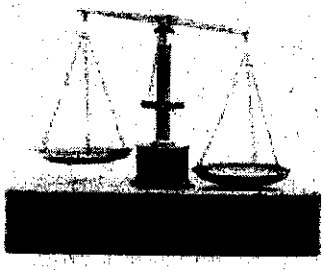
UNBALANCED BIDS
AND
AVOIDING DISPUTES RELATING TO THEM



Frank A. Manzo
Steven Tell

CHAPTER 7

UNBALANCED BIDS AND AVOIDING DISPUTES RELATING TO THEM

Frank A. Manzo
Steven Tell

§ 7.1 Introduction

In any bid, when the price for one element of the work is either understated or overstated, meaning that mark-ups and possibly direct costs have been shifted to other aspects of the work, the bid is unbalanced. An unbalanced bid can be caused by a variety of reasons, and these are explored in this chapter.

In construction contracts, recognition of the unbalanced bid is most readily apparent in unit price contracts. The *unit price* for a particular item of work is the contract price, which the owner pays if the item of work is performed. Unit

prices that are significantly different from those the bid reviewer is accustomed to will be quickly identified as potentially unbalanced. Less attention has been focused on the existence of an unbalanced bid in lump-sum construction contracts. For these contracts, the opportunity to detect an unbalanced bid occurs when a cost breakdown is furnished with the bid or provided as a schedule of values after the award. This chapter examines the detection of unbalanced bids, the relationship between bid mistakes and unbalanced bids, and their influence on the dispute resolution process. It also reviews measures that owners can implement to avoid pitfalls of this significant aspect of construction claims.

Although various court decisions are discussed to outline the legal parameters and rules affecting unbalanced bid situations, this chapter is principally a practical look and analysis of unbalanced bids. It provides some solutions and useful approaches for resolution of the unbalanced bid.

§ 7.2 Bid Mistakes

A *bid mistake* is defined as an unintentional error that results in the submittal of a bid whose total price is lower than it would have been had the error not been made. While errors can be large or small, this concern is for errors that are large enough to significantly affect the contractor's profit on the project or result in a loss of money as a result of the error. When a bid mistake increases the total price bid but the contractor remains the low bidder, it will not adversely affect the contractor and usually will not be investigated by the owner.

In order to understand how bid mistakes can be made, it is important to be aware of the process that a contractor follows in preparing a bid and the office atmosphere under which the contractor labors as the bid deadline looms closer. A general contractor may plan to perform some of the contract work with its own forces and subcontract other specialty portions. The general contractor is also responsible for purchasing many of the required materials and equipment for performance of the work.

The contractor's first step in preparing the bid is to identify all component parts of the job so that each can be priced. This is accomplished with a material "take-off" of each contract drawing to identify the type and quantity of every piece of material (for example, the amount of lineal feet of four-inch diameter pipe). For material to be installed by the contractor, the labor required to install the identified material is estimated. It is not uncommon for a contractor to fail to take-off an item of material or to underestimate the cost of material or amount of labor required. Simultaneously, the contractor identifies items of work to be subcontracted and sends the appropriate drawings and specifications to potential subcontractors for quotes. Subcontractors go through essentially the same process as the contractor when preparing cost proposals and have the same potential for error carried forward to the prime contractor. Additionally, the contractor sends relevant contract documents to equipment suppliers to solicit

cost proposals. If the contractor fails to properly divide work to be subcontracted, there is a possibility that a portion of the work would not be priced.

As the bid deadline rapidly approaches, the contractor is faced with the task of assembling all pricing that forms the basis for its bid. It is not uncommon for quotations for the equipment items and subcontracts to reach the contractor on the day before or the day a bid is due. The contractor is faced with the task of evaluating competing quotations for what should be identical scopes of work. Equipment suppliers or subcontractors may have taken exception to performing portions of the work and may not have clearly identified such exceptions in quotes. The contractor must accurately evaluate all cost information and properly incorporate appropriate information into the bid. Mistakes can be made in the last minute rush to submit the bid before the opening. For example, last minute price reductions by subcontractors and suppliers as well as final adjustments by the general contractor, trying to get the bid as low as possible, increase the chances for a mistake. While submitting a bid with a mistake may result in rejection of the bid, submitting the bid one minute late guarantees rejection of the bid.

§ 7.3 Unbalanced Bids

The subject of unbalanced bids has received a great deal of attention in public procurements, especially in federal projects. Because of essentially four different types of procurements, the definition of an unbalanced bid varies depending upon the particular type of procurement. Bids may be found to be unbalanced because the pricing structure may not prove ultimately to be the most advantageous offer to the government, such as in option period contracts. Similarly, as a consequence of unbalanced bids in unit price contracts, quantity variations can result in a completed cost to the government that exceeds the price of the next higher bid or bids. If there is reasonable concern that this will occur, the bid may be found to be unbalanced. Other types of procurements include first-article pricing found to be unbalanced based upon a "value based analysis" of the first article pricing. For a comprehensive and well-documented treatise on the evolution of the government's policies and rulings, see Daniel J. Gordon's article.[1]

The impact of undesirable elements of unbalanced bids vary depending upon the type of procurement. The focus of this chapter is to identify unbalanced bids and bid mistakes in the construction projects that are awarded on the basis of unit pricing or as lump-sum contracts. While the Gordon article is an excellent examination of the government's torturous manipulations of the regulations for dealing with unbalanced bids, the sole remedy for a finding of an unbalanced bid is rejection of the bid as nonresponsive. Given the cost and effort of the

[1] Daniel J. Gordon *Unbalanced Bids*, 24 *Public Contract L.J.* 1 (Fall 1994).

procurement process for a construction project, it is preferable that owners have other alternatives.

Mathematically Unbalanced Bid

A *mathematically unbalanced bid* is one in which each bid item (or breakdown of scheduled values in a lump-sum contract) fails to carry its proportionate share of the overhead and profit in addition to the necessary costs for the item. The results are understated prices for some items and enhanced or overstated prices for others. The most common example is known as *Front End Loading*, wherein activities scheduled to be performed early in the project (such as demolition or sitework) have values encumbered with an excessive proportion of planned overhead costs and anticipated profit. To the degree that bids contain a mathematical imbalance, absent any other consequences, the courts have not found such bids nonresponsive. This was articulated in a decision relating to a protest of a contracting officer's decision regarding an unbalanced bid:

> But the Comptroller General does not consider mathematical imbalance alone to be objectionable. The Comptroller General considers the imbalance to be objectionable only if it is "material," i.e., it will result in an award which may not represent the lowest ultimate cost to the Government or the imbalance is such that it will adversely affect the integrity of the competitive bidding process.[2]

Owners should look beyond this decision, because a mathematical imbalance—innocuous though it may seem—will result in the potential for providing excess funds to the contractor at an early stage in the contract. In the event of subsequent termination, the owner may have difficulties settling termination costs. Should the termination be for default, a potential breach of the surety contract may have occurred by overpayment for work performed and could result in an inability to have the surety perform. A more likely result is difficulty in establishing a cost basis for equitable adjustments when contract quantities or work are changed. Furthermore, in the event of a subsequent claim, especially a total cost claim for alleged owner-responsible events and impact costs, the owner's ability to objectively evaluate and settle issues on the merits becomes more difficult.

Materially Unbalanced Bid

A materially unbalanced bid is the result not only of the shifting of a disproportionate amount of overhead and profit, but also of the actual costs of various line items. Thus, the *price* for some work can be understated and significantly less than the actual *cost* of that work, with an overstatement of prices for other

[2] Protest of Severn Cos., GSBCA No. 9353-P 88-3 B.C.A. (CCH) ¶ 20,850 (1988).

aspects of the work. The result is similar to the mathematically unbalanced bid, but with a greater disparity in the respective positions of the differing parties. The same board in the *Severn* case took a dimmer view of this activity:

> A bidder does not inadvertently submit an **unbalanced bid.** The bidder purposefully bundles its costs so as to overstate the price for some bid items and to understate the prices for others. The bidder does so for a reason(s) as various as the procurements, but all are bottomed on the bidder's desire to obtain a windfall, or a competitive advantage over bidders who do not submit **unbalanced bids.**[3]

The sentiments of the board are that bids are intentionally unbalanced to achieve some sort of advantage to the contractor. The advantage is in the ability to bid a lower total price for all items than would have been bid if a balanced bid had been submitted. This is often the case in multiple-year contracts for services and construction contracts on indefinite quantity work in which the contractor perceives or anticipates a significant underrun or overrun in the estimated quantities. For the quantities shown in the bid, the contractor could inflate the price for the item anticipated to be overrun and reduce the price for the unit to be underrun. Done cleverly enough, this does not change the bottom line bid price, but results in a windfall to the contractor when the anticipated unit item is indeed overrun. There is no doubt that this type of activity adversely affects the integrity of the competitive bidding system. However, the authors have seen examples of a bid becoming unintentionally unbalanced as a consequence of a compound bid mistake that obscured the nature of the bid mistake and was not apparent in the bid as submitted. The owner's subsequent failure to identify the unbalanced nature of the bid involved significant cost to the owner and the contractor in resolving an exaggerated and excessive total cost claim to the owner's benefit.

