
CHAPTER 4 - Collecting Information To Support Cost Analysis

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Ch 1 - Defining Costs and Cost Analysis

1.0 Introduction

This chapter describes contract costs and cost analysis.

1.1 Defining Contract Costs

Contract Costs. Contract costs are monetary measures of the capital and labor required to complete a contract. Not all contract costs result from cash expenditures during the contract period. The following table presents the three most common ways costs are incurred:

Contract Cost Source	Example
Cash expenditure-the actual outlay or dollars in exchange for goods or services.	The payment by cash, check, or electronic funds transfer to a vendor for raw materials.
Expense accrual-expenses are recorded for accounting purposes when the obligation is incurred, regardless of when cash is paid out for the goods or services.	The incurring of an obligation in the current year to pay an employee a retirement pension at some point in the future.
Draw down of inventory-the use of goods purchased and held in stock for production and/or direct sale to customers; refers to both the number of units and the dollar amount of items drawn out.	Electronic components purchased in large volume against anticipated total demand and held in inventory until drawn out to fill a specific order. While the components were paid for in the past, the drawing out of a component

	to meet a contract need results in a cost being charged to the contract.

The total cost of a contract is the sum of the direct and indirect costs allocable to the contract, incurred or to be incurred, less any allocable credits, plus any applicable cost of money.

A direct contract cost is any cost that can be identified specifically with a final cost objective (e.g., a particular contract).

- Costs identified specifically with a particular contract are direct costs of the contract and are charged to that contract.
- Costs must not be charged to a contract as direct costs if other costs incurred for the same purpose in like circumstances have been charged as indirect costs to that contract or any other contract.
- All costs specifically identified with other contracts are direct costs for those contracts and shall not be charged to another contract directly or indirectly.

For example: The cost of 5,000 pounds of sheet metal used to fabricate covers for equipment built under a Government contract, would be charged directly to that contract and no other contract.

Indirect Cost (FAR 31.203). An indirect cost is any cost NOT directly identified with a single final cost objective, but identified with two or more final cost objectives or an intermediate cost objective.

- After the contractor has charged all direct costs to contracts (or other final cost objectives), indirect costs are those remaining to be allocated to the various cost objectives.
- The distribution of indirect costs among various contracts should be based on the benefit accrued. If the contract did not benefit, it should not share the indirect cost.
- Costs must not be charged to a contract as indirect costs if other costs incurred for the same purpose in like circumstances have been charged as direct costs to that contract or any other contract.

For example: A contractor is simultaneously working on two contracts in the same rented building. The rent for that building should be allocated to those two contracts as an indirect cost. If one contract used 60 percent of the building, it should be allocated about 60 percent of the rent expense. Other contracts that do not benefit from the use of the building should not be allocated any rent expense for the building.

Alternative Direct Cost Treatment (FAR 31.202(b)). For reasons of practicality, any **direct cost of minor dollar amount** may be treated as an indirect cost if the accounting treatment:

- Is consistently applied to all final cost objectives, and
- Produces substantially the same results as treating the cost as a direct cost.

For example: The cost of inexpensive rivets used to fabricate equipment would be a direct cost. However, the cost of tracking each rivet to each unit of equipment could be more than the cost of the rivets themselves. It might be more practical to treat the cost of these rivets as an indirect cost and allocate that cost to all items that use those rivets. Remember this method may only be used if it is consistently applied to all cost objectives and produces substantially the same results as treating the rivet cost as a direct cost.

Direct/Indirect Cost Decision (FAR 31.201, 31.202, and 31.203). The decision to classify a cost as direct or indirect is not always a clear choice. There is no absolute list of costs that must be treated as direct costs or indirect costs. Contractors have the right and responsibility to define costs within their own accounting systems. At the same time, the Government prescribes guidelines for use by contractors in making their decisions and for use by you in reviewing the appropriateness of their decisions. Three sources of guidance are particularly important.

- Cost Accounting Standards (CAS) are issued by the Cost Accounting Standards Board (CASB). When these standards are applicable, they take priority over other forms of accounting guidance.

- The Federal Acquisition Regulation (FAR) provides both general and specific guidelines on accounting for costs.
- Generally Accepted Accounting Principles (GAAP) are general rules used by all business entities. They are non-regulatory guidance developed and used by Certified Public Accountants. However, they provide the general guidelines followed by all firms in accounting system development.

The role of Government representatives-be they auditors, analysts, or contracting officers-is not so much directing or approving the direct/indirect cost decision as it is reviewing the adequacy and acceptability of contractor's accounting systems for use in Government contracting.

1.2 Identifying Key Cost Analysis Considerations

Definition of Cost Analysis (FAR 15.404-1(c)(1)). Cost analysis is:

- The:
  - Review and evaluation of the separate cost elements and profit/fee in an offeror's or contractor's proposal (including cost or pricing data or information other than cost or pricing data), and
  - Application of judgment;
- Used to determine how well the proposed costs represent what the cost of the contract should be, assuming reasonable economy and efficiency.

