3.3 Determination of Whether Procedures and Practice are Consistent, Accountable, and Transparent

Having evaluated procedure **and** practice against accepted practices, it is also important to evaluate whether procedure and practice are Consistent, Accountable and Transparent (CAT):

- Consistent – provides clear methodology and limit variances in application by controlling the use of judgment and documenting when judgment is used to take exception to the stated methodology
- Accountable – notes the key decisions in executing the procedures, identifies who has the authority to make them, and creates a record or document so that compliance with the procedure can be audited
- Transparent – facilitates management and subject matter experts becoming engaged in proposal decisions to acquire project information and status of the proposal easily and efficiently

Proprietary databases and commercially available databases used for estimating require additional scrutiny. While actual cost data and schedule data collected over time can be very helpful and accurate to assist with estimating cost and schedules for bidding purposes, the appropriateness/accuracy of the data input into the database for use on a particular bid must be carefully evaluated. Even where the contractor's own prior bid data is used exclusively in the database, there can be questions regarding whether the cost or schedule information in the database contained contingency, for example. When actual project performance data is used, there can be questions regarding what events lowered the cost or performance duration or even what exactly was provided for the cost and schedule recorded. Commercially available databases are typically developed by careful professionals. However, understanding how the data was accumulated, over what period of time, the rules defining the data set, and what was excluded from the data set, should all be understood by the end-user.

Part of the layout for the analyses addressed in **Step 3** is provided in Attachment A. : **Example Excerpt of Gap Assessment Flowsheet For Procedure, Practice, and Accepted Practice**.

STEP 4. DEVELOPING/OPTIMIZING THE BID DECISION PROCESS

There are two principal concerns with development/optimization of contractor bidding governance:

- Structure of the process
- Alignment of work process to achieve the decisions on a timely basis.

4.1 Structure of the Process

Many larger contractor entities have a phased approach to managing the development of proposals and projects. An approach to ensuring that management has control over key decisions made in a developing proposal is to set up a defined structure of decision milestones with specific information requirements for management to make the decision – what is often called a stage-gate system. AACE explains this phased project approach, as a roadmap for moving new projects from proposal to closure. Stage-gates divide the effort into distinct stages separated by management-decision gates (gate-keeping).[2] In a stage-gate process, the proposal is not allowed to pass through the decision gate to the next stage in proposal development, unless all of the decision requirements are met or there is an exception allowed by an authorized member of management.

For the bidding process, the decision gates often involve a bid/no bid decision followed by later decision gates set at strategic points in the bid cycle. The decision gates have many purposes, including:

- Preserving proposal resources and funds – if a bid is unlikely to meet the estimate requirements for cost and/or schedule on time, the proposal effort may be shut down before completion.
- Providing stops for management intervention into the

2. AACE International, Recommended Practice 60R-10, 12-Dec-2011, p. 3

proposal – to endorse or reject assumptions and methods used in early stages of the estimates for cost and schedule.

- Involvement of subject matter experts – similar to management intervention in the proposal development. The need for subject matter experts to collaborate with or direct the proposal department may be required early in proposal development.
- Assessing the pipeline of work awarded and/or bid as updated from the time the proposal was received – an award of a large project may require that the current proposal be suspended due to limited project execution resources.

The objectives of each contractor management organization for a Bid Decision Process (BDP) can be quite different. It is important to understand fully what management wants from the BDP so that no key objective is left unaddressed.

Determining the appropriate number of decision gates for each contractor and for each type of proposal can be a complex undertaking. Simply **installing** an out-of-the-box model program without considering the current/revised contractor decision-making process, the estimate accuracy and other technical requirements of the types of proposals to be created, and the known issues of specific business units/divisions of the contractor, can cause this out-of-the-box approach to fail and to receive pushback from the those participating in the BDP.

4.2 Alignment of Work Process to Achieve Timely Bid Decisions

Once the objectives for the stage-gate structured review process are understood, and the framework for the stage-gate review process is put together, it is important that the work-flows for developing a proposal match the requirements to meet pass through the stage-gate (decision gate), or in other words – The development of information from the procedures must align with the requirements to make the decisions called for in the decision gate.