Relationship Between a Bid Mistake and an Unbalanced Bid

The relationship between a bid mistake and an unbalanced bid is that a bid mistake generally—but not always—causes an unbalanced bid (assuming a construction contract with more than one element of work), which can be manifested in an unbalanced schedule of prices. This is not usually an intentional act on the part of a contractor. Interestingly enough, the authors have seen evidence of an intentional bid mistake in which a contractor reduced prices below cost in order to win a bid. Because all prices were less than the costs of the work and no prices were significantly higher than the costs, the bid was not unbalanced.

---

[3] *Id.* at 100,842.

An unbalanced bid is not necessarily the result of a bid mistake; a contractor can intentionally skew prices to create the imbalance. The contractor is held responsible for the consequences of the unbalanced bid, regardless of its evolution:

> We recognize that the practice of submitting unbalanced bids in the construction industry is not uncommon. While a contractor may legitimately unbalance its bid as a bidding technique, it does so at its own peril and must accept the consequence that the deletion of separately priced items may affect its profit or cost structure.[4]

While this court seems to find it legitimate to unbalance a bid, the outcome was an excessive cost of the dispute resolution effort that could have been avoided if the imbalance had been detected prior to award with appropriate steps taken at that time to rebalance the bid and corresponding schedule of values. Contractors and owners have engaged in costly hearings, trials, and appeals to resolve issues that may never have surfaced but for the unbalanced pricing.

§ 7.4 Impact on Project

Bids mistakes and intentionally or unintentionally unbalanced bids can have a significant impact not only on the administration of a project but also on its ultimate cost and the construction progress of the project. Problems relating to administration of the project can begin almost immediately during attempts to establish a mutually agreeable schedule of values for progress payment purposes. The next difficulty is negotiating change orders for those items in which the contractor has overstated cost in the bid. At the very least, this delays the negotiation process; at the worst, it delays incorporation of the changed work with the owner paying an inflated price for the change. In an extreme case, a contractor with a bid mistake may try to recoup losses by attempting to seek equitable adjustments on a total cost basis. Reviews and evaluations of total-cost claims are more time-consuming and costly than conventionally priced claims. This is especially true if the contractor has waited until the end of the project and includes all issues in a single total-cost claim.

A contractor awarded a project on the basis of a bid containing a significant bid mistake may be so severely impacted financially that its ability to prosecute the work may be impaired. This is generally characterized by contractor cash flow problems and failure to pay subcontractors and suppliers. It can impede progress of the project while subcontractors wait to be paid for work performed before proceeding with new work. As the situation gets progressively worse, the owner may have to make payments directly or by joint checks to subcontractors and suppliers, may have to solicit assistance from the contractor's surety, or may have to find the contractor in default.

---

[4] Appeal of Manis Drilling, IBCA No. 2658, 93-3 B.C.A. (CCH), at 115,187 (1993).

Ultimately, it is the project that suffers by delayed completion and increased cost from addressing these issues and their consequences, including the cost of litigation.

Award Delay

The recognition of an unbalanced bid invariably results in a delay to the award of the project. The delay may be short or—in the event of a protest—lengthy with severe cost implications to the contractor and owner. From a contractor's point of view, a delay in the award is certainly undesirable. Not only is its ability to plan and allocate resources impaired, but as the apparent low bidder, its bonding capacity may be encumbered until issues are resolved. A more serious problem arises when the construction work is weather-sensitive and the delay shifts the performance time from a period of good weather to bad. It is the contractor who causes a bid to be unbalanced. Contractors are held liable for the consequences of an unbalanced bid, and a potential delay in the award of the contract is the first manifestation of difficulties that may be encountered.

Protests

Having prepared their own bids contractors are the most familiar with the correct pricing structure required and are often first to recognize an imbalance in a competitor's bid. Upon notice to the contracting officer or procurement personnel, an initial investigation is made to determine if the bid is unbalanced. Owners should establish procedures for dealing with unbalanced bids with emphasis on the economy of not having to reprocure the contract. This necessitates a method of detecting and correcting an imbalance without displacing the bidder's standing as the lowest bidder. In federal and other public sector fields, the ability to rebalance the bid is often dismissed in favor of rejection of the bid. The federal government has established guidelines for identifying unbalanced bids and procedures for rejecting the bids as nonresponsive.[5] Once such a finding is made, a series of protests may follow by the low bidder challenging the nonresponsive finding, or by the next-lowest bidder protesting any award of the contract based upon an unbalanced bid.

Courts are reluctant to substitute their judgment for that of a procurement agency, often deferring to the agency's experience in applying the procurement regulations. In the *Severn* case, the disappointed contractor sought to have the matter reconsidered. The General Services Administration Board of Contract Appeals (GSBCA) commented in its subsequent finding:

[5] FAR 52.214-10 (All FAR citations can be found at 48 C.F.R.). While there is no requirement in the regulations that a materially unbalanced bid *must* be rejected as nonresponsive, the government *may* reject a bid as nonresponsive if prices are found to be materially unbalanced.

> We have sought in vain for a case in which a contracting officer, having rejected a bid in a sealed bid procurement as unbalanced, had his decision overturned by the Comptroller General, a court, or this Board. In such an instance, the cases *universally confirm the decision* of the contracting officer.[6]

However, in a recent decision, a court overturned a General Accounting Office (GAO) decision that supported a contracting officer's finding of a bid as nonresponsive because it was materially unbalanced. In this case, the low bidder did not contest the fact that the bid was unbalanced, but argued that it was the result of a bid mistake. While the contracting officer agreed that it was a bid mistake, the officer could not determine the nature of the intended bid from the material submitted with the bid or from the supporting worksheets. A post-bid affidavit by the low bidder was disregarded by the contracting officer as insufficient proof for establishing the intended bid. The court found otherwise and permitted the bid to be corrected:

> The regulations do not expressly indicate or in any way imply that corroborative bid work papers are, regardless of the circumstances, a condition precedent to the contracting officer's consideration of a sworn statement when weighing the evidence, for bid correction purposes.
>
> * * *
>
> The obvious transpositional character of the misallocated bid line prices and the undisputed fact that the requested reallocation would not affect the base bid, change any substantive aspect of the bid, or otherwise confer unfair advantage upon Plaintiff rendered bid manipulation highly improbable.[7]

In this example, the resolution of the protests consumed over six months and may have caused an increase in the performance costs of the work. Although this was an unintentionally unbalanced bid, the consequences to this contractor included the cost of the bid protest and potential costs associated with the delay in the period of performance.

The following example illustrates a bid that was rejected as nonresponsive because it would result in an advance payment to the contractor, constituting a materially unbalanced bid. The solicitation was for the construction of an effluent ditch, headwalls, and culverts. The bidders were required to submit prices for six line items of work. The award of the contract was to be to the contractor submitting the lowest aggregate bid subject to the usual requirements for a responsive bid from a responsible contractor. The protestor pointed out that the low bidder's prices for the first work items represented 28 percent of the contract price but only 2.9 percent of the required work. Put another way, there was no reasonable relationship between the prices and the actual value of the work to be performed.

---

[6] Protest of Severn Cos., GSBCA No. 9353-P-R, 88-3 B.C.A. (CCH) ¶ 20,850 (1988).

[7] McKnight Constr. Co. v. Perry, 888 F. Supp. 1178 (S.D. Ga. 1995).

The Corps of Engineers agreed that the prices were unbalanced, but reasoned that since the Corps envisioned all work being completed, there was no reasonable doubt that the award to the low bidder would ultimately result in the lowest cost to the government. Thus, the Corps attempted to be selective in its interpretation of the regulations regarding unbalanced bids. If the bid represented the lowest cost to the government, it was not materially unbalanced (assuming, of course, no early termination). In a further attempt to justify the award, the Corps argued that it intended to pay for the work on the basis of a (yet to be determined) schedule of values that would accurately reflect the value of the actual work. This represented an attempt to rebalance the bid after the award. While it may have been a commonsense approach, there were no provisions in the procurement regulations allowing the Corps to enforce this measure. In view of the facts presented, the GAO found the bid materially unbalanced and directed the Corps to reject the bid. The following observations are noted:

> [T]he problems inherent in permitting a bidder to submit inflated prices for bid items for which it will receive payment early in the performance of the contract are the same. That is, the bidder will receive a competitive advantage because it will receive payment which exceeds the value of the work performed and the government will have a disincentive to properly administer the contract.