Required Cost Analysis (FAR 15.404-1(a)(3)). You must use cost analysis to evaluate the reasonableness of cost elements when cost or pricing data are required.

Optional Cost Analysis (FAR 15.404-1(a)(4)). You may also use cost analysis to evaluate information other than cost or pricing data to determine cost reasonableness or cost realism.

Cost Reasonableness (FAR 31.201-3). A cost is reasonable if, in its nature and amount, it does not exceed the cost

which would be incurred by a prudent person in the conduct of competitive business.

Cost Realism (FAR 15.401). To be realistic, the costs in an offeror's proposal must be:

- Realistic for the work to be performed under the contract;
- Reflect a clear understanding of contract requirements; and
- Consistent with the various elements of the offeror's technical proposal.

Cost Analysis Supports Price Analysis (FAR 15.404-1(a)(3)). Perform price analysis even when you perform cost analysis. Assuring the reasonableness of individual elements of cost does not always assure overall price reasonableness.

For example, suppose that you wanted to procure a custom-made automobile identical to a Pontiac Trans Am. At your request, your neighborhood mechanic agrees to build you such a car. In building the car, the mechanic gets competitive quotes on all the necessary parts and tooling, pays laborers only the minimum wage, and asks only a very small profit.

How do you think the final price will compare to a car off an assembly line? Probably at least ten times more expensive. Parts alone may be five times more expensive. The entire cost of tooling will be charged to one car. Labor, although cheaper per hour, will likely not be as efficient as assembly-line labor. Is the price reasonable? That decision can only be made using a thorough price analysis.

Cost Analysis Techniques and Procedures (FAR 15.404-1(a)(3)). As appropriate, use the following techniques and procedures to perform cost analysis:

- Verify cost or pricing data or information other than cost or pricing data.
- Evaluate cost elements, including:
  - The necessity for and reasonableness of proposed costs, including allowances for contingencies;
  - Projections of the offeror's cost trends, on the basis of current and historical cost or pricing

data or information other than cost or pricing data;
    - A technical appraisal of the estimated labor, material, tooling, and facilities requirements, and scrap and spoilage factors; and
    - The application of audited or negotiated indirect cost rates, labor rates, cost of money factors, and other factors.
- Evaluate the effect of the offeror's current practices on future costs.
    - Ensure that the effects of inefficient or uneconomical past practices are not projected into the future.
    - In pricing production of recently developed complex equipment, perform a trend analysis of basic labor and materials even in periods of relative price stability.
- Compare costs proposed by the offeror for individual cost elements with:
    - Actual costs previously incurred by the offeror;
    - Previous cost estimates from the offeror or from other offerors for the same or similar items;
    - Other cost estimates received in response to the Government's request;
    - Independent Government cost estimates by technical personnel; and
    - Forecasts or planned expenditures.
- Verify that the offeror's cost submissions are in accordance with the contract cost principles and procedures in FAR Part 31 and any applicable Cost Accounting Standards Board Cost Accounting Standards.
- Determine whether any cost or pricing data necessary to make the contractor's proposal accurate, complete, and current have not been either submitted or identified in writing by the contractor. If there are such data:
    - Attempt to obtain the data and negotiate using the data obtained, or
    - Make satisfactory allowance for the incomplete data.
- Analyze the results of any make-or-buy program reviews, in evaluating subcontract costs.

1.3 Defining The Cost Estimating And Cost Accounting Relationship

Cost Estimating System (FAR 15.407-5, DFARS 215.407-5-70(a), 215.407-5-70(d), and 252.215-7002).

A contractor's cost estimating system is the policies, procedures, and practices for generating cost estimates and other data included in cost proposals submitted to customers in the expectation of receiving contract awards. It includes the contractor's:

- Organizational structure;
- Established lines of authority, duties, and responsibilities;
- Internal controls and managerial reviews;
- Flow of work, coordination, and communication; and
- Estimating methods, techniques, accumulation of historical costs, and other analyses used to generate cost estimates.

An acceptable estimating system should provide for the use of appropriate source data, utilize sound estimating techniques and good judgment, maintain a consistent approach, and adhere to established policies and procedures.

Audit Review of Cost Estimating System (FAR 15.407-5). When appropriate, the cognizant auditor will establish and manage regular programs for reviewing selected contractors' estimating systems or methods, in order to:

- Reduce the scope of reviews to be performed on individual proposals;
- Expedite the negotiation process; and
- Increase the reliability of proposals.

For each estimating system review, the auditor will:

- Document review results in a survey report.
- Send a copy of the survey report and a copy of the official notice of corrective action required to each contracting office and contract administration office having substantial business with that contractor.
- Consider significant deficiencies not corrected by the contractor in subsequent proposal analyses and negotiations.

