

5. Bid Analysis and Contract Award

In 1983, the Office of the Inspector General (OIG) performed a review of preparation of the engineer's estimate. They found that: 1). Estimates were overstated and unreliable for bid evaluation, and 2) The agency had not adequately reviewed the estimating procedures to assure that contracts were awarded at the lowest reasonable rates. In response to the OIG's findings and recommendations, the agency established criteria to support and assist the agency to improve their estimating procedures. In addition, the agency were advised to review their procedures.

The engineer's estimate should be a fair and reasonable value for the work to be performed. It should be within plus or minus 10% of the low bid for at least 50% of the projects awarded. Specialized construction work should be evaluated on a case-by-case basis. The following guideline discusses circumstances where an apparently excessive bid may be justified as a basis for award:

Assessing Competition

Competition should be considered excellent when there are six or more bids within 20 percent of the low bid, including the low bid. Fewer competitive bids should require evaluation to determine whether competition was adequate, and whether additional competition or better prices could be obtained. As a guideline to this determination, the following is offered as a suggestion for determining whether adequate competition was obtained:

Number of competitive bids * (*Range = low bid + 20 percent)	Competition May be considered adequate when low bid does not exceed **
5	120 percent of engineer's estimate
4	115 percent of engineer's estimate
3	110 percent of engineer's estimate
2	105 percent of engineer's estimate
1	The engineer's estimate

** (Exceptional types of projects should be identified where competition has been historically poor, and when the prospects of increased competition are not apparent. Such projects should be reviewed independently of this or any alternative guideline.)

Considering Re-Advertisement

Few projects are considered so essential that deferral (even for 10 days to solicit re-advertised bids) would not be in the public interest. However, projects that are considered essential are of the following:

- a. Safety projects which are to correct extremely conditions
- b. Emergency repair or replacement of damaged facilities
- c. Projects to close gaps in otherwise completed facilities
- d. Projects that are critical elements in a staged or phased construction schedule, where a delay would mean substantial impact on the completion date

It is difficult to justify that re-advertising would likely result in higher cost without concluding that all practical anti-inflation measures have been employed to the maximum extent possible.

Estimating errors should not be considered unless the magnitude of the error is significant and procedures are modified to attempt to prevent the occurrence of similar errors. Some errors are merely mistakes that can be corrected easily once discovered, while others are "errors of judgment" which cannot be as easily explained.

Agencies are encouraged to track projects that are re-let and tabulate either savings or higher cost. If higher costs are found in the re-let projects, a thorough review of the current estimates and procedures should be performed. Also, current bid collusion detection techniques should be employed to identify potential bid rigging/collusion.

The analysis and award process for a project should be thorough even when the low bid is below or at a reasonable percentage above the engineer's estimate. It is reasonable, however, to expect that larger projects will receive a more thorough review than very small projects. The agency should have written procedures for justifying the award of contract, or rejection of the bids, when the low bid appears excessive or rejection is being considered for other reasons.

Bid Review Factors

- A. Factors that should be considered in reviewing the bids received for a project include the following:
 - a. Comparison of the bids against the engineer's estimate
 - b. Number of bids submitted
 - c. Distribution or range of bids received
 - d. Identity and geographic location of the bidders
 - e. Potential for savings if the project is re-advertised
 - f. Bid prices for the project under review versus bid prices for similar projects in the same letting
 - g. Urgency of the project
 - h. Current market conditions/workload
 - i. Any unbalancing of bids
 - j. Which unit bid prices differ significantly from the estimate, and from other bids?
 - k. If there is a justification for the difference
 - l. Any other factors the contracting agency has determined to be important

- B. The influence of any one of the above factors may not be too meaningful. However, when considered in combination, the results could be significant. Although the number of bids received is a measure of bidder interest, by itself the number does not indicate the degree of competition. For example, one would not normally expect a firm that is located near a project to be underbid by a firm located a distance from the project and having extensive mobilization and materials transportation costs if both firms are bidding truly competitively. A number of other factors enter into a particular firm's bid such as workload or the number of projects, but a bidder's geographic location is a significant factor.

Comparison of Bid Prices

A comparison of project unit bid prices should be made at each letting to determine if the contractors are submitting consistent prices on the different projects they bid. In general, there will be an adequate number of projects in each letting to make a comparison except for the large or very specialized jobs. Although the projects being compared may not be in the same geographic area, the reviewers should be aware of any geographic price differences, which normally remain constant between areas even when the overall market conditions change.

Unbalancing of Unit Bid Prices

The unbalancing of unit bid prices by a contractor is difficult to assess in that it is quite normal for different contractors to place their costs such as overhead or their expected profit for the project in the unit cost of different items. Normally these costs will be in those items, which the individual contractor has determined will not be eliminated or significantly under run. The main concern of the contracting agency should be to assure itself that the bids have not been materially unbalanced in order to take advantage of errors in the specifications.

The distinction between a mathematically unbalanced bid and a materially unbalanced bid is often difficult. The agencies can utilize a bid analysis procedure that was developed with the assistance of the contracting industry to identify materially unbalanced bids. The agencies examines significant items that are mathematically unbalanced (as identified by a certain percentage over or under the engineer's estimated unit price for that item). If it appears that a quantity error may have caused a contractor to unbalance, the agency should examine all significant bid items for quantity errors. If quantity errors are found, the agency should examine the impact on the bidder ranking if corrected quantities had been used. A change in the ranking is an indicator of a materially unbalanced bid.

Review Committee

A multi-disciplined review committee should be used to analyze the bids received so that the various perspectives within the contracting agency are represented and are provided with technical and managerial input. This approach can also be used to readily identify the effects of awarding the contract or rejecting the bids. If a review committee is not utilized for analyzing bids, as a minimum, the estimating section should be involved. The estimating section is normally familiar with the project. Any major differences in the unit bid prices and the estimate will be readily identifiable and evaluated. Also, it keeps the estimating section apprised of any trends in the market conditions so the engineer's estimates can be kept current.

General Guidelines

It may be beneficial for a contracting agency to develop general guidelines to be used in determining whether to award the contract or to reject all bids. However, each project should be considered on its own merits, as some will normally have a higher priority to begin construction than others. If guidelines are developed, consideration should be given to the use of a "sliding scale" approach for low bids over the estimate. A low bid 15 percent above the engineer's estimate of \$50,000 should not necessarily be treated the same way as a low bid 15 percent above an engineer's estimate. Also, if guidelines are used, it is recommended that the specifics be kept confidential from the general public so as not to influence contractors who are preparing bids.

Submission of Bids

If a significant number of firms take out bidding proposal but only a small percentage, less than 30 percent, actually submit a bid, an effort should be made to determine the reasons for the lack of interest. If the cause for lack of interest can be identified, appropriate steps should be taken to improve the situation.