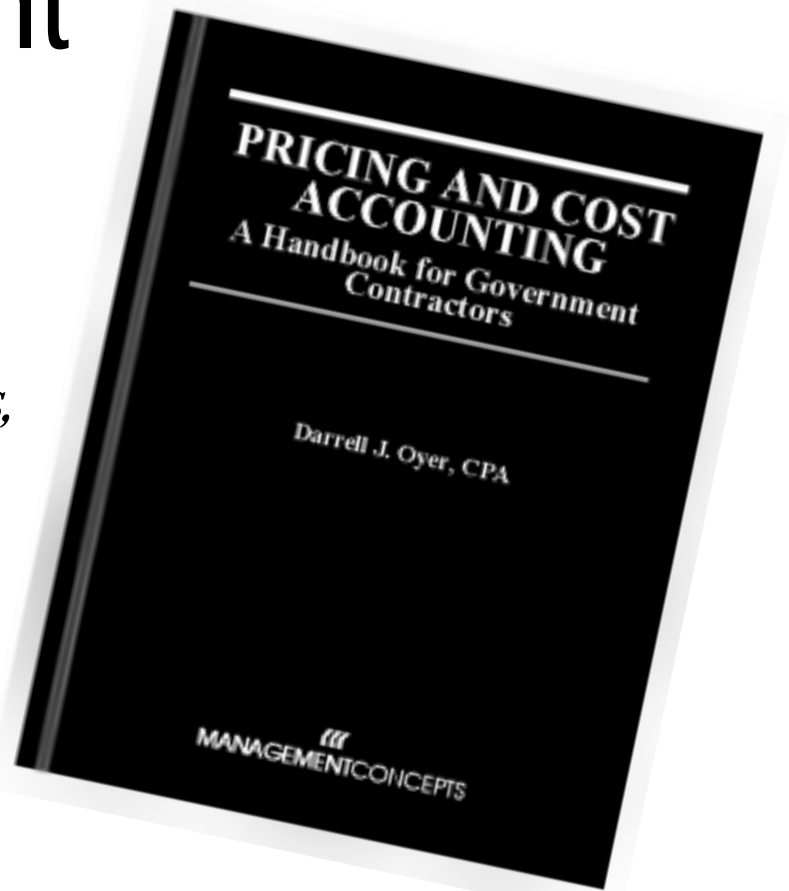


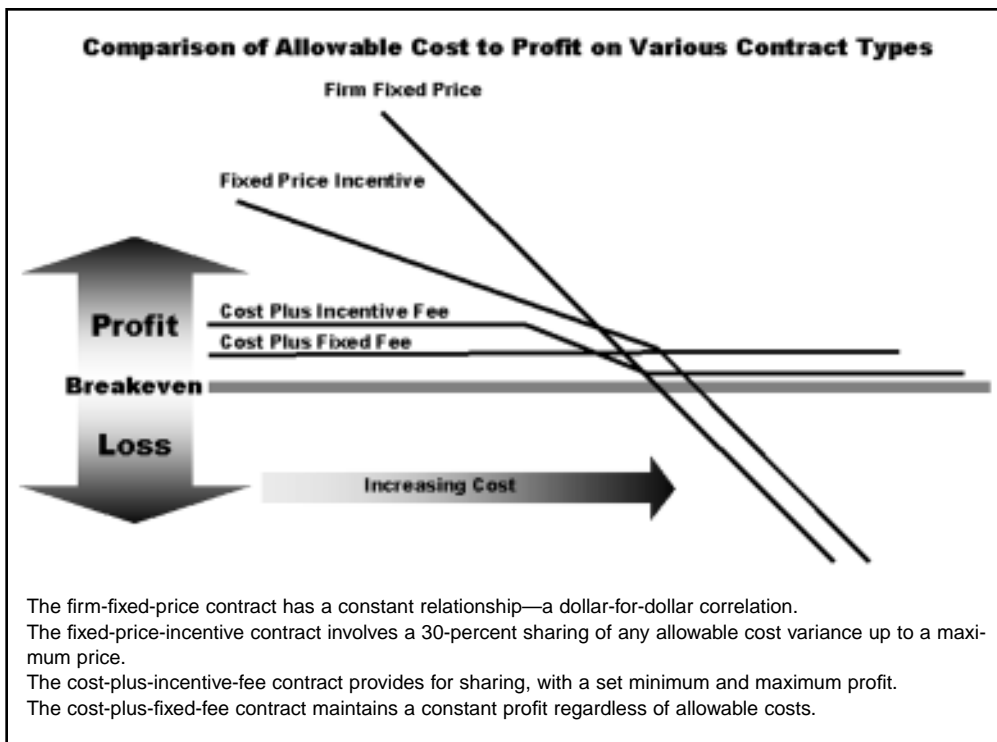
Developing Cost Estimates For Proposals To The Government

By Darrell J. Oyer, CPA

In preparing to negotiate reasonable contract prices, contractors will need to estimate costs. These cost estimates must be developed using good techniques and sound historical data. In addition, contractors must comply with unique government rules and regulations.