Characteristics of an Acceptable Estimating System (DFARS 215.407-5-70(d)). When evaluating the acceptability of a contractor's estimating system, consider whether it:

- Establishes clear responsibility for preparation, review and approval of cost estimates;
- Provides a written description of the organization and duties of the personnel responsible for preparing, reviewing, and approving cost estimates;
- Assures that relevant personnel have sufficient training, experience and guidance to perform estimating tasks in accordance with the contractor's established procedures;
- Identifies the sources of data and the estimating methods and rationale used in developing cost estimates;
- Provides for appropriate supervision throughout the estimating process;
- Provides for consistent application of estimating techniques;
- Provides for detection and timely correction of errors;
- Protects against cost duplication and omissions;
- Provides for the use of historical experience, including historical vendor pricing information, where appropriate;
- Requires use of appropriate analytical methods;
- Integrates information available from other management systems, where appropriate;
- Requires management review including verification that the company's estimating policies, procedures and practices comply with applicable regulations;
- Provides for internal review of and accountability for the adequacy of the estimating system, including the comparison of projected results to actual results and an analysis of any differences;
- Provides procedures to update cost estimates in a timely manner throughout the negotiation process; and
- Addresses responsibility for review and analysis of the reasonableness of subcontract prices.

Indicators of Potentially Significant Estimating System Deficiencies (DFARS 215.407-5-70(d)). Be on the lookout for conditions that may produce or lead to significant estimating deficiencies. This includes:

- Failure to ensure that historical experience is available to and utilized by cost estimators, where appropriate;
- Continuing failure to analyze material costs or failure to perform subcontractor cost reviews as required;
- Consistent absence of analytical support for significant proposed cost amounts;
- Excessive reliance on individual personal judgment where historical experience or commonly utilized standards are available;
- Recurring significant defective pricing findings within the same cost element(s);
- Failure to integrate relevant parts of other management systems (e.g., production control or cost accounting) with the estimating system so that the ability to generate reliable cost estimates is impaired; and
- Failure to provide established policies, procedures, and practices to persons responsible for preparing and supporting estimates.

Cost Accounting System (DCAM 9.302a). An effective cost estimating system integrates applicable information from a variety of company management systems. The accounting system is not the only source of such information, but it is the primary source.

A firm's accounting system consists of the methods and records established to identify, assemble, analyze, classify, record, and report the firm's transactions and to maintain accountability for the related assets and liabilities. The accounting system should be well-designed to provide reliable accounting data and prevent mistakes that would otherwise occur.

An inadequate cost accounting system can provide data that are not current, accurate, and complete data in support of an offeror's proposal. The defective cost data can create inaccurate estimates no matter how well the estimating uses the data provided.

Characteristics of an Adequate Accounting System (DCAM 9.302b). To provide the data required for cost estimating purposes, a firm's cost accounting system must contain sufficient refinements to provide (where applicable) cost segregation for:

- Preproduction work and special tooling;
- Prototypes, static test models, or mockups;
- Production by individual production centers, departments, or operations-as well as by components, lots, batches, runs or time periods;
- Engineering by major task;
- Each contract item to be separately priced;
- Scrap, rework, spoilage, excess material, and obsolete items resulting from engineering changes;
- Packaging and crating when substantial; and
- Other nonrecurring or other direct cost items requiring separate treatment.

Two Common Cost Accounting Systems. There are two commonly-used systems for cost accounting, job-order and process. Either system can provide adequate results, when it is properly maintained by the firm. However, system differences will affect the presentation of available information.

Job-Order Cost System. Under a job-order cost system the firm accounts for output by specifically identifiable physical units. The costs for each job or contract normally are accumulated under separate job orders.

- When a contract is for a limited number of units that are neither very complex nor costly, the costs of all units may be accumulated under one job order without any further breakdown.
- When the contract is for items that are both complex and costly, the total quantity may be broken down into smaller production lots. The job order for the total contract may be supported by a separate job order for each lot.
    - The use of lots permits the contractor to establish better control over the work, and the historical cost data from a series of lots lend themselves to a projection of estimated costs for future production.
    - Experience with the product normally determines the number of units for which costs are to be accumulated.

For example: A contract for 100 units of an item that has never been produced may have 10 separate lots under the job order. Four years and thousands of units later, the costs

for a quantity of 100 units may be accumulated under the contract job order without any further breakdown by lot.

- Because the physical units of production under a job-order cost system are identified with specific job orders and lots, the labor distribution and accumulation system used by the contractor will identify the direct factory labor cost associated with the units produced under such job-orders and lots. Supporting data will identify:
  - All persons who worked on the items produced, how much time they expended, and their rates of pay.
  - Total labor cost with subtotals and breakdowns by types of labor.