The GAO further commented on the Corp's argument that it will require a new schedule of values:

> These arguments might have merit in a situation where the contractor submits its bid on a lump sum basis and the contracting officer later is required to determine the value of the work completed to compute the amount of progress payment due the contractor. Where, as here, however, the contractor is required to submit individual prices for separate line items and this breakdown is incorporated into the contract, in our view, the contractor will receive progress payments based on the amount it bid for the particular line item. As a result, since CAT'S bid prices for line items 1 and 2 are far in excess of the value of the work performed under those line items, the progress payments based on those bid prices likewise will not accurately reflect the value of the work performed and thus will present the same evils as prohibited advance payments[8]

Bid protests from next-in-line bidders can be avoided. The contract documents should provide that owners retain the right to negotiate with the apparent low bidder for the purpose of correcting a bid imbalance. Under these conditions, disappointed bidders would have little to gain by advancing a protest.

---

[8] Protest of F&E Erection Co., Comp. Gen. Dec. No. B-234927, 89-1 C.P.D. 573 (1989).

Contract Administration

The most common example of an unbalanced bid or schedule of values is front-end loading of the values for work that is to be performed early in the contract. Values are manipulated to create a payment that is far in excess of the cost of the work. By the federal government's standards, this constitutes a material imbalance because it provides the contractor an "advance payment." Activities most likely to be abused in this manner are mobilization, demolition, asbestos removal, and so forth.

Perhaps the issue should be framed as a question. Should contractors be permitted to submit a schedule of values with a separate pay item for mobilization? Aren't mobilization costs similar to start-up costs that are objectionable in first-article and production procurements? It can be argued that these costs are inappropriate because the owner does not receive any value for the payment. In the event of termination, the owner will have paid for an item for which there is no tangible product in place.

Maybe mobilization costs should be looked at differently. This might really be an issue of risk allocation. If the owner does not permit mobilization payments, the contractor bears all risk of financing the project until payment for work in place is received. This could place an inequitable burden on the contractor that is ultimately resolved through higher bid prices to cover the risk of financing costs associated with the project.

The risk to each party are the effects of a termination. In a termination for convenience, the owner should be concerned about a payment for mobilization of equipment, sheeting or shoring for the stabilization of excavations, or erection of scaffolding because none of these items represent any value of actual work in place to the owner. If the owner has exercised care in allowing a payment that represents the contractor's actual costs and appropriate mark-ups, there is no merit to this concern because the owner is obligated to the contractor for the actual costs as part of the calculation of termination costs. In a termination for default, the risk to the owner is greater because any over-payment diminishes funds available for reprocurement. Sureties object to providing funds to cover a shortfall created by an owner in overpaying the contractor.

Owners should realize that there is some risk inherent in an agreement to make payments for mobilization costs. Potential benefits to the owner—such as lower bids—should be carefully considered; each project must be evaluated on its own merits. If mobilization costs are accepted, the owner should carefully evaluate the actual costs incurred in bringing equipment and resources to the project in order to prepare for the work. The owner must discriminate between this initial expenditure and those costs that are incurred only with the passage of time. The cost of the performance and payment bond premiums are appropriate and should be paid by the owner upon evidence that the contractor has incurred the cost. Alternatively, general liability insurance and workers' compensation

insurance costs are generally financed with a "deposit premium" paid at the outset of the coverage.

Options available to owners include requiring all bidders to carry a predetermined amount in the bid for the mobilization costs. The amount is determined by the owner and should be computed with great care so as to approximate the actual costs incurred in the mobilization. This method "levels the playing field" and provides no competitive advantage to any of the bidders. Payments should be structured so that sufficient funds are withheld until demobilization has been accomplished.

In addition to the mobilization costs, owners must scrutinize other early activities for unbalancing. In order to achieve front-end loading (imbalance), the contractor shifts a disproportionate amount of overhead and profit to these activities. In the most extreme examples—those with which owners must be most concerned—the unbalancing is so severe as to leave follow-on work with prices (or values) that are significantly lower than the cost of the work. Other administrative problems occur when progress payments are made against an unbalanced schedule of prices. This leaves the contractor with potentially inadequate funds for the completion of the project and could result in delays because of lack of funds or—worse—a default by the contractor with the owner having insufficient funds to complete the project.

§ 7.5 Default Terminations

If an owner makes advance payments to a contractor as a result of an unbalanced bid or schedule of values, the owner may incur the risk of a breach of the surety requirement that the contractor not be overpaid for the work in place. In the event of a default termination in which the surety has the obligation of completing the work, funds remaining in the contract may not be sufficient. The surety may deny an obligation to fund the difference, arguing that the owner had an obligation not to overpay the contractor. In an example of a large contract in excess of $20 million for the capping of a landfill, the solicitation breakdown contained a line item for "mobilization" and instructed all bidders that the amount was limited to 4 percent of the total bid. The work did not require a great deal of site preparation and because the hauling of material to the site was accomplished by subcontractors, mobilization costs were limited to bringing some pieces of conventional earth moving equipment to the site. Included in the mobilization item was a cost for the performance and payment bond that represented approximately $200,000. The owner did not receive any other value for the remaining $600,000, nor did the contractor incur costs other than nominal costs of delivering some loaders and spreaders to the site. In an ensuing default termination, the owner had an insufficient amount of unpaid funds in the contract to complete the work, a surety alleging that it had been relieved of its obligations because the owner had overpaid the contractor, and a contractor in

financial difficulty with an uncertain ability to meet any obligations under the terms of the contract.

Mobilization costs are used in this example, but the principle remains the same for other items of work, especially those that take place early in the contract. On-site representatives that are charged with approving payment requisitions evaluate the percentage of completion of an item but have no basis for concluding that the corresponding values are skewed. Owners who implement procedures that identify and correct bid imbalances prior to an award will be less likely to have overpaid for work in place.

§ 7.6 Termination for Convenience

Agreement as to the value of the work in place may result in an impasse if the scheduled values or line item amounts in a unit price contract are unbalanced and represent significantly higher or lower amounts than the actual cost plus appropriate mark-ups for overhead and profit.

This point is not intended to limit the profit that a contractor is entitled to earn on a contract basically controlled by market and competitive forces. There must be some reasonable method for the allocation of overhead and profit to various elements of the work. Recognizing that some types of work carry an inherently higher element of risk, it is appropriate that this part of the work be assigned a greater proportion of the profit. However, in no instance should follow-on elements of the work be assigned scheduled values that are lower than the actual cost of performing the work. For example, in a unit price contract in which certain prices are significantly higher in anticipation of a large quantity overrun, deletion of any part of the anticipated work places the contractor at risk of a loss for the work to be performed on items whose prices were understated. If no additional work is substituted for the deleted work, the process can become a termination for convenience. The contractor is entitled to recover its allowable costs in accordance with conditions permitted under the contract.

In one case, a contractor anticipated an overrun in the line item quantities for drilling and grouting subsurface voids in order to mitigate the effects of subsidence. Accordingly, costs associated with other parts of the work were shifted to the unit prices for the drilling and grouting. When this work was eliminated as a result of a termination for convenience, the contractor complained that it was not properly compensated under the other line items for the work that was already accomplished. Thus, by seeking to take advantage of an anticipated quantity overrun, the contractor was unable to recover the full cost of the work actually performed.[9] This is a unique characteristic of the unit price contract rather than a lump-sum contract in which the contractor would have been entitled to its appropriate costs for the work performed.

[9] Appeal of Manis Drilling, IBCA No. 2658, 93-3 B.C.A. (CCH), at 115,187 (1993).

The risk of termination of a unit-price contract to the owner is a higher cost for work with quantity overruns. For the contractor it is the potential for a loss caused by the imbalance in the costs that were shifted to work that is not performed. Conversely, in a lump-sum contract, the owner may realize a savings in the cost of the work in place when it is calculated utilizing the guidelines for contract terminations and the scheduled prices were overstated. In terminations of lump-sum contracts, a contractor may be paid more than its scheduled values if the contractor can establish that the actual costs incurred exceed the amounts on the schedule. It is easy to predict how both parties can become involved in a dispute that has origins in the unbalanced bid. Identification and resolution of the unbalanced bid is an inexpensive measure that avoids a protracted dispute at a later date.

It is suggested that owners include language in the contract documents that permit an owner to enter into negotiations with an apparent low bidder for the purpose of rebalancing the bid. This is a more desirable solution than outright rejection of the bid and incurring the very real increased cost of awarding to the next bidder. In the event of a grossly unbalanced bid that is not discovered until after the award, when completion of the contract is not in the owner's best interests, the owner should have the option of terminating the contract for convenience. Again, the recommendation is that appropriate provisions be included in the solicitations and contract documents to preserve the owner's rights and discourage unbalanced bidding.

§ 7.7 Changes

The process of reaching agreement on the amount of an equitable adjustment should be straightforward and generally adhere to the difference between the cost of the work prior to the change and the cost after the change. In unit-price contracts, price adjustments are often triggered by variations in quantities that exceed the thresholds contemplated by the contract. A new unit price is determined after agreement is reached regarding the amount of the adjustment to the unit price. The presence of unbalanced unit prices often adds an obstacle to the process. Contractors seeking to obtain an advantage because of an inaccurate quantity estimate quotes prices below cost for items perceived to be underrun and overstate prices for items in which a large overrun is anticipated. The risk of this strategy is that the variations may not occur or that they will be contrary to the expectations.