Darrell Oyer's article on developing cost estimates for proposals has been adapted and excerpted from his book, *Pricing and Cost Accounting, A Handbook for Government Contractors* (Chapter 7), published by Management Concepts, Inc. (Copyright 2000). His book addresses Federal Government procurement methods, types of government contracts and accounting system requirements. Further, Mr. Oyer speaks to cost allowability, the principles behind selected costs and cost accounting standards. In addition to the chapter on developing costs for proposals (reprinted here) the book provides contract price negotiation and profit guidelines, information on truth in negotiations, contract administration, and government contract audits. *Proposal Management* thanks the author and Management Concepts for permission to excerpt this book.



Development of a cost estimate is a very important and complicated part of the proposal. A contractor must be concerned with maintaining a competitive posture but at the same time realizing a fair profit. A contractor is also concerned with responding to the government in a timely fashion while making sure that the estimate is accurate and well-supported to minimize costs questioned by the auditors. During this process, a contractor must recognize and adhere to applicable government cost regulations.

The value of a comprehensive set of written policies and procedures defining the requirements of cost estimating cannot be overstated.

Because this important task is so difficult, the value of a comprehensive set of written policies and procedures defining the requirements of cost estimating cannot be overstated. The following considerations should be included in the written procedures:

- Describe the method for developing pricing rates for both direct and indirect costs.
- Base rates on current, accurate, and complete data as developed from the accounting records.
- Anticipate changes in the size and character of the work force.
- Define the method for computing labor rates (e. g., average versus actual rates).
- Provide for periodic review of established bidding rates to compare actual rates and budgeted amounts.
- Define the method used for computing cost escalation.
- Set timelines and number of quotations and subcontracts needed for procuring material and subcontracts.
- Develop support needed for decrement factors (e.g., experienced reductions in price).
- Set basis for source selection.
- Determine emphasis on the use of quantity discounts for purchases of material items.

The Estimating Process

The development of a cost proposal is usually a team effort, with collaboration among staff from various disciplines such as marketing, engineering, manufacturing, quality control, and finance. If a proposed product or service is similar or identical to other products or services the company has produced, historical cost data may be valuable in developing the proposed cost.

Forecast data are more relevant than historical data.

In addition, changes over time in both the nature and amount of costs as well as the method of production should be considered in developing cost estimates. For example, pay rates for direct labor might change, overhead rates might be higher or lower depending on the company's overall business volume, and G&A rates might be substantially different from those actually incurred in performing the prior work. These basic data need to be adjusted and updated to reflect what can reasonably be expected to occur during performance of the contract. An estimate should not be blindly based on historical cost data; in fact, forecast data are more relevant than historical data. On the other hand, for government reviews, historical data are easier to validate than forecasts.

In developing cost estimates for products with which the company has had little experience, individuals in the various functional areas, such as engineering and manufacturing, will usually be responsible for developing estimated hours of production and material as well as subcontractor costs. Estimated hours should be priced at the various labor rates expected to be incurred while working on the contract, and overhead rates should be developed to represent anticipated overhead costs during performance of the contract.

Quantity Estimates

Several elements need to be established in the written policies and procedures regarding the development of quantity estimates. Important characteristics include:

1. Timeliness of quantitative estimates based on current designs, drawings, and specifications
2. Flexibility of the estimating system to reflect changes (e.g., in manufacturing process and tooling escalation)
3. Definition of the steps necessary to develop a basic unit estimate and application of attrition/scrap factors
4. Identification of sources available for determining basic material type and quantity requirements
5. Application of parametric estimating tools (e.g., learning curve)
6. Application of manufacturing labor standards (e.g., work measurement standards).

Make-or-Buy Decisions

The determination of whether to make or buy an item is very important within the framework of proposal estimating. A “make” item is an item or work effort to be produced by the prime contractor or its affiliates, subsidiaries, or divisions. A “buy” item is an item or work effort to be produced or performed by a subcontractor.

Make-or-Buy Exceptions to Federal Acquisition Requirements

The FAR requires prospective contractors to submit make-or-buy programs for all negotiated acquisitions whose estimated value is \$10 million or more except when:

- 1—the proposed contract is for research or development and, if prototypes or hardware are involved, no significant follow-on production is anticipated
or
- 2—the price is adequately competed or established by catalog or market. The government reserves the right to review and agree on the contractor’s make-or-buy program whenever it deems appropriate to ensure a fair and reasonable contract price.

Direct Labor Costs and Hours

Direct labor cost estimates may be grouped according to the two methods used in developing the cost estimates:

1. Those developed primarily from the application of technical data
2. Those developed primarily from recorded direct labor costs.

The method used in arriving at an estimate will depend on the nature of the procurement and the extent of the contractor’s experience making the item—and thus the associated labor requirements. When the proposal contemplates a research and development contract or a production contract for which the contractor has had no prior cost experience, the labor estimate should be based on technical data. When the contract is follow-on, the labor estimate should be based on prior labor experience, adjusted for expected changes for future work.

A direct labor cost projection should not be made on the assumption that the cost pattern or trend will continue unchanged during the period of the proposed contract.

When historical cost data are available, the estimated direct labor cost probably will be a projection of those data. Such a direct labor cost projection should not be made on the assumption that the cost pattern or trend will continue unchanged during the period of the proposed contract; it should consider other related factors.