Process Cost Systems. Under a process cost system, direct costs are charged to a process even though end-items (which may not be identical) for more than one contract are being run through the process at the same time. At the end of the accounting period, the costs incurred for that process are assigned to the units completed during the period and to the incomplete units still in process.

- Process cost systems are typically used by firms that continuously manufacture a particular end-item, like automobiles or chemicals which require identical or highly similar production processes. A process is one part of a complete set of activities that an item must pass through during manufacture.
  - The completed item results from a series of processes, each of which produces some changes in the item.
  - The number of processes involved will vary with the complexity of the item.
  - The greater the similarity between two end-items, the more likely they are to go through the same process, during the same period of time, with factory laborers devoting a part of their time to each item.
- A number of different methods may be used to assign costs to end items.
  - If all items being processed are identical, the contractor may add the costs incurred during the accounting period to the cost of the beginning work-in-process inventory and subtract the estimated cost of the ending work-in-process inventory to arrive at the total costs of items

completed. Unit cost is determined by dividing the total cost by the number of units completed.
    - If all items being processed are not identical, the contractor may use standard costs and, at the end of the accounting period, multiply the standard cost for each item by the number of units completed to arrive at a total cost. Variance from standard can be accounted for and assigned to end-items in a number of different ways.
- Normally an item will go through more than one process. When an item comes out of one process and enters another, its cost from the process just completed will be charged to the next process, usually as material cost. This continues until the completed end-item emerges from its last process.
- A process cost system identifies which factory employees charged their time to which processes, what their rates of pay were, and the total cost charged to the process.
    - Unlike a job-order cost system, you cannot determine the actual labor cost for specific end-items that have gone through a process, because cost elements lose their identity when they are charged to the next process as material costs.
    - You can generally add standard cost and a factor for variances and arrive at an acceptably close approximation of actual labor cost.

1.4 Describing Cost Estimating Methods

Principles For Method Selection (FAR 31.201-1 and DCAM 9-303b). An offeror may use any generally accepted estimating method that is equitable and consistently applied.

An estimating method is...	When...
Equitable	It produces fair and reasonable results for all contracts and all customers of the firm. No individual or group of contracts or customers benefits at the expense of others.

Consistently applied	It is applied in similar estimating situations for all contracts and all customers of the firm. However, different estimating methods may be applied in different estimating situations. Differences may be related to such factors as: • The relative dollar value of the estimate; • The firm's competitive position; • The definition of contract requirements; or • The availability of cost information applicable to the same or a similar product/service.

Basic Cost Estimating Methods (DCAM 9-303d). There are a variety of techniques that can be used to estimate contract cost. Some estimating texts identify ten or more. However, the most common classification identifies three methods: round-table, comparison, and detailed.

Estimating Method	Explanation
Round-Table	Experts are brought together to develop cost estimates, by exchanging views and making judgments based on knowledge and experience. Most commonly used when there is little or no cost experience or detailed product information (e.g., specifications, drawings, or bills of material).
Comparison	Under this method, costs for a new item are estimated using comparisons with the cost of completing similar tasks under past or current contracts. Any differences are isolated and cost elements applicable to the differences are deleted from or

	added to experienced costs. Comparisons may be made at the cost element level or total price level. Adjustments may also be made for possible upward or downward cost trends. Most commonly used when specifications for the item being estimated are similar to other items already produced or currently in production and for which actual cost experience is available.
Detailed	This method is characterized by a thorough review of all components, processes, and assemblies. It requires detailed information to arrive at estimated costs and typically uses cost data derived from the accounting system, adjunct statistical records, and other sources. Most commonly used when the required information is available and future production potential warrants the cost of the detailed analysis required. It is the most accurate of the three methods for estimating direct cost. It is also the most time consuming and expensive.

Estimating Method Comparison (DCAM 9-303d). The following table compares the three methods of cost estimating:

	Estimating Method		
	Round Table	**Comparison***	**Detailed**
Relative Accuracy	**Low** -- because limited data are used	**Moderate/High** --depending on data, technique, and estimator	**High** -- based on engineering principles
Relative Estimator Consistency	**Low** -- different experts make different judgments	**Moderate/High** --depending on data, technique, and estimator	**High** -- based on uniform principle application
Relative Development Speed	**Fast** -- little detailed analysis	**Moderately Fast** -- especially	**Slow** -- requires detailed

	required	with repetitive use	design and analysis
Relative Estimate Development Cost	**Low** -- fast development and limited data requirements allow low development cost	**Moderate** -- depending on the need for data collection and analysis	**High** -- detailed work design and analysis require time and increase cost
Relative Data Requirements	**Low** -- based on expert judgment	**Moderate** -- only requires historical data	**High** -- requires detailed work design and analysis

* Warning: This estimating method can project continuation of nonrecurring costs and cost inefficiencies experienced in past work.