The dispute that arises from this scenario is whether a contractor is entitled to maintain its original profit structure, thereby continuing the advantage of the unbalanced bid. Decisions have supported two opposing theories relating to the basis for the equitable adjustment. For example, in a situation in which unit prices were inflated in anticipation of an overrun, and the overrun subsequently exceeds the variation in quantity threshold, an owner would expect to be entitled

to relief from the overstated prices. Several courts have found otherwise, reasoning that the basis for any adjustment is the difference between the performance cost of the overrun units and the performance cost of the contract (estimated quantity) units. If the unit price was overstated because of an excessive mark-up for overhead and profit, this approach will continue to burden the owner with the inflated prices. The owner will pay for the consequences of a bad quantity estimate and the failure to identify an unbalanced bid. It is of some consolation that an additional cost would have been realized at the outset if the quantity survey had been more accurate. Therefore, if the contractor's costs are the same for the base contract units and the overrun units, no adjustment is warranted.[10] These owners could have benefitted from identification of the imbalance and would not have been obligated to pay inflated prices for the overrun units. The issues would not exist if the quantity estimate were accurate. Nevertheless, the owner and the contractor were additionally burdened with the time and expense of resolving the dispute.

In a more recent decision, the United States Claims Court decided that the basis for the adjustment should be the actual performance costs of the overrun units less the contract price for units.[11] The court's reasoning was that once the variation in quantity threshold has been exceeded, contractors should obtain relief from understated prices, and owners should not have to continue to pay overstated prices that create a windfall for the contractor. In this case, the contractor submitted a severely understated price for water required for dust control on a road construction project. The unit price was $5 per thousand gallons; the actual performance costs were approximately $38 per thousand gallons. The overrun quantities—in excess of 115 percent of estimation—were 8,641,000 gallons. It is likely that the understated price was the result of a bid mistake rather than an imbalance. The contractor absorbed the cost of the mistake for the first 115 percent of the work (7,500,000 gallons) but was compensated for its costs for the unforeseen overrun units.

The *Burnett* decision is consistent with an earlier case that involved a lump-sum contract and an unbalanced schedule of values.[12] In this example, a dispute (that appears to have taken 18 years to resolve) occurred when the parties could not agree on an equitable adjustment for elimination of an element of the work. The contract was for the construction of a subway project and the work in question was the trenching excavation and backfill for the installation of underground cables.

In a schedule of values that was submitted and approved for the purpose of calculating progress payments, the contractor listed approximately $1,300,000

[10] Genstar Stone Paving Prods. Co. v. State Highway Admin., 618 A.2d 256 (Md. Ct. Spec. App. 1993), Victory Constr. Co. v. United States, 206 Ct. Cl. 274, 510 F.2d 1379 (1975).

[11] Burnett Constr. Co. v. United States, 26 Cl. Ct. 296, 38 Cont. Cas. Fed. (CCH) ¶ 76,327 (1992).

[12] General Ry. Signal Co. v. Washington Metro. Area Transit Auth., 875 F.2d 320 (D.C. Cir. 1989).

for the trenching work. Subsequently, the contractor negotiated a subcontract for the trenching at a substantially lower cost. Prior to the initiation of the work, the owner changed the requirements and decided to have the cables installed above ground. The overstated trenching price, incorporated in the schedule of values, contributed to the dispute submitted to the Army Corps of Engineers Board of Contract Appeals for resolution. The board ruled that the schedule of prices was presumed to be reasonable and that the owner could base the credit for the equitable adjustment on the schedule's prices for the work. The board also concluded that credit should be the scheduled amount plus an additional 5 percent for profit on the deleted work.

Based upon the board's ruling, the owner issued a deductive change order. Predictably, the contractor appealed to a district court that reversed the board's decision stating that the schedule of prices were "simply an allocation . . . for administrative purposes under lump-sum contracts,"[13] and remanded the matter to the Board of Contract Appeals to determine a reasonable cost for the work deleted. The board ultimately decided to utilize a cost estimate prepared by a consultant to the owner and ruled that the equitable adjustment should be $360,548. The owner refused to adopt the board's recommendation and continued to use the schedule of values amount (plus 5 percent) as the basis for the deduction. The contractor appealed to the district court, and for a second time that court again ruled in the contractor's favor.

The owner then appealed the district court's decision to the U.S. Court of Appeals. The Court of Appeals held that the equitable adjustment was to be determined on the basis of cost and that the line items in the schedule of values could not be used to establish the reasonable costs of the eliminated trenching. The court further commented:

> [c]ourts have consistently rejected efforts to equate bid prices for various portions of work with contract prices. The reason is judicial recognition that contractors frequently submit unbalanced bids, understating the true costs of one portion of the contract with an offsetting overstatement on a different portion. For reasons that follow, we agree with the District Court that, in this case, the $1.3 million line item totals were not contractually agreed upon prices at which the work in question was to be performed; those line item totals therefore do not presumptively reflect the reasonable costs of that work.[14]

The contractor and owner waged a battle for 18 years before the matter was finally settled. This is a good example of how unbalanced bids, and in this case the unwitting approval of an unbalanced schedule of values, contributed to the evolution of the claim. The owner had sufficient reason to question the schedule of values and failed to do so. Both parties incurred expenses that were entirely avoidable.

---

[13] General Ry. Signal Co. v. Washington Metro. Area Transit Auth., 598 F. Supp. 595, 597 (D.D.C. 1984).

[14] General Ry. Signal Co. v. Washington Metro. Area Transit Auth., 875 F.2d 320, 325 (D.C. Cir. 1989).

This case should be remembered by owners and contractors as an example of the negative consequences of an unbalanced bid or schedule of values. It should serve as an incentive to adopt procedures to avoid similar occurrences.

§ 7.8 Claims and Total-Cost Claims

Courts have discouraged quantification of damages using the total-cost method; however, it remains popular, especially in projects with numerous owner-caused changes and less-than-adequate record keeping on the part of the contractor to demonstrate liability, causation, and resultant damages on an issue-by-issue basis. Contractors frequently resort to this method after realizing that their costs for elements of the work have exceeded their planned estimate. The situation is exacerbated when the unit price or scheduled value has been understated (unbalanced), with the resultant skewing of the alleged damages. A total-cost claim can fail if the claimant does not meet the four-part test necessary to allow calculation of damages by this method. One of these elements is that the original bid was reasonable. However, some courts, upon a finding of entitlement against the owner, will seek to modify the approach to make the contractor's costs reasonable. In one such case, a contractor was able to demonstrate entitlement but failed to prove that its original bid was reasonable.[15] Rather than a complete dismissal, the U.S. Claims Court heard evidence to establish a reasonable bid amount, prior to ruling on damages. On appeal, the court of appeals made the following observations:

> However, the Claims Court also found that Servidone bid too low. To compensate for Servidone's unreasonable low bid, the trial court substituted a reasonable bid in the damages calculation.
>
> * * *
>
> The total cost approach was used as 'only a starting point' with such adjustments thereafter made in such computations as allowances for various factors as to convince the court that the ultimate reduced figure fairly represented the increased costs the contractor directly suffered from the particular action of the defendant which was the subject of the complaint.[16]

The interesting point is that a bid mistake may not be discovered until contract performance is well underway. Changes or other events for which the owner is responsible, affecting the work that was underbid, will be difficult to quantify with a difference of opinion relating to the value of the work prior to the change. Unless the owner recognizes the original unreasonable bid, the total cost method of damage calculation will compensate the contractor for the bid mistake. Identification of the bid mistake is a component of the method of analysis proposed in **§ 7.12.**

---

[15] Servidone Constr. Corp. v. United States, 931 F.2d 860 (Fed. Cir. 1991).

[16] *Id.* at 861–62.

The example that is discussed in § 7.12 is from a group of claims against a transit authority in a large city. When the bids were received, the low bid was within 3 percent of the next higher bidder. The owner had no reason to conclude that there was a need for additional investigation of the bid. However, by the end of the project a total-cost claim was submitted that included an overstatement of damages by approximately $3,000,000 because of an unbalanced bid that obscured the bid mistake of an equivalent amount. A detailed analysis of the bids following the procedure suggested would have flagged the imbalance in a concrete price understated by $2,000,000 and a steel price overstated by approximately $1,400,000. The process suggested has a wide margin for judgmental factors and the shifting of costs from other divisions of the work that enter into every bid breakdown; nevertheless, it would have served as an indicator to alert the owner to the potential problem. Applied to this situation, the *indicator* is the difference of the average of the next three bids minus the low bid, divided by the low bid. It was −114.2 percent for the concrete work. As it turned out, the actual understatement of the concrete prices was closer to $3,000,000; the corresponding overstatement of the steel prices was $2,400,000.