While this may not seem difficult, from the bid data collected, documentation of procedures, gap analysis of procedures and practice vs. accepted practices, constraints of bid-cycle time, estimate accuracy requirements, estimate methodology requirements, and risk assessments, etc., mean that:

- Customary workflows (after adjustment to meet accepted practices) needed to generate information required for management's decision at the decision gate may need to be moved up in the process in order to develop the information earlier than planned.
- Alternative estimating methodologies/approaches (databases, historical cost records, parametric estimates, etc.) may be used for early or even final decision-making
- The project risk assessment system relied upon during the proposal stage must be capable of accurately/appropriately incorporating assumptions allowed to be used in the proposal.

Where the information requirements for a decision gate cannot be developed in time for the management decision and the assumptions required to be used cannot be adequately evaluated into cost, schedule, and/or performance estimates, adjustments to management expectations for the content of the early decision gates may need to occur.

CONCLUSION

Rather than prescribe a uniform recipe (i.e., fixed number of decision gates in a stage-gate review process, specific estimating methods for particular proposal types) for all contractors, the BDP must reflect the objectives of management to meet their business needs, while being supported by procedures and practices that conform to accepted practices. This robust BDP system summarized below is a powerful tool, the hammer, that is sufficiently flexible and detailed such that not all problems are treated like nails.

A fully developed/optimized BDP should be:

- Consistent – capable of being replicated over and over again. Often procedures and even the decisions to be made in a stage-gate review process are based on very subjective criteria or expressly made based on judgment. Drafting procedures that refer to specific industry standards or specific internal criteria is critical. This also means that procedures, including bidding flowcharts, should be reviewed periodically to ensure they reflect current industry practice. Internally developed estimate databases should be audited to ensure that information included meets the exact acceptance criteria. Older information that is no longer accurate should be removed.
- Accountable – as discussed, the flowcharts and procedures should identify a particular position that is responsible for making each bidding decision or documenting variances with the written procedures. Documentation from each bid decision should be maintained so that it can be audited for compliance with procedures and for investigating failed projects. Lastly, submissions by individuals to the bidding process should be signed by the submitter, preferably with a statement that indicates they have verified or confirmed the information they are submitting. The retention of certain bidding information and signing of submissions should be reviewed with legal counsel

before these procedures/policies are finalized, especially for contractors working internationally.

- Transparent – while having a transparent BDP aids those auditing the process or investigating a project gone wrong, it also allows contractor executives to make informed decisions on a timely basis – without having to rely on much more than the submissions and efficacy of the procedures that have been carefully developed.
- Aware of all of the types of bids received of varying scopes of work, compensation structures and other key focus areas identified by contractor management linking each bid type/scope of work to effective procedures for the estimates prepared. Deliberately scaling the effort required to meet lesser-risk bids is critical to optimizing proposal resources. There may not need to be an executive review of an uncommitted quote going to a customer for equipment – simply complying with the procedure and documenting it is enough.
- Encompassing of the expected accuracy of the cost and schedule estimate with the project risks identified, against the amount of time to complete the proposal (bid cycle). From the bid data collection step, it is not uncommon to identify that significant parts of the contractor's business may come from customers who prescribe bid cycles that do not allow development of the estimate information required to meet the accuracy threshold in the bid procedure. Collecting and maintaining bid information will identify these circumstances. Rearrangement of customary bidding process steps may need to occur to meet the timeline prescribed by the customer. The business from this customer may warrant an alternative method of estimating cost and schedule – like development or acquisition of an appropriate database to provide vendor/supplier quotes. Appropriate development of estimate allowances and contingencies is another option. Whatever is decided upon, should be addressed in a written procedure and reviewed by subject matter experts.
- A tool to manage proposal budgets and overall costs – material proposals should be managed as a project with proposal estimates, budgets, and milestones. Decisions should be capable of being made on the current status of a proposal. If the proposal is behind schedule or key information cannot be acquired in time for the bid (a vendor quotation, for example) the BDP should shut down the proposal to conserve resources.
- Aware of proposal resources and current level of commitments – much of this is caused by the failure of contractors to adequately estimate the resources required to meet the estimate requirements but it can also be caused by simply too many bids being put together at the same time. A forecast of proposal resources and anticipated major bids should be included in the tools used for the bid/no bid decision.

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