Combination Estimates. There is no one estimating method that is best in all situations. In fact, most cost proposals will include different estimates made using different methods. All three methods may be used in the same proposal. Different methods may even be used as a cross-check in estimating a single cost element.

For example: For a unique research and development contract, an offeror may use round-table estimates for many cost elements because similar research has never been conducted before. However, the offeror may also use comparison estimates for other cost elements based on the costs incurred under other research and development contracts.

Estimating Methods for Cost Analysis. Whenever you perform a cost analysis, you should always consider the strengths and weaknesses of the estimating method used by the offeror in preparing the proposal. Remember, that when you are preparing your negotiation objective, you are not limited to using the method used by the offeror in developing proposal. You can use any method that appears appropriate under the circumstances.

Estimating Method	Key Strengths and Weaknesses

Round-Table	**Strength:** Can be used with limited data. **Weakness:** Lack of data increases variability between estimators and true costs.
Comparison	**Strength:** Rapid development of estimates based on historical costs. **Weakness:** Estimates based on historical costs can project historical inefficiencies.
Detailed	**Strength:** Most accurate estimates. **Weakness:** Requires complete information that may be expensive or impossible to obtain.

Ch 2 - Obtaining Offeror Information for Cost Analysis

2.0 Chapter Introduction

Solicitation Cost Information Requirements (FAR 15.403-5 and 15.408(l)). When cost analysis is necessary to support a decision on price reasonableness or cost realism, the contracting officer may require an offeror to submit cost information at any time prior to the close of negotiations. However, identifying all requirements in the solicitation will permit offerors to gather and document the required information during proposal preparation. If you require the data after proposals are received, the contracting process must be delayed while the offeror gathers and documents the information required.

The solicitation must specify:

- Whether cost or pricing data are required;
- That, when cost or pricing data are required, the offeror may submit a request for exception from the requirement to submit cost or pricing data;
- Whether information other than cost or pricing data is required, if cost or pricing data are not necessary;
- Necessary preaward or post award access to the offeror's records;
- The format required for submission of cost or pricing data or information other than cost or pricing data (the FAR Table 15-2 format, a specified alternate format, or a format selected by the offeror).

Information Other than Cost or Pricing Data (FAR 15.401 and 15.406-2). Information other than cost or pricing data:

- Is any type of information required to determine price reasonableness or cost realism, that does not require offeror certification as accurate, complete, and current in accordance with FAR 15.406-2.
- May include pricing, sales, or cost information.
- Includes cost or pricing data for which certification is determined inapplicable after submission.

Cost or Pricing Data (FAR 15.401 and 15.406-2). Cost or pricing data:

- Are all facts that, as of the date of price agreement or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price, prudent buyers and sellers would reasonably expect to affect price negotiations significantly.
- Require certification as accurate, complete, and current in accordance with FAR 15.406-2.
- Are factual, not judgmental, and are verifiable.
- Include the data that form the basis for the prospective offeror's judgment about future cost projections. The data do not indicate the accuracy of the prospective contractor's judgment.
- Are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.
- Include such factors as:
  - Vendor quotations;
  - Nonrecurring costs;
  - Information on changes in production methods and in production or purchasing volume;
  - Data supporting projections of business prospects and objectives and related operations costs;
  - Unit-cost trends such as those associated with labor efficiency;
  - Make-or-buy decisions;
  - Estimated resources to attain business goals; and
  - Information on management decisions that could have a significant bearing on costs.

Price-Related Information Requirements After Receipt of Offers (FAR 15.403-4(c) and 15.404-2(d)).

Decisions on offeror cost information requirements continue after proposals are received:

- If offerors were required to submit cost or pricing data and:
  - An offeror submitted the data, but the contracting officer later finds that certification is not required, treat the data as information other than cost or pricing data.
  - An offeror initially refuses to provide the required data or the data provided are so deficient as to preclude adequate analysis and evaluation, the contracting officer must again attempt to obtain the data unless the data are no longer required. If the offeror persists in refusing to provide the needed data, the contracting officer must withhold contract award or price adjustment and refer the contract action to higher authority, with details of the attempts made to resolve the matter and a statement on the practicality of obtaining the supplies or services from another source.
- If the Government does not require submission of cost or pricing data and the contracting officer later determines that the data are necessary, require the offeror to submit the required data prior to the close of contract negotiations.
- If the Government does not require submission of cost or pricing data or information other than cost or pricing data, but the contracting officer later determines that information other than cost or pricing data is needed from the offeror to determine price reasonableness, require the offeror to submit the necessary information prior to the close of contract negotiations.