In another example, a contractor figured the cost of the work necessary for the construction of a tunnel beneath a river to include all incidental costs, including ventilation and measures to decrease anticipated hydrogen sulfide gas to acceptable levels consistent with worker safety. When a total-cost claim was submitted, it alleged that the contractor's actual tunneling costs were greater than anticipated because of a differing site condition relating to the hydrogen sulfide gas issue. An after-award analysis of the bids for the project indicated a bid mistake of a −153.2 percent variance between the average of the next three bidders and the low bid. The magnitude of this mistake was masked by an imbalance in other aspects of the bid because the overall bid variance was −16.0 percent.

To allow an unbalanced bid or a bid mistake to be used to the bidder's advantage in a subsequent claim compromises the integrity of the competitive bidding process. In the resolution of a claim for additional work, the bidder may seek to base the damage calculation on an unreasonably low cost that is a product of the mistake that resulted in the low bid. If allowed, the bidder will gain a competitive advantage in obtaining the work by virtue of a mistake, and is compensated for the mistake in the resolution of claims that use this cost as the basis of the prechange condition in an equitable adjustment calculation.

§ 7.9 Owner Responsibility to Evaluate Bids

Procurement regulations require that contracts be awarded to the lowest *responsible* bidder and that in evaluating bids, owners identify mistakes or unbalanced bids. The bid must also be responsive to the terms of the solicitation. Courts have articulated the reason for this:

> The requirement that a bid be responsive is designed to avoid unfairness to other contractors who submitted a sealed bid on the understanding that they must comply with all of the specifications and conditions in the invitation for bids, and who could have made a better proposal if they imposed conditions upon or variances from the contractual terms the government had specified.[17]

The objectionable characteristics of the unbalanced bid are that it

1. Constitutes an advanced payment
2. May not ultimately prove to be the best offer
3. Is detrimental to the concepts of competitive bidding.

The negative manifestations of these characteristics are presented to encourage owners and procurement professionals to implement procedures to identify and, if possible, correct unbalanced bids prior to the award of the contract.

Among options available to contractors that suspect a competitor has submitted an unnoticed unbalanced bid is notification to the owner's representative of a bid protest. Contractors contemplating a bid protest alleging an unbalanced bid should very carefully evaluate the bid tabulations.

The consequences of the unbalanced bid vary according to the costs incurred by contractors in advocating a bid protest and by owners in investigating the bid protest prior to a contract award, and the costs subsequent to the award from disputes when changes or claims are made relating to items of work with prices that are understated. In these cases, the issue is the establishment of the prechanged condition cost for comparison to the cost of accomplishing the work after the change. The use of an understated cost results in an excess payment by the owner. Conversely, when work with overstated prices is deleted from the contract, use of the skewed price does not result in an equitable adjustment to the contractor. Disputes arise because of the failure to agree on the "cost" of the work when one of the parties seeks to tie the cost to the scheduled value, particularly in lump-sum contracts. Both sides incur costs in the resolution of the disputes that could have been avoided if the owner properly identified the unbalanced bid.

§ 7.10 Enabling Contract Language

Presumably, owners and procurement professionals will identify a mistake or unbalanced bid prior to award. In situations in which owners have failed to do so and a bid mistake or unbalanced bid was not detected, the potential for a claim is greatly increased; a dispute may occur over any change in the amount of work or quantities required. The dispute is just as likely for a deductive change as for an increase in the work.

---

[17] Toyo Menka Kaisha, Ltd. v. United States, 220 Ct. Cl. 210, 597 F.2d 1371, 1377 (1979).

Contract documents should contain appropriate language to permit the owner to elect the most beneficial option consistent with procurement policy. Four options are the following:

1. Providing the low bidder an opportunity to rebalance the bid. In this situation the total bid amount remains the same and the original bidder remains the lowest bidder. The rebalancing or reallocating of values should not alter the bid in any other manner to avoid conferring an unfair advantage upon a bidder originally submitting an unbalanced bid.
2. Rejection of bids found to be unbalanced with a subsequent award to the next-lowest bidder. This obviously increases the owner's cost for the project.
3. Use of optional bid items.
4. Rejecting all bids and reprocuring the project. This delays the project and may result in higher project cost.

Owners and procurement professionals should include appropriate language in solicitations that reserves the right to reject unbalanced bids or, more suitably, allows the owner to require the contractor to correct the imbalance without changing the total bid amount. Unfortunately, the federal government does not address this in a direct manner. Federal Acquisition Regulations provide that contracting officers may reject bids found to be unbalanced.[18] This leads to situations in which the unbalanced bid, if otherwise unchallenged, can be accepted. Therefore, in the sealed bidding process, there is no procedure for correcting the imbalance. The regulations do provide for the correction of bid mistakes[19] as noted in *McKnight*.[20] This was a creative strategy to achieve a rebalancing of a bid that would have otherwise been rejected.

A more practical approach is to include provisions that permit negotiations with the lowest responsible bidder for the purpose of correcting or rebalancing the bid. The data submitted with the bid should be sufficient to allow this process to be implemented for lump-sum contacts; however, it is most important for unit-price contracts. The unit-price contract is most prone to unbalancing manipulation when the bidders conclude that the estimated quantities are improperly stated in the invitation for bid. The following example has been taken from the Information for Bidders section of a solicitation by the New York City Department of Sanitation for a construction contract based upon unit prices for the various work items: "Negotiations may occur with the lowest bidder for the limited purpose of correcting what the Agency Chief Contracting Officer has indicated in writing appears to be an imbalance among bid items. Provided that the overall bid price shall remain unchanged."[21] If the negotiation is

[18] FAR 52.214.10(e) (1990).

[19] *Id.* 14.407-3.

[20] McKnight Constr. Co. v. Perry, 888 F. Supp. 1178 (S.D. Ga. 1995).

[21] City of New York, Procurement Policy Board Rules § 3.02 (Sept. 1991).

unsuccessful, the owner has the option of rejecting the bid based upon provisions that materially unbalanced bids may be rejected as nonresponsive. While it is recognized that public sector owners may be reluctant to incur the increased cost of awarding to the next bidder at a substantially higher cost, it is important that they keep in mind that the unbalanced bid is flawed and ultimately may prove not to be the most advantageous offer. An uncorrected unbalanced bid carries increased potential for disputes and claims with increased costs of resolution for the owner and contractor.

§ 7.11 Key Elements of Unbalanced Bid Analysis

While a critical issue for owners, the recognition of an unbalanced bid has not received the same level of attention accorded the range of administrative details that are designed to ensure compliance with the provisions of the solicitation. One purpose of a bid analysis is to satisfy the owner that the bidders have complied with the administrative representations required and a price has been received for all items. The analysis is made to determine the low bidder for the purpose of an award. It should further serve the purpose of identification of a potential bid mistake and the presence of unbalanced bids. In order to facilitate the evaluation, the solicitation should require with submission of the bid a complete breakdown or schedule of values and a preliminary schedule.

Bid Breakdown or Schedule of Values

Contracts based on unit prices for various work items require these to be separately priced and become the agreed contract amount to be paid for the work performed. The same level of detail should be requested for lump-sum construction projects. Since the contractor normally would have to submit one after award, a schedule of values should be required for submission with the bid documents. This schedule should be in sufficient detail—at a minimum by each division of work—and broken down into labor and material components. The labor value should include all labor costs and appropriate mark-ups for payroll burden, overhead, and profit. Equipment costs, excluding operators, should be combined with material costs for the item of work. During the evaluation process, the contractor's total labor cost is compared to the estimated total hours provided in the schedule data as an additional measure to determine if there is a reasonable relationship between the total estimated labor price and the total labor hours.

Preliminary Schedule and Estimated Hours

Solicitations should include requirements that bidders submit a preliminary schedule indicating an understanding of the sequence of the project and

complying with contractual restraints and milestones. This may be in a critical path method (CPM) format or as a time-scaled bar chart. If a preliminary CPM is utilized, it should be resource-loaded to project the total estimated hours for the project. Alternatively, a time-scaled bar chart can be used if it indicates the major work items, number of crews, number of workers per crew, and the durations of the activities. An analysis of this schedule will also yield the total hours estimated.

The information submitted is useful to confirm the presence of an unbalanced bid or a bid mistake because the hours estimated can be compared to other bidders. The owner will have separate sets of data, that is, prices and estimated hours for major work elements to use in the evaluation. It is acknowledged that the requirement for submission of such data places an additional burden on the bidders. However, the data does not represent anything more than a summary of the raw information that the bidder must assemble in order to accurately estimate the project.

Owners should recognize that if it is possible for contractors to make mistakes in the preparation of a bid, it is also possible that there is an error or omission in the contract documents. It is possible that unforeseen site conditions will be discovered and that changes will be made in the work. It is also possible that the owner will not be able to fully resolve all of these matters in the course of the project. Depending on the number of events, the contractor may group all of them together at the end of the project into a total cost claim against the owner. The information received with the bid constitutes the contractor's estimated total hours for the project and becomes the baseline from which damages are calculated.