Factors that affect the productivity of labor normally will not be the same today as they were last week or last month. Therefore, labor costs accumulated in the past, adjusted only for changes in the labor rate, or labor costs for the last job lots produced, are not sufficient data on which to base an estimate. Rather, current experience, adjusted for anticipated reductions or

other variations, should be used.

An estimate for unusual or “nonrecurring” costs may need to be included. Such costs are not normally disclosed by a routine review of labor because they are usually treated and charged as direct labor costs without further identification or segregation. Nonrecurring costs may be revealed through a review of labor costs for selected tasks, jobs, or cost centers not associated with a normal job or process and a review of job lot records for unusual jobs.

Setup time costs also need to be considered. These are the costs required for changing over a machine or method of production from one job to another; they include the time for tearing down the previous setup and preparing the machine or process for the new operation. Setup may also include the time for the production and inspection of the first acceptable piece or test group of pieces. It does not include the time required to clean up the work area during or at the end of a production period unless regular readjustments need to be made during the production cycle. This readjustment time may be charged either as production or setup time, depending on the contractor’s accounting policy and the extent of the readjustment. When the setup for a process job is recorded as the first operation on an operation sheet, the time and cost may be similarly charged.

Other conditions influencing an estimate for labor hours include:

1. Supplementary assembly lines established to accommodate temporarily accelerated production schedules or other emergency measures
2. The introduction of more efficient and cost-effective material issuing and handling procedures to eliminate or prevent bottlenecks and reduce work stoppage
3. Training of employees
4. Transfers of employees between assembly lines, work areas, departments, shifts, and jobs
5. Special tooling.

To determine whether labor hour estimates reflect recent improved conditions, current labor operation sheets must be compared with those in prior periods and with those reflecting advance production schedules.

In addition to the labor hour estimates, labor rates need to be projected. Direct labor rates used to estimate direct labor costs may be at expected individual rates or expected average rates. The latter rates may be either estimated separately for each proposal or pre-established for pricing many proposals submitted over a given period of time.

Contractors may use a variety of methods to combine the various direct labor grades and functions, and the associated pay rates for estimating costs. Methods should take into account:

1. Differences in the type, size, and importance of labor operations
2. The type and arrangement of production facilities
3. The manner and extent of departmentalization
4. The type and dollar values of government and commercial contracts and products.

Individual employee rates may be used when the persons who will perform the work under the proposed contract are known. A determining factor in the award of a contract may be the “know-how” of specific individuals, and their agreement to

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perform the work under the contract. In other cases, individual rates may be used when the contract requires a caliber of employees whose pay rates do not represent the average rates paid within their labor classifications.

tors such as direct material cost per pound of product and ratios of direct material to direct labor for similar products.

Information on which to base estimates for direct material costs usually may be obtained from one or a combination of nine sources.

A properly prepared bill of material generally will provide a sound basis for estimating direct material cost. The document will contain a detailed listing of the types and quantities required for raw material and for each component and part. It may also include allowances for:

1. Expected losses
2. Defects
3. Spoilage during processing
4. Scrap generated
5. Common supply type items, such as welding rods, nuts, bolts, and washers

Individual versus Average Rates in Estimating

- ❑ Individual rates in cost estimating will produce precise results.
- ❑ Average rates within labor classifications are more practical.

While the use of individual rates in cost estimating will produce precise results, average rates within labor classifications are generally developed and employed for practical purposes. Either approach may result in reasonable estimates provided that a consistent practice is followed and deviations will not affect the proper recovery of anticipated costs.

The development of average rates may include a single plantwide average or a separate average rate for a function, grade, class of labor, cost center, department, or production process. The use of average rates is generally warranted because within each unit of an operating plant, each production situation and associated group of workers usually has a labor norm and cost pattern. Average rates, properly computed and applied, will express the labor norm and equalize the effect of indeterminable factors usually associated with other methods.

The use of average rates is preferable, for example, when a contractor is unable to project with any degree of reliance the:

1. Identity of those who will perform each operation and, correspondingly, the individual rates of pay
2. Exact production processes to be used, particularly when the contractor has no applicable experience
3. Precise labor requirements.

Base Estimates for Direct Material Costs — 9 Sources

- Cost records for the last completed contract (appropriately adjusted)
- Cost records for the last lot or a selected number of lots of the last completed contract
- Experienced direct material costs plotted on an improvement curve relating to the same or similar product or components
- Priced bills of material
- A priced bill of material for a related product (appropriately adjusted)
- Direct material costs included in a pilot run of a prototype model
- A prior cost estimate adjusted to reflect current needs
- A budget prepared for the period during which the same or similar item was produced
- Experience factors and ratios established for related or unrelated products of similar size and complexity

Direct Material Costs

Direct material costs include costs of raw materials, purchased parts, subcontracted parts and components, and other material directly identified with the engineering effort or the manufacture of a product. Costs of spoilage, obsolescence, and similar conditions involving losses of direct material associated with production are generally considered loading factors and may be included in indirect costs.