2.1 Recognizing The Need For Cost Or Pricing Data

TINA Cost or Pricing Data Requirements (FAR 15.403-4(a)(1)). **Unless an exception applies,** the Truth in Negotiations Act (TINA), as amended, requires the contracting officer to obtain cost or pricing data before accomplishing any of the following actions when the price is expected to exceed the applicable cost or pricing data threshold:

- The award of any negotiated contract (except for undefinitized actions such as letter contracts).
- The award of a subcontract at any tier, if the contractor and each higher-tier subcontractor have been required to furnish cost or pricing data.
- The modification of any sealed bid or negotiated contract (whether or not cost or pricing data were initially required) or subcontract. When calculating the amount of the contract price adjustment, consider both increases and decreases. (For example, a $150,000 modification resulting from a reduction of $350,000 and an increase of $200,000 is a pricing adjustment exceeding the current cost or pricing data threshold.) This requirement does not apply when unrelated and separately priced changes for which cost or pricing data would not otherwise be required are included for administrative convenience in the same contract modification.

New Contract Cost or Pricing Data Threshold (FAR 15.403-4(a)(1)). For a new contract, the applicable cost or pricing data threshold is the current threshold on the date of agreement on price, or the date of award, whichever is later. At this time, the current threshold is $500,000. That amount is subject to review and possible adjustment on October 1, 2000 and every five years thereafter.

Subcontract and Modification Cost or Pricing Data Threshold (FAR 52.215-13 and 52.215-21). For prime contract modifications, new subcontracts at any tier, and subcontract modifications, the applicable cost or pricing data threshold is established by the prime contract.

- For most contracts, the applicable cost or pricing data threshold is the current threshold on the date of agreement on price, or the date of award, whichever is later.
- Some older contracts specify a dollar threshold that does not automatically change as the current threshold changes. However, a specific dollar threshold can be updated using a bilateral contract modification.

Exceptions to TINA Cost or Pricing Data Requirements (FAR 15.403-1). The same laws that establish requirements for cost or pricing data also provide for mandatory exceptions. **Never** require cost or pricing data, when an exception applies.

Except from TINA requirements if...	Standard for Granting the Exception
The contracting officer determines that the agreed-upon price is based on adequate price competition.	A price is based on adequate price competition when one of the following situations exists: • Two or more responsible offerors, competing independently, submit priced offers that satisfy the Government's expressed requirement and both of the following requirements are met: • Award will be made to the offeror whose proposal represents the best value where price is a substantial factor in the source selection; and • There is no finding that the price of the otherwise successful offeror is unreasonable. Any finding that the price is unreasonable must be supported by a statement of the facts and approved at a level above the contracting officer. • There was a reasonable expectation, based on market research or other assessment, that two or more responsible offerors, competing independently, would submit priced offers in response to the solicitation's expressed requirement, even though only one offer is received from a responsible, responsive offeror and both of the following requirements are met: • Based on the offer received, the contracting officer can reasonably conclude that the offer was submitted with the expectation of competition, e.g., circumstances indicate that: • The offeror believed that at least one other offeror was capable of submitting a meaningful, offer; and • The offeror had no reason to believe that other potential offerors did not intend to submit an offer; and

	• The determination that the proposed price is based on adequate price competition and is reasonable is approved at a level above the contracting officer. • Price analysis clearly demonstrates that the proposed price is reasonable in comparison with current or recent prices for the same or similar items adjusted to reflect changes in market conditions, economic conditions, quantities, or terms and conditions under contracts that resulted from price competition.
The contracting officer determines that the item price is set by law or regulation.	Pronouncements in the form of periodic rulings, reviews, or similar actions of a governmental body, or embodied in the laws, are sufficient to demonstrate a set price.
The contracting officer determines that you are acquiring a commercial item.	A new contract or subcontract must be for an item that meets the FAR commercial-item definition. A contract or subcontract modification of a commercial-item contract must not change the item from a commercial item to a noncommercial item.
The head of the contracting activity waives the requirement.	The head of the contracting activity (HCA) (without power of delegation) waives the requirement in writing. The HCA may consider waiving the requirement if the price can be determined to be fair and reasonable without submission of cost or pricing data. Note: Consider the contractor or higher-tier subcontractor to whom the waiver relates to have been required to provide cost or pricing data. Consequently, award of any lower-tier subcontract expected to exceed the cost or pricing data threshold requires the submission of cost or pricing

	data unless an exception otherwise applies to the subcontract.

Other Prohibitions Against Requiring Cost of Pricing Data (FAR 15.403-1(a) and 15.403-2).

Never require cost or pricing data for:

- Any contract or subcontract action with a price that is equal to or less than the simplified acquisition threshold. When calculating the price adjustment related to a contract modification, consider both increases and decreases, unless unrelated and separately priced changes for which cost or pricing data would not otherwise be required are included for administrative convenience in the same contract modification.
- The exercise of a contract option at the price established at contract award or initial negotiation.
- Proposals used solely for overrun funding or interim billing price adjustments.

Cost or Pricing Data Requirements Authorized by the Head of the Contracting Activity (FAR 15.403-4(a)(2)).