§ 7.12 Unbalanced Bid Analysis Method

Bids should be evaluated and tested as a matter of procedure to verify that the project owner has not received an unbalanced bid. The effort involved is minimal when compared to the potential costs of administering a contract with an unbalanced schedule of prices or refuting a total-cost claim focusing on an area of work in which the as-planned costs were significantly understated. Unfortunately, not all unbalanced bids are as obvious as that in *McKnight,* discussed in § 7.4. The differences between the components may be subtle and the spread to the next-lowest bidder or bidders may be nominal. A cursory review of the bid tabulation may not signal anything unusual.

Procurement agencies, owners, and construction managers should devise a method to ascertain whether bids are unbalanced. The following example outlines a method developed for this purpose. For this to be realized, the bids must be received in sufficient detail to allow evaluation (see § 7.11). This is usually accomplished with minimum breakdown by division of work. If the procurement documents did not require this type of breakdown, there should be a

provision allowing the owner to request a schedule of prices for the purpose of evaluation prior to the award. The documents should also provide the owner with the right to reject unbalanced bids or negotiate a balanced schedule, providing the overall contract bid price remains unchanged.

Table 7–1 illustrates a simple bid tabulation of the low bid with a breakdown of each line item and its corresponding percentage relationship to the overall bid. Many owners include specific instructions to bidders relating to the amounts to be carried in the bid for certain work. Mobilization amounts are one such type. Not all construction projects require the contractor to incur a large start-up expense and if necessary, the owner should define the amount to be carried by all bidders. If the circumstances justify the mobilization line item, and since it is the same amount for all bidders, it should be omitted from the evaluation. Similarly, any other line items or contingency items in which all bidders are directed to use the same amount should be omitted from the evaluation.

At a minimum, the low bid should be compared to (if available) the average of the next three bids; this is referred to as the *average bid.* In this example, for each line item an amount is calculated that represents the average of the next three bids. A percentage distribution for the average bid is also prepared. **Table 7–2** provides an indicator of potential areas of imbalance and the relative variance of the resource allocation to each division by the low bidder compared to the average resource allocation.

The first step is to establish the difference in line item amounts between the low bid and the average bid with the percentage distribution. This is illustrated in column I, **Table 7–2.** The indicator of a potential area of imbalance or possible bid mistake is the corresponding percentage in column J. Variations in the indicator column that are greater than the percentage difference between the low bid and the average bid (in this case 16.7 percent) plus or minus the overhead and profit allowance selected) in this example 21.0 percent, signals a materially unbalanced bid and represents amounts that are significantly less than the cost of the work or significantly higher than the costs. Another factor to be considered is that each bidder views the difficulty of the work differently and may shift margins to compensate for varying degrees of risk. This is a *judgmental modifier;* in this analysis it is +/–15 percent. Therefore, in the example, a difference that is *between* +4.3 percent and –37.7 percent may represent a shifting of overheard and profit between the items and a mathematical imbalance. Any amounts that are *greater than* +4.3 percent or –37.7 percent indicates a materially unbalanced bid or potential bid mistake. Finally, any amounts that are *greater than* +19.3 percent or –52.7 percent further confirm the possibility of the bid mistake or unbalanced bid and should be investigated by the owner.

Table 7–1

Unbalanced Bid Analysis

Miami Metro Claims

A Description	B BID No. 1	C % of Bid	D BID No. 2	E BID No. 3	F BID No. 4	G Avg D+E+F	H % of Avg.
Auger Cast Piles	333,630.00	1.4%	379,125.00	257,805.00	379,125.00	338,685.00	1.2%
18 × 18 piles	338,250.00	1.4%	180,400.00	279,620.00	360,800.00	273,606.67	1.0%
30 × 30 piles	543,600.00	2.3%	453,000.00	475,650.00	588,900.00	505,850.00	1.8%
30 × 30 splices	22,000.00	0.1%	16,000.00	4,000.00	24,000.00	14,666.67	0.1%
30 × 30 cutoffs	31,200.00	0.1%	12,000.00	6,000.00	30,000.00	16,000.00	0.1%
General Requirements	2,108,485.00	8.9%	2,500,000.00	2,500,000.00	2,500,000.00	2,500,000.00	9.1%
Sitework	1,250,000.00	5.3%	1,100,000.00	800,000.00	1,100,000.00	1,000,000.00	3.6%
Concrete	2,350,000.00	10.0%	5,500,000.00	4,850,000.00	4,750,000.00	5,033,333.33	18.3%
Metals	15,500,000.00	65.8%	13,000,000.00	16,450,000.00	20,000,000.00	16,483,333.33	59.9%
Wood, plastics & thermal protec.	141,000.00	0.6%	56,000.00	152,000.00	155,000.00	121,000.00	0.4%
Finishes	200,000.00	0.8%	220,000.00	240,000.00	500,000.00	320,000.00	1.2%
Mechanical	53,000.00	0.2%	53,000.00	55,000.00	75,000.00	61,000.00	0.2%
Electrical	700,000.00	3.0%	720,000.00	800,000.00	1,000,000.00	840,000.00	3.1%
Total	23,571,165.00	100.0%	24,189,525.00	26,870,075.00	31,462,825.00	27,507,475.00	100.0%
	Difference		618,360.00	3,298,910.00	7,891,660.00	3,936,310.00	
	% Difference		2.62%	14.00%	33.48%	16.70%	

Assuming a 21% Overhead and Profit rate, a materially understated amount would be –37.7% (–16.7%–21.0%) and a materially overstated amount would be +4.3% (–16.7%+21.0%).

Allowing for contractor preferences in structuring bids, a "Judgmental Modifier" of +/– 15% is included in the evaluation extending the understated threshold to –52.7% (–16.7%–21.0%–15.0%) and the overstated threshold to +19.3% (–16.7%+21.0%+15.0%).

Table 7–2

Unbalanced Bid Indicator

Miami Metro Claims A Description	Absolute Variance I B–G	Potential Bid Mistake Indicator J % Difference I/B	K % Variance C–H	Relative Imbalance L $ Variance
Auger Cast Piles	(5,055.00)	–1.5%	0.2%	43,410.70
18 × 18 piles	64,643.33	19.1%	0.4%	103,796.35
30 × 30 piles	37,750.00	6.9%	0.5%	110,136.96
30 × 30 splices	7,333.33	33.3%	0.0%	9,432.13
30 × 30 cutoffs	15,200.00	48.7%	0.1%	17,489.59
General Requirements	(391,515.00)	–18.6%	–0.1%	(33,765.88)
Sitework	250,000.00	20.0%	1.7%	393,099.65
Concrete	(2,683,333.33)	–114.2%	–8.3%	(1,963,065.10)
Metals	(983,333.33)	–6.3%	5.8%	1,375,425.87
Wood, plastics & thermal protec.	20,000.00	14.2%	0.2%	37,315.06
Finishes	(120,000.00)	–60.0%	–0.3%	(74,208.11)
Mechanical	(8,000.00)	–15.1%	0.0%	729.08
Electrical	(140,000.00)	–20.0%	–0.1%	(19,796.30)
	0.00			0.00
Total	(3,936,310.00)	–16.7%	0.0%	0.00

Potential Bid Mistake Indicator

Ratio: $\frac{\text{Average Bid} - \text{Low Bid}}{\text{Low Bid}}$

% Variance (K) is the % difference between the low bid (C) and the average bid (H) allocated to each division.

$ Variance (L) is the difference allocated to each division based upon the % variation (K) times the total of the low bid ($23,571,165.00) and flags the major items contributing to the imbalance and possibly obscuring a mistake.

The percentage variance is determined by subtracting the low bidder's allocation of resources as a percentage of its total bid from the average bid percentage allocation (column C less column H, **Table 7–2**). Barring any unusual aspect of the work or unique method of construction anticipated by the low bidder, these variations should be small, within 1 to 2 percent of the total. A variation that is greater than 1 to 2 percent corresponds to an item previously flagged as a potential imbalance or a bid mistake in column J.

The final step is to quantify the variance by relating it to the magnitude of the cost by multiplying the percentage variance for each line item by the low bid total (column B, **Table 7–1** × column K, **Table 7–2**). In a balanced bid, these variations (both positive and negative) should be small compared to the overall bid, and should total out to zero. In an unbalanced bid, this indicates those items that have been significantly understated—possibly representing a bid mistake—and the offsetting items that have contributed to obscuring the mistake. In the example, the indication is that the low bidder has allocated a significantly lower proportion of its overall bid to the concrete work and allocated a much higher proportion to the steel work. In terms of the average bid distribution of dollars, concrete was underpriced by $1,963,065.10; this was largely offset by overpricing the metals by $1,375,425.87.

What else must be considered to determine if a bid mistake is also present and that the bid is simply not an unbalanced bid? What are the discriminators that allow an evaluator to identify a bid mistake? For unit price contracts, the imbalance occurs in those items of work in which the contractor anticipates a significant variation in the quantities of the work to be performed. Here the contractor expects to achieve a competitive advantage by unbalancing the bid. In lump-sum contracts, the primary focus is to obtain an advance payment.

Imbalances in a unit price contract are evident on face of the bid received when compared to other bidders and considering the owner's previous experience with similar work. For lump-sum contracts, there are two considerations for the evaluation. First, if the spread between the low bid and the next bidders is large (over 15 percent), the possibility of a mistake is increased. An unbalanced bid has the potential to obscure a bid mistake. This is enhanced by a large bid spread and the identification of severely understated (greater than 100 percent difference) prices in work to be performed early in the contract.

For the example shown in **Tables 7–1** and **7–2,** the potential bid mistake indicator is –114.2 percent for the concrete work resulting in a severely understated price for the concrete work. The imbalance is not offset until follow-on work is accomplished, that is, metals. There is no advantage to a contractor in a lump-sum contract to unbalance a bid in this manner. In **Figures 7–1** through **7–4,** the bid mistake is evident because the understated prices precede the overstated prices. (The conclusion that the understated prices must precede the overstated prices is applicable for lump-sum contracts only. In a unit-price

contract the incentive to unbalance a bid has more to do with developing an advantage because of anticipated variations in the estimated quantities rather than an advance payment). As a whole, the –16.7 percent bid spread, significantly understated prices (–114.2%), and the understated prices *preceding* the overstated prices, the owner can determine that a bid mistake is likely; further investigation and discussion with the low bidder is warranted. In this example, the bid mistake distorted the calculation of damages in a subsequent total-cost claim when the alleged owner-caused events were primarily related to the concrete work.

Figure 7–1 illustrates the percentage variance of the example discussed and **Figures 7–2** and **7–4** illustrate the magnitude of the relative costs that contribute to the imbalance.

As in any method that utilizes a formula to reach a generalized conclusion, the results must be evaluated with the understanding that they have been built upon comparisons that may include other anomalies. Therefore, this method should be considered as merely an indicator or predictor of an unbalanced bid or bid mistake that should lead to further investigation. Based on that investigation and confirmation of an unbalanced bid or bid mistake, the owner should proceed to exercise one of the options outlined in **§ 7.10.**

In the actual case from which this example is drawn, a contractor submitted a total-cost claim that sought to recover over $3,000,000 in increased costs due to alleged owner-caused events relating to the concrete work. There was ultimately a determination that there was entitlement for a discrete number of issues, but the equitable adjustment for these issues was well below the contractor's claim. Upon analysis of the claim, it was established that the original bid was unbalanced; as a result of a bid mistake, the contractor underestimated the concrete work by approximately $2,000,000 and overestimated the steel work by approximately $2,000,000. The mistake was obscured by the unbalanced nature of the bid. If the contractor recovered based upon the total-cost claim, it would have been compensated for the bid mistake and other management deficiencies in addition to the costs that truly merited recovery.

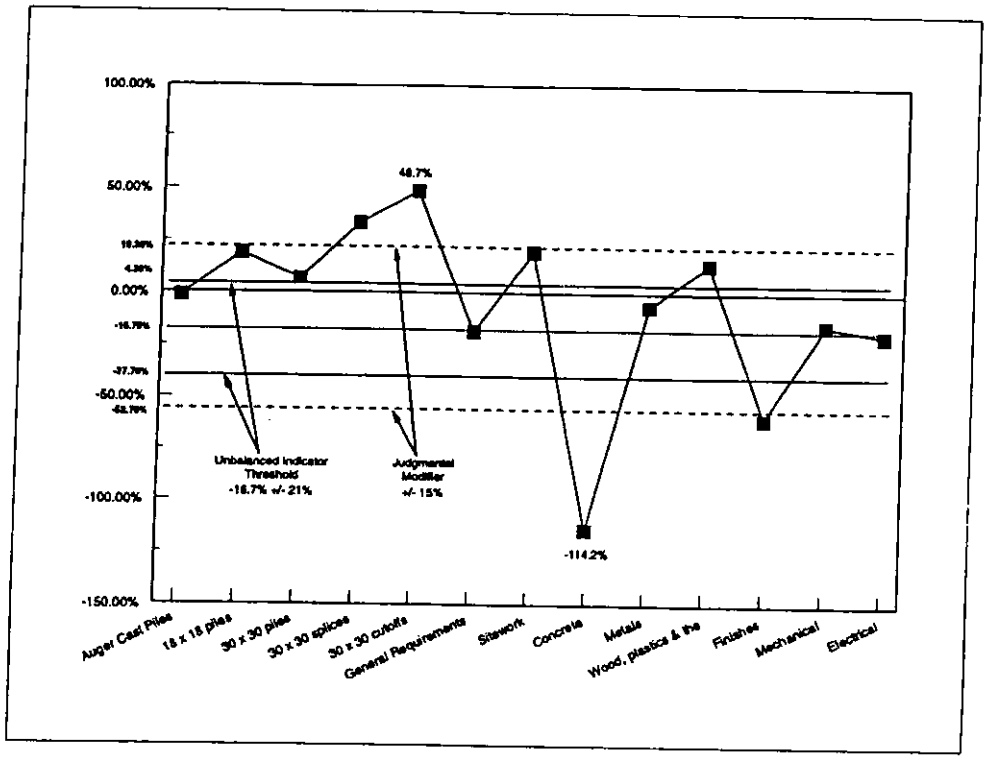


Figure 7–1. Unbalanced percent indicator—potential bid mistake.

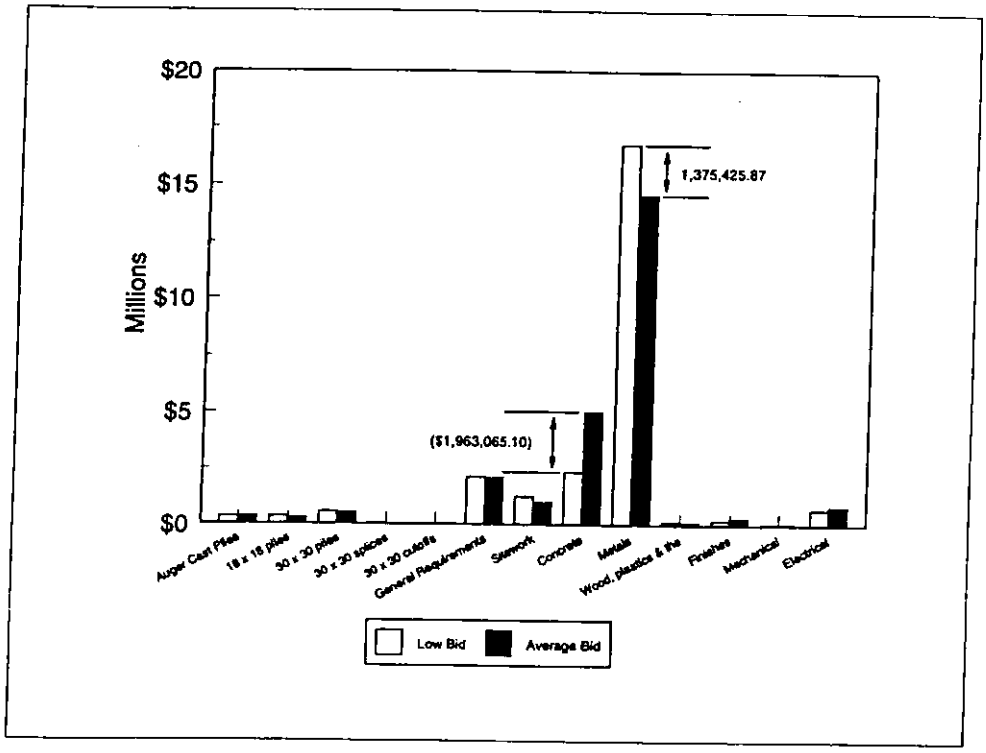


Figure 7–2. Potential bid mistake—cost variance.

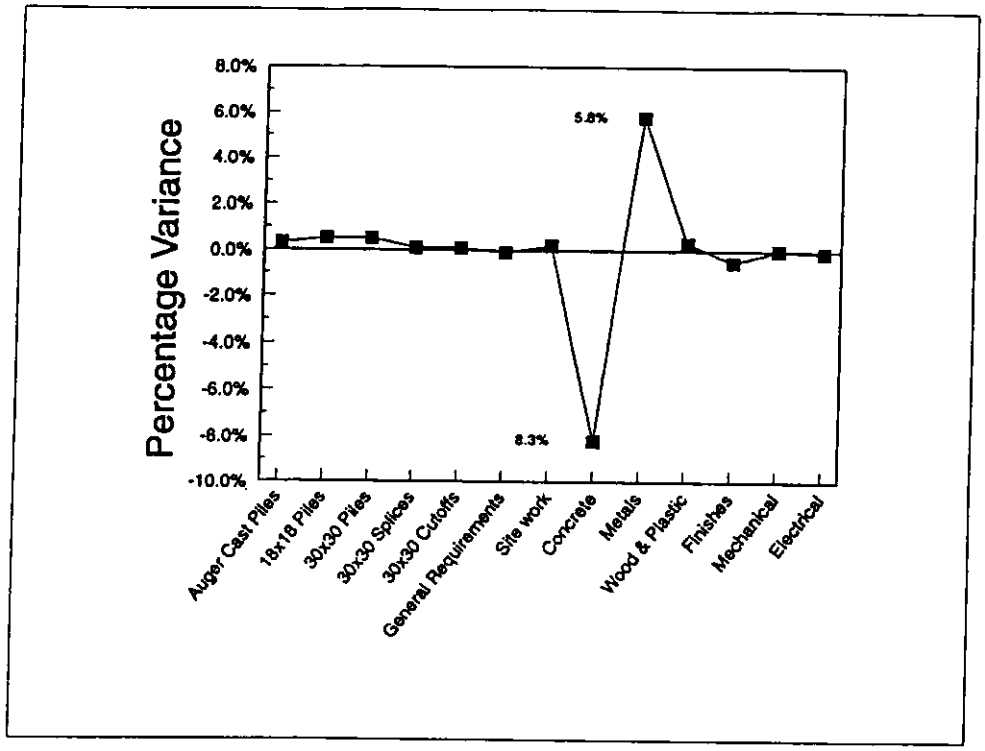


Figure 7–3. Unbalanced percent variance.

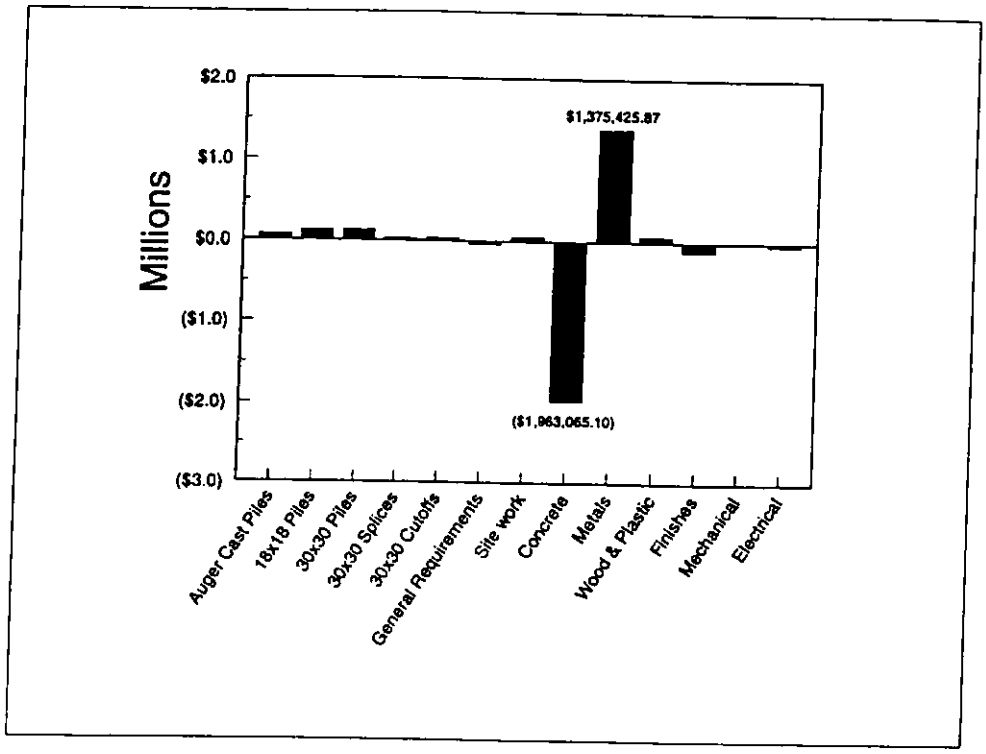


Figure 7–4. Unbalanced amount indicator.

§ 7.13 Owner Options Regarding Unbalanced Bids

The federal government has exercised little creativity in dealing with unbalanced bids (except *McKnight,* discussed in § 7.4). Once contracting officers recognize the presence of an unbalanced bid (and it is usually on the face of the documents and rarely occurs on a lump-sum construction project), the bid is rejected. These decisions are consistently based upon the following objectionable characteristics of the unbalanced bid:

1. They constitute an advanced payment.
2. They may ultimately prove not to be the most advantageous offer.
3. They are detrimental to the integrity of the competitive bid system.

In the *McKnight* case, the court rendered an enlightened decision and established a method by which bid mistakes may be evaluated. The cost of a solicitation and the potential delay to the project should provide sufficient incentive to both public and private owners to look for an alternative to rejection of the bid. Options are available to the owner before a decision is made to rebid the project. The solicitation and the contract documents should clearly indicate that the owner has the right to implement one or more of the options or to choose not to award the project and to seek new bids.

Rebalance the Bid

If upon completion of the bid evaluation, the owner suspects an unbalanced bid or a potential bid mistake by the apparent low bidder, the owner should advise the bidder of the concern and request a bid confirmation. The process should not be limited to a perfunctory request for a written bid confirmation. As discussed in § 7.2, bid mistakes can occur in many ways; except for discovering a mathematical error, a review of the bid worksheets by the individuals who prepared the bid may not be sufficient to reveal a mistake. It is recommended that a meeting be held at which the plans and specification are reviewed and the contractor is reminded of specific aspects of the work that were shown in the contract documents that may have performance cost implications.

If the contractor agrees that a mistake has been made, it is possible that anticipated savings on other aspects of the work will contribute to a decision to accept the award. Negotiations should be held to amend the distribution of prices or the schedule of values with the imbalance eliminated, providing that the overall bid amount is not changed.

In the example of *F&E Erection Company,* discussed in § 7.4, a potential bid mistake indicator of −159.5 percent existed for the culvert and headwalls. However, the bid spread was low at 6.6 percent and all the overstated prices were in the work that is to be performed first. Virtually all of the understated

prices were offset by the imbalance created by the front end loading. Common sense dictates that this bid should be rebalanced. The desire to obtain the work would overcome the low bidder's preferences for the advance payment. By rebalancing the bid, the owner would have been able to avoid the additional cost of awarding to the next bidder. It is unfortunate that the federal government was unable to embrace the concept of rebalancing in this instance.

Award to the Next Bidder

The specification of the owner's option to award to the next bidder should prove effective in convincing low bidders to rebalance their bids. This should be done through negotiations; comparisons can be made with the average of the next three lowest bids (if received) and the owner's estimate. The goal of the exercise is to eliminate the unbalanced bid—not to create a new one in the process. While the spread to the next low bidder is somewhat of a disincentive to the owner, the acceptance of an unbalanced low bid may not prove ultimately to be the lowest cost to the owner. This is certainly an important consideration in unit price contracts in which variations in the estimated quantities can cause the low bidder's price to exceed the next bid at some point. Experience suggests that it is not in an owner's best interests to be encumbered with a project founded on an unbalanced bid. The difficulties in administering the project are discussed in **§ 7.4;** owners should not be unduly influenced by the false sense of savings perceived by an award to the low bidder.

Use of Optional Bid Items

Many solicitations require a bid for a base contract and several optional bid items that the owner may select based upon the bid results and funding restraints. The tendency on the part of the bidders is to bundle all of the overhead and profit for all bid items into the base bid. This may be done as a practical matter when subcontractor or vendor quotes for the alternate items are received with insufficient time to allocate overhead and profit margins. Owners should carefully compare the bids and optional items as an award that omits these items may include an imbalance because costs and margins have been shifted to the base bid. If possible, and consistent with sufficient float in the project schedule, owners should reserve the right to add the optional items after the award at the price quoted at the time of the bid.

Reprocurement and Rebid

The last option that the owner should reserve is the ability to reject all bids and to reprocure the project. This can be done if the low bidder and owner cannot agree on an acceptable method for rebalancing the bid and the spread to the next

low bidder is large enough to suggest that rebidding the project will result in an ultimate cost to the owner that is lower than the current second bidder. Other issues to be considered in this decision include the delay to the project, potential increased costs due to performance under conditions that are more difficult (for example, shifting the work from periods of good weather to periods during which the costs are increased), financing concerns, and extended administrative costs to the owner.

§ 7.14 Claims Avoidance

While the subject of unbalanced bids has not received as much attention as other issues relating to construction claims, the consequences of an unnoticed unbalanced bid can be severe for both the owner and the contractor. There may never be a problem, as long as no changes occur in work items that have unbalanced prices, or quantities never vary from estimates by amounts in excess of the threshold limit. However, it is a rare project that will not see these occurrences. Owners should have the ability both to recognize unbalanced bids and to rely upon contract provisions that permit them to cure an imbalance prior to award.

For those owners who find themselves in a project where an unbalanced bid has gone undetected, they can be protected by provisions that should have required the submission of estimated labor hours for the project. Finally, because decisions relating to the method of calculating an equitable adjustment for quantity variations have been conflicting—either based upon the cost due solely to the quantity variation or, as in *Burnett,* based upon the difference between the cost of the overrun or underrun items and the unit price—owners should include appropriate contract provisions that clearly outline the method that must be used to calculate the adjustment.