The method of estimating direct material costs depends on the type of accounting and adjunct statistical data available. The data may include directly applicable experience for an entire product, as in the case of a follow-on procurement, or certain parts and components comprising a product, as in the case of an estimate for an item substantially similar or related to an item previously produced. The data also may include general or indirectly applicable experience for fac-

Sources for Pricing Components

Sources	Description
Standard costs	Realistic in relation to past, current, and probable future experience
Previous purchase order prices (adjusted for quantity differences)	Prices should be current and appropriate for the estimated quantity required
Current vendor quotations	Sufficient bid solicitations should be obtained
Current order placement prices	Prices should be appropriate for the estimated quantity required

6. Other additives to the basic material requirements.

When the bill of material contains only the basic material requirements, loading factors stated in the form of percentage of material costs may be applied to provide for expected losses of materials and common supply type items.

When the estimate relates to a follow-on procurement and prior experience exists, the bill of material should be current and should reflect all anticipated changes in the unit quantitative requirements. Current and prior bills of material for the same product should be compared. When the estimate relates to a completely new product, only rough sketches or prints of design may be available for a prototype. The types and quantities of required materials may be developed primarily on the basis of personal experience and judgment. Estimates for completely new products usually involve significant technical determinations.

Sources for pricing components include standard costs, previous purchase order prices adjusted for quantity differences, current vendor quotations, and current order placement prices. When the source is standard costs, the variance factor should be realistic in relation to past, current, and probable future experience. When prices are developed from previous purchases, the prices (stock record cards or purchase orders) should be current and appropriate for the estimated quantity required. When prices are developed from current vendor quotations, sufficient bid solicitations should be obtained.

Contractors may use prices paid for the same items in previous purchases in estimating the material cost of follow-on procurement when current vendor bids have not been obtained. However, they must make sure that:

1. Recent purchase orders were selected to obtain applicable prices and adjusted, where necessary, to reflect current and future price trends
2. Prices for purchase orders selected are for comparable quantities required in the follow-on procurement
3. Quantity discounts were taken into consideration when increased quantities are to be purchased
4. Consideration has been given to reduction in vendors' prices when follow-on purchases reflect the elimination of high start-up costs.

When pricing a follow-on contract, contractors should consider the ownership and value of materials that are residual from a preceding government contract and usable on the proposed contract.

Where the preceding contract is cost-type, the residual materials normally will be government-owned; accordingly, if those materials can be used, the contractor should include them in the proposal at no cost. Where the preceding contract was of a fixed-price type subject to price adjustment, the contractor should review the terms of the settlement to determine ownership. If the materials are government-owned, the contractor should include them in the proposal at no cost. If the materials are contractor-owned, the contractor should include them at their original cost, the market price, or the value assigned in negotiating the price of the preceding contract.

The estimated cost of scrap and spoilage may be included in proposals as direct cost, as a percentage factor applied to some other base cost, or as part of indirect cost. However, the method of estimating such cost must be consistent with the accounting method for the proposed contract and the accounting procedures should give proper recognition to any salvageable material generated. When previous procurements for the same or related products are available, these estimates can be based on historical data.

Graphic analyses can be very useful for this purpose. A time series chart can be used to plot the movement of these costs or the percentage relationship to a volume base, such as direct material

cost, on a monthly or less frequent interval. A scatter chart can likewise show groups of units produced. Since scrap, spoilage, and rework costs generally are higher during the early stages of a contract and diminish progressively as production techniques improve, plot points that indicate abnormally high costs should be highlighted. The reasons for high costs should then be analyzed, and the likelihood of their recurrence should be assessed.

Provisions for obsolescence and inventory adjustments may be included in cost estimates as percentage factors applied to a cost base or as a part of indirect cost. Percentage factors derived from past experience should be considered. Adjustments for the exclusion of nonrecurring and abnormal write-off and transfers-back of obsolete material to productive inventory should be made.

Other Direct Costs

Other direct costs are costs that by their nature can be considered indirect costs but that, under some circumstances, can be identified specifically with a particular cost objective such as a product, service, program, function, or project. Costs classified as other direct costs vary in accordance with the treatment prescribed by the accounting system and estimating procedures, and often include overtime premium, special tooling, travel and subsistence, computer services, reproduction, and overnight mailings. Various types of other direct costs may be estimated by applying percentage or conversion factors (such as number of staff hours per month) to some other basic cost or to basic estimates of required staff months of effort.

Data accumulated in the accounting system or adjunct statistical records that may be helpful in estimating design engineering include:

1. The total number of basic design hours expended on previous contracts of similar complexity
2. The number of various types of drawings required and the average number of hours expended by type of drawing for prior contracts of varying degrees of complexity
3. The percentage factors for support engineering (the direct engineering effort other than that expended by detailed designers working the design department)
4. Percentage factors for engineering effort incidental to changes made during production that represent refinements of the product to attain improved performance.

Production engineering generally represents engineering effort expended during the life of a contract and commences with the completion of the initial design. Initial design is usually segregated from other engineering effort in the accounting or statistical records.

Special tooling is designed to reduce the requirements for direct labor hours and costs, speed production, and improve techniques, tolerances, and finished parts. The term includes jigs, dies, fixtures, molds, patterns, special gauges, and special test equipment used in the production of end items. The term does not include general purpose tools, capital equipment, expendable tools, small hand tools, tools acquired before the contract, replacement tools, and items of tooling that are usable for the production of items not required under the contract.

Special test equipment includes either single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in the performance of the contract. Such testing units comprise electrical, electronic, hydraulic, pneumatic, mechanical, or other items or assemblies of equipment that are mechanically, electrically, or electronically interconnected so as to become a new functional entity, causing

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the individual item or items to become interdependent and essential for testing the development or production of particular supplies or services. The term "special test equipment" does not include material, special tooling, buildings, and non-severable structures (except foundations and similar improvements necessary for the installation of special test equipment), and plant equipment items used for general plant testing purposes.

Travel and subsistence costs usually include the costs of transportation, lodging, meals, and incidental expenses incurred by personnel while in travel status. When included as other direct costs, the estimate usually is based on the contemplated number of trips, places to be visited, length of stay, transportation costs, and estimated per diem allowance. Estimates for this cost should consider government Joint Travel Regulation (JTR) per diem rates, transportation rates based on the use of less than first class service, projected transportation costs for personnel, mileage allowances, and a comparison of the current estimate with experienced costs of prior procurements of a similar nature.

The cost for provisions requiring contractor engineering personnel to service delivered equipment, usually referred to as field service expense, may be included in the estimate as a separately identifiable item under other direct costs or as a part of indirect cost. It must comply, however, with the proposed accounting system to be used in costing the contract as well as all applicable CAS.

The cost of installation, maintenance, and repair, and the development of operating instructions may be identified in the records as field service expense, guarantee expense, warranty expense, or reserve for guarantee. The cost estimate may include provision for royalties as a separate identifiable item under other direct costs or as part of indirect costs. Proposals that include such costs should identify pre-production, start-up, and other nonrecurring costs, including such elements as pre-production engineering, special tooling, special plant rearrangement, training programs, initial rework or spoilage, and pilot runs.

Indirect Costs

The estimation of indirect costs and rates requires an understanding of evaluation techniques and insight into to what reasonably may be expected to occur in future operations. The impact of these occurrences and their influence on projected indirect costs and overhead rates must be projected. Knowledge of the accounting policies, particularly those for distinguishing direct costs from indirect costs and the basis for allocating indirect costs to contracts, is necessary for to the development of accurate expense forecasts.

Graphic analyses and statistical techniques can be helpful in evaluating estimated indirect costs. While these techniques alone do not provide a basis for firm forecasts of costs, in appropriate circumstances, they can provide a basis for ascertaining whether estimated costs are within a cost range of what can reasonably be expected in the future.

Indirect cost estimates require consideration of anticipated future operations. They can be based on analyses and projections of historical cost patterns and related data, but they must contemplate changes that may influence the projections.

For example, the accounting policies governing the treatment of certain indirect expenses may change. Such policies may reclassify an expense from direct to indirect or introduce a new method of accumulating and allocating indirect cost. Changes of this nature may affect the estimates for indirect costs and the computation of indirect cost rates.

Management objectives may change as a result of economic conditions and increased competition. For example, in the past

management may have emphasized a program to increase sales, while now management is emphasizing a program to reduce costs.

Indirect labor usually represents a substantial portion of indirect costs. Estimates for indirect labor should include analyses of variable, semi-variable, and non-variable classifications in a current representative period. The ratios of each category to direct labor should be computed and compared with similar ratios for estimated cost. Projections of indirect labor requirements and the related costs can also be compared with manpower budgets. Indirect labor wage rates can be determined by reviewing personnel or payroll records. When projected costs include wage increases, the proposed increases must have been approved by management and be in accordance with applicable agreements.

Differentiation should be made in the treatment of the non-variable, semi-variable, and variable components of indirect material cost. Ratios of these expense classifications to appropriate bases should be computed and compared with similar ratios for estimated cost. Projections of indirect labor requirements and the related costs also can be compared with manpower budgets. Indirect labor wage rates can be determined by reviewing personnel or payroll records. Again, when projected costs include wage increases, the proposed increases must have been approved by management and be in accordance with applicable agreements.

Overhead rates can be very difficult to estimate for future periods because a number of factors can influence either the base or overhead pool, both of which influence the rate. As noted, the rate is determined by dividing the overhead cost pool by the base costs, such as direct labor, over which overhead costs are to be allocated.

An overhead pool can consist of a variety of costs incurred by the company to support direct labor actually performing work under the contract. Some overhead costs, such as rent, depreciation, and supervision, are relatively fixed and will continue at substantially the same level regardless of whether direct labor increases or decreases. Other overhead costs, such as supplies, tooling, and fringe benefits of direct labor personnel, tend to vary somewhat in proportion to the amount of direct labor.

As the contractor's direct labor rises and falls in relation to business volume, the overhead rate will change, but not necessarily in the same magnitude. For example, assume that a contractor has sales of \$100 million a year and is operating at only 70 percent of capacity with an overhead rate of 200 percent. If sales increase by 25 percent, to \$125 million, the overhead rate will probably decrease, for example, to 175 percent because certain fixed costs will not go up proportionately to the higher sales.

Determine the level of sales volume as well as the level of production volume to forecast the labor base.

In developing cost proposals, the contractor needs to determine, prospectively, the level of sales volume as well as the level of production volume to be able to forecast the labor base. Since prices are based heavily on estimated costs, a lower cost structure will produce lower prices, and vice versa. The contractor should, of course, always project realistic forecasts for overhead rates.

How important is the accuracy of overhead rate forecasts? The answer varies depending on the nature of the contracts. If the contractor is overly optimistic in forecasting overhead rates in an FFP contract, the result may be lower profits or even a loss on the contract if higher overhead rates are incurred when the contract is being performed. Conversely, in a cost-reimbursement contract,

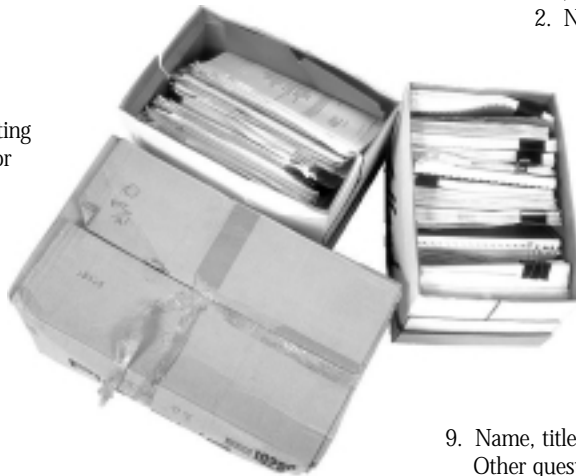
the contractor is not nearly as financially exposed by an inaccurate forecasting of overhead rates (or any other cost for that matter) since the contractor is entitled to be reimbursed for actual costs incurred up to the ceiling in the contract (or any ceiling rates specified in the contract). For example, a contractor may forecast a 150 percent overhead rate during contract negotiations and incur a 200 percent overhead rate during contract performance. Under these circumstances, the contractor is entitled to reimbursement of actual costs, which reflect the 200 percent overhead rate.

The same principle applies to G&A expenses. A contractor must look into the future period of contract performance and:

1. Forecast, as accurately as possible, the costs that will be included in the G&A pool
2. Properly relate the G&A cost pool to the base costs estimated to be incurred during that period
3. Develop a rate that will be applied to the estimated costs of the base.

Submitting Price Proposals

The instructions for submitting price proposals when cost or pricing data are required are contained in FAR Table 15-2, and are essentially carryovers from those formerly used in conjunction with the Standard Form 1411, Price Proposal Cover Sheet, which is now obsolete.



General Instructions

Note 1 to FAR Table 15-2 describes the requirement for submitting cost or pricing data that are derived from FAR Part 15 and the Truth in Negotiations Act. Offerors are reminded that a distinction exists between submitting cost or pricing data and merely making available books, records, and other documents without identification or elaboration. The offeror's requirement for submission of cost or pricing data is met when all accurate cost or pricing data reasonably available to the offeror have been submitted, either actually or by specific identification, to the contracting officer or an authorized representative of the contracting officer.

Data not reasonably available are not required to be submitted and an offeror is not obligated to recast existing data into any particular format to meet this disclosure requirement. The reference to "actual submission or specific identification" is an option. An offeror's obligation is not to submit and specifically identify cost or pricing data. The purpose of this optional means of compliance is to accommodate situations where voluminous data make it impractical to actually submit all cost and pricing data. However, the ability to satisfy the requirements by specific identification is not a license to simply list data without explaining their relevance to the price proposal.

Offerors are further reminded that any subsequently obtained relevant cost or pricing data should be submitted promptly to the contracting officer in a manner that clearly shows how the information relates to the offeror's price proposal. These data should be

submitted directly to the contracting officer, not to the government auditor. The requirement for submission of cost or pricing data continues up to the time of agreement on price, or an earlier date agreed upon between the parties if applicable. In practice, the contracting officer seldom agrees to an earlier cutoff date.

Note 2 to Table 15-2 informs offerors that by submitting the proposal, the offeror grants the contracting officer or an authorized representative the right to examine the records that formed the basis for the pricing proposal. The authorized representative is generally a contract auditor, but may also be a contract administrator or price analyst. The government examination can take place at any time before award and in some rare instances has actually occurred after contract award. The examination may include review of those books, records, documents, and other types of factual information (regardless of form or whether the information is specifically referenced or included in the proposal as the basis for pricing) that will permit an adequate evaluation of the proposed price. This is an open-ended and extremely subjective condition.

The more mundane items required by *Table 15-2* include:

1. Solicitation, contract, and/or modification number
 2. Name and address of offeror
 3. Name and telephone number of point of contact
 4. Name of contract administration office if available
 5. Type of contract action i.e., new contract, change order, price revision/re-determination, letter contract, un-priced order, or other
 6. Proposed cost, profit or fee, and total
 7. Whether the use of government property will be required in the performance of the contract, and, if so, what property
 8. Date of submission
 9. Name, title, and signature of authorized representative.
- Other questions to be answered include whether:
- The offeror's organization is subject to the CAS
 - The offeror's organization has submitted a CAS Board disclosure statement
 - The offeror's disclosure statement has been determined to be adequate
 - The offeror has been notified that it is or may be in noncompliance with the disclosure statement or the CAS, and, if so, an explanation
 - Any aspect of this proposal is inconsistent with the offeror's disclosed practices or applicable CAS, and, if so, an explanation
 - The proposal is consistent with established estimating and accounting principles and procedures and *FAR Part 31, Cost Principles*, and, if not, an explanation.

The answers to these questions are crucial. If an offeror is not subject to the *CAS* because it is a small business (or any other exemption), this fact should be included in the response to the questions. An offeror should also indicate whether or not it is subject to full or modified *CAS* coverage. If no disclosure statement has been submitted, the offeror should either: (1) state that no disclosure statement is required; or (2) indicate the status of any disclosure statement submission. If any aspect of the price proposal is not consistent with the *CAS* or *FAR Part 31*, an offeror should review the circumstances carefully to determine if the proposal should be revised to be consistent. An

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answer that the proposal is not consistent with either regulation will undoubtedly cause potential significant problems in obtaining contract award or in negotiating a price.

The instructions require the following statement: "This proposal reflects our estimates and/or actual costs as of this date and conforms with the instructions in FAR 15.403-5 (b)(1) and Table 15-2. By submitting this proposal, we grant the contracting officer and authorized representative(s) the right to examine, at any time before award, those records, which include books, documents, accounting procedures and practices, and other data, regardless of type and form or whether such supporting information is specifically referenced or included in the proposal as the basis for pricing, that will permit an adequate evaluation of the proposed price."

This statement is the certification that appeared on the now defunct SF 1411. The reference to FAR provisions obligates the offeror to be responsive to any requirements in that portion of the FAR. Finally, the provision regarding access to records is necessary because of the absence of a contract clause (and contract) providing for any access to the offeror's books and records.

The instructions further request the offeror to include an index, appropriately referenced, of all the cost or pricing data and information accompanying or identified in the proposal. The format provided by offerors and accepted by the government is not fixed and in practice may vary substantially. In addition, an offeror should annotate any future additions and/or revisions on a supplemental index. This requirement is a good idea from a contractor perspective because documentation of what data have been submitted to the government could be a critical issue in any allegation of violations of the *Truth in Negotiations Act*.

The instructions state that an "...offeror must clearly identify that cost or pricing data are included as part of the proposal." The need for the statement is questionable because the instructions are only applicable where cost or pricing data are required and the offeror is responding to this requirement.

In addition, the offeror must submit with the proposal any information reasonably required to explain its estimating process, including the judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data and the nature and amount of any contingencies included in the proposed price. Judgmental factors include describing what or how specific historical data were selected for estimating purposes. This might include describing learning curve applications, average hour calculations based on selected historical data, etc. For materials, this might involve describing how material prices were estimated—recent prices (and how recent), quotes, moving average of recent prices, etc.

The government seeks to ensure that contingencies are considered only once in any price negotiation.

Contingencies must be identified—not because contingencies are unallowable, but because the government seeks to ensure that contingencies are considered only once in any price negotiation. If contingencies are specifically priced in the proposal, then the risk (and thus margin or profit) might be less.

Offerors must show the relationship between contract line item prices and the total contract price. Offerors must attach cost element breakdowns for each proposed line item, using the

appropriate format prescribed in the "Formats for Submission of Line Item Summaries" section of Table 15-2. Supporting breakdowns for each cost element, consistent with the offeror's cost accounting system, must be provided. The cost elements are essentially direct labor, materials and subcontracts, other direct costs, overhead, and G&A expense plus cost of money.

When more than one contract line item is proposed, a summary total amount covering all line items for each cost element must be included in the proposal support. Whenever an offeror has incurred costs for work performed before submission of a proposal, the offeror must identify those costs in the price proposal. If the offeror has reached an agreement with government representatives on use of forward pricing rates and factors, the agreement should be identified, a copy included, and its nature described.

Offerors are informed that as soon as practicable after final agreement on price or an earlier date agreed to by the parties, but before the award resulting from the proposal, the offeror must, under the conditions stated in FAR 15.406-2, submit a *Certificate of Current Cost or Pricing Data*. In practice, this date could be as long as several months after completion of negotiations.

Required Breakdowns

Depending on an offeror's accounting system, an offeror must provide breakdowns for the following basic cost elements, if applicable:

- Materials and services
- Direct labor
- Indirect costs
- Other costs
- Royalties
- Facilities capital cost of money
- Profit
- Materials and Services

Offerors should provide a consolidated, priced summary of individual material quantities included in the various tasks, orders, or contract line items being proposed and the basis for pricing (e.g., vendor quotes, invoice prices). Not only must each contract line item be priced, but a summary of materials for all items in the proposal must be provided. The purpose of this summary is to assist in the evaluation of material unit prices based on quantities expected to be used for the entire contract.

For all items proposed show the source, quantity, and price.

An offeror is to include raw materials, parts, components, assemblies, and services to be produced or performed by others. The specific contractor terminology is not important; the items to be included are any direct costs incurred by others. For all items proposed, the offeror should identify the item and show the source, quantity, and price. If these three factors cannot be determined, they must be estimated. For example, the planned source may be known, but this could change by the time the materials are actually purchased. The quantity should be known—including an estimate for material attrition. The price will most likely have to be based on an estimate. It is often difficult to obtain quotes unless the supplier is assured of the possibility of a subsequent order. All this assumes that the product is sufficiently designed to permit development of a bill of material.

Offerors are expected to conduct price analyses of all subcontractor proposals. This may involve a variety of techniques, including comparison of prior prices, prices from competitors, and in-house cost estimates.

A cost analysis cannot be conducted unless the potential subcontractor has submitted cost or pricing data.

In addition, offerors should conduct cost analyses for all subcontracts when cost or pricing data are submitted by the subcontractor. *A cost analysis cannot be conducted unless the potential subcontractor has submitted cost or pricing data.* When these cost or pricing data and analyses exist, an offeror is expected to include these analyses as part of its own cost or pricing data submissions for subcontracts expected to exceed \$500,000. The subcontractor's cost or pricing data should be submitted as part of the offeror's cost or pricing data. These requirements also apply to all subcontractors who are required to submit cost or pricing data.

Regarding materials, offerors are expected to provide data showing the degree of competition and the basis for establishing the source and reasonableness of price for those acquisitions exceeding, or expected to exceed, \$500,000 that are priced on the basis of adequate price competition. For inter-organizational transfers priced at other than the cost of comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, an offeror must explain the pricing method.

Offerors should obtain cost or pricing data from prospective sources for those acquisitions exceeding \$500,000 and not otherwise exempt (i.e., adequate price competition, commercial items, prices set by law or regulation, or waiver). An offeror must provide data showing the basis for establishing source and reasonableness of price. These requirements mean that the source selection should be described in terms of competitive prices, market prices, catalog prices, commercial items, inter-company transfers, unique technical capabilities, sole source, direct source, etc., and whether reasonableness was established by competition, market conditions, price analysis, or cost analysis.

In addition, an offeror is requested to provide a summary of its cost analysis and a copy of cost or pricing data submitted by a prospective source in support of each subcontract, or purchase order that is the lower of either:

1—\$10,000,000 or more

or

2—both more than \$500,000 and more than 10 percent of the offeror's proposed price.

The contracting officer may require cost or pricing data in support of proposals in lower amounts. Remember, if no cost or pricing data have been submitted to the offeror, none can be submitted to the government. Offerors may have little leverage to demand cost or pricing data from a potential subcontractor who does not think it has a chance for subcontract award or who simply declines to provide any data until an actual prime contract exists.

Subcontractor cost or pricing data must be accurate, complete, and current as of the date of final price agreement on the subcontract (not the date of price agreement on the prime contract), or an earlier date agreed upon by the parties. The prime contractor is responsible for updating a prospective subcontractor's data. In recent years, court decisions have made this a more proactive requirement on the part of a prime contractor. Specifically, recent decisions have suggested that prime contractors should actively seek updated data rather than merely ensure that subcontractor cost or pricing data are current, accurate, and complete as of the date of the subcontract price agreement.

For standard commercial items fabricated by the offeror that are generally stocked in inventory, the offeror should provide a separate cost breakdown, if priced based on cost. For inter-organizational transfers priced at cost, an offeror must provide a separate breakdown of cost elements. In other words, for transfers at cost, the same data are required as if the offeror's organization were proposing to perform the work. Providing these data can be difficult for decentralized organizations that do not normally provide each other with cost data.

An offeror is requested to analyze the cost or pricing data and submit the results of its analysis of a prospective source's proposal. When submission of a prospective source's cost or pricing data is required, it must be included along with the offeror's cost or pricing data submission. An offeror must also submit any other cost or pricing data obtained from a subcontractor, either actually or by specific identification, along with the results of any analysis performed on those data. These stated requirements are frequently not achieved in practice. If prospective subcontractors refuse to submit such data before assurances of award or a perception of reasonable award potential, there may be no subcontractor information to provide to the government. What does not exist cannot be provided!

What does not exist cannot be provided!

Direct Labor

An offeror is to provide a time-phased breakdown of labor hours, rates, and cost by appropriate category, and furnish bases for estimates. The time-phased requirement means that direct labor hours should be estimated by month, quarter, or year. Direct labor rates should likewise be identified by time period. Labor categories are those established by the offeror. However, an offeror should use categories that exist in its cost accounting system. Frequently, a request for proposals may require categories that are not consistent with the offeror's accounting system. Care needs to be taken to ensure that a reconciliation of the categories is documented.

Finally, the basis for the hours and rates should be provided. Typical bases for hours include historical average hours, application of learning curves, work measurement standards, and engineering estimates. Typical bases for rates include historical rates adjusted for various escalation factors, area/industry rates, and letters documenting offers of employment.

Indirect Costs

An offeror should indicate how it computed and applied indirect costs, including cost breakdowns. This includes showing trends and budgetary data to provide a basis for government evaluation of the reasonableness of proposed rates. Offerors should indicate the rates used and provide an appropriate explanation. This means that historical data and/or budgets should be used to support proposed rates. Elimination of any unallowable costs from historical data or budgets should be evident in the supporting data.

Other Costs

An offeror must list all other costs not otherwise included in the categories described above. These might include special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework, and federal excise tax on finished articles. The basis for pricing these items should be provided.

Royalties

At one time, royalties were a significant cost element. The FAR instructions require that if royalties exceed \$1,500, an offeror must provide the following information on a separate page for

more...