If none of the exceptions or prohibitions described above apply, the head of the contracting activity (without power of delegation) may authorize the contracting officer to require cost or pricing data for any contract action at or below the cost or pricing data threshold.

- The head of the contracting activity must justify the requirement.
- Documentation must include a written finding that cost or pricing data are necessary to determine whether the price is fair and reasonable and the facts supporting that finding.

Before requesting authorization to require cost or pricing data below the cost or pricing data threshold, consider both the costs and benefits of requiring cost or pricing data. Give special consideration to requesting authorization to require cost or pricing data when the offeror, contractor, or subcontractor:

- Has been the subject of recent or recurring and significant findings of defective pricing;

- Currently has significant deficiencies in cost estimating systems; or
- Has recently been indicted for, convicted of, or the subject of an administrative or judicial finding of fraud regarding its cost estimating system or cost accounting practices.

2.2 Obtaining Cost Or Pricing Data

Cost or Pricing Data Format (FAR 15.403-5(b)(1), 15.408(l), 15.408(m), and 49.6). Require cost or pricing data submission in the format prescribed in the solicitation/contract.

- For a contract termination settlement proposal submitted on a form specified in FAR 49.6, cost or pricing data must be submitted in the format prescribed by the form.
- For all other contract or subcontract actions:
  - FAR Table 15-2 (presented below) outlines the type of data that you should require.
  - The solicitation/contract may prescribe submission in:
  - The format outlined in FAR Table 15-2;
  - An alternate format outlined in the solicitation/contract; or
  - A format selected by the offeror.

FAR Table 15-2, Instructions For Submitting Cost/Price Proposals When Cost Or Pricing Data Are Required

This document provides instructions for preparing a contract pricing proposal when cost or pricing data are required.

Note 1. There is a clear distinction between submitting cost or pricing data and merely making available books, records, and other documents without identification. The 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. As later information comes into your possession, it should be submitted promptly to the contracting officer in a manner that clearly shows how the information relates to the offeror's price proposal. 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.

Note 2. By submitting your proposal, you grant the contracting officer or an authorized representative the right to examine records that formed the basis for the pricing proposal. That examination can take place at any time before award. It may include 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.

I. General Instructions

A. You must provide the following information on the first page of your pricing proposal:

(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 (that is, new contract, change order, price revision/redetermination, letter contract, unpriced order, or other);

(6) Proposed cost; profit or fee; and total;

(7) Whether you will require the use of Government property in the performance of the contract, and, if so, what property;

(8) Whether your organization is subject to cost accounting standards; whether your organization has submitted a CASB Disclosure Statement, and if it has been determined adequate; whether you have been notified that you are or may be in noncompliance with your Disclosure Statement or

CAS, and, if yes, an explanation; whether any aspect of this proposal is inconsistent with your disclosed practices or applicable CAS, and, if so, an explanation; and whether the proposal is consistent with your established estimating and accounting principles and procedures and FAR Part 31, Cost Principles, and, if not, an explanation;

(9) 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.

(10) Date of submission; and

(11) Name, title and signature of authorized representative.

B. In submitting your proposal, you must include an index, appropriately referenced, of all the cost or pricing data and information accompanying or identified in the proposal. In addition, you must annotate any future additions and/or revisions, up to the date of agreement on price, or an earlier date agreed upon by the parties, on a supplemental index.

C. As part of the specific information required, you must submit, with your proposal, cost or pricing data (that is, data that are verifiable and factual and otherwise as defined at FAR 15.401). You must clearly identify on your cover sheet that cost or pricing data are included as part of the proposal. In addition, you must submit with your proposal any information reasonably required to explain your estimating process, including--

(a) The judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data; and

(b) The nature and amount of any contingencies included in the proposed price.

D. You must show the relationship between contract line item prices and the total contract price. You 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 this table. You must furnish supporting breakdowns for each cost element, consistent with your cost accounting system.

E. When more than one contract line item is proposed, you must also provide summary total amounts covering all line items for each element of cost.

F. Whenever you have incurred costs for work performed before submission of a proposal, you must identify those costs in your cost/price proposal.

G. If you have reached an agreement with Government representatives on use of forward pricing rates/factors, identify the agreement, include a copy, and describe its nature.

H. 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, you must, under the conditions stated in FAR 15.406-2, submit a Certificate of Current Cost or Pricing Data.

II. Cost Elements

Depending on your system, you must provide breakdowns for the following basic cost elements, as applicable:

A. ***Materials and services.*** 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 (vendor quotes, invoice prices, etc.). Include raw materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed, identify the item and show the source, quantity, and price. Conduct price analyses of all subcontractor proposals. Conduct cost analyses for all subcontracts when cost or pricing data are submitted by the subcontractor. Include these analyses as part of your own cost or pricing data submissions for subcontracts expected

to exceed the appropriate threshold in FAR 15.403-4. Submit the subcontractor cost or pricing data as part of your own cost or pricing data as required in paragraph IIA(2) of this table. These requirements also apply to all subcontractors if required to submit cost or pricing data.

(1) ***Adequate Price Competition.*** Provide data showing the degree of competition and the basis for establishing the source and reasonableness of price for those acquisitions (such as subcontracts, purchase orders, material order, etc.) exceeding, or expected to exceed, the appropriate threshold set forth at FAR 15.403-4 priced on the basis of adequate price competition. For interorganizational transfers priced at other than the cost of comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (see FAR 31.205-26(e)).

(2) ***All Other.*** Obtain cost or pricing data from prospective sources for those acquisitions (such as subcontracts, purchase orders, material order, etc.) exceeding the threshold set forth in FAR 15.403-4 and not otherwise exempt, in accordance with FAR 15.403-1(b) (i.e., adequate price competition, commercial items, prices set by law or regulation or waiver). Also provide data showing the basis for establishing source and reasonableness of price. In addition, provide a summary of your cost analysis and a copy of cost or pricing data submitted by the prospective source in support of each subcontract, or purchase order that is the lower of either $10,000,000 or more, or both more than the pertinent cost or pricing data threshold and more than 10 percent of the prime contractor's proposed price. The contracting officer may require you to submit cost or pricing data in support of proposals in lower amounts. Subcontractor cost or pricing data must be accurate, complete and current as of the date of final price agreement, or an earlier date agreed upon by the parties, given on the prime contractor's Certificate of Current Cost or Pricing Data. The prime contractor is responsible for updating a prospective subcontractor's data. For standard commercial items fabricated by the offeror that are generally stocked in inventory, provide a separate cost breakdown, if priced based on cost. For interorganizational transfers priced at cost, provide a separate breakdown of cost elements. Analyze the cost or pricing data and submit the results of your analysis of the prospective source's proposal. When submission of a

prospective source's cost or pricing data is required as described in this paragraph, it must be included along with your own cost or pricing data submission, as part of your own cost or pricing data. You 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 that data.

B. ***Direct Labor.*** Provide a time-phased (e.g., monthly, quarterly, etc.) breakdown of labor hours, rates, and cost by appropriate category, and furnish bases for estimates.

C. ***Indirect Costs.*** Indicate how you have computed and applied your indirect costs, including cost breakdowns. Show trends and budgetary data to provide a basis for evaluating the reasonableness of proposed rates. Indicate the rates used and provide an appropriate explanation.

D. ***Other Costs.*** List all other costs not otherwise included in the categories described above (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework, and Federal excise tax on finished articles) and provide bases for pricing.

E. ***Royalties.*** If royalties exceed $1,500, you must provide the following information on a separate page for each separate royalty or license fee:

(1) Name and address of licensor.

(2) Date of license agreement.

(3) Patent numbers.

(4) Patent application serial numbers, or other basis on which the royalty is payable.

(5) Brief description (including any part or model numbers of each contract item or component on which the royalty is payable).

(6) Percentage or dollar rate of royalty per unit.

(7) Unit price of contract item.

(8) Number of units.

(9) Total dollar amount of royalties.

(10) If specifically requested by the contracting officer, a copy of the current license agreement and identification of applicable claims of specific patents (see FAR 27.204 and 31.205-37).

F. ***Facilities Capital Cost of Money.*** When you elect to claim facilities capital cost of money as an allowable cost, you must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10).

F. ***Facilities Capital Cost of Money.*** When you elect to claim facilities capital cost of money as an allowable cost, you must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10).

III. Formats for Submission of Line Item Summaries

A. New Contracts (including letter contracts).

Cost Elements	Proposed Contract Estimate-Total Cost	Proposed Contract Estimate-Unit Cost	Reference
(1)	(2)	(3)	(4)

Column	Instruction
(1)	Enter appropriate cost elements.
(2)	Enter those necessary and reasonable costs that, in your judgment, will properly be incurred in efficient contract performance. When any of the costs in this column have already been incurred (e.g., under a letter contract), describe them on an attached supporting page. When preproduction or startup costs are significant, or when specifically requested to do so by the contracting officer, provide a full identification and explanation of them.
(3)	Optional, unless required by the contracting officer.
(4)	Identify the attachment in which the information supporting the specific cost element may be found.

(Attach separate pages as necessary.)

B. Change Orders, Modifications, and Claims.

Cost Elements (1)	Estimate Cost of All Work Deleted (2)	Cost of Deleted Work Already Performed (3)	Net Cost to Be Deleted (4)	Cost of Work Added (5)	Net Cost of Change (6)	Reference (7)

Column Instructions

(1) Enter appropriate cost elements.

(2) Include the current estimates of what the cost would have been to complete the deleted work not yet performed (not the original proposal estimates), and the cost of deleted work already performed.

(3) Include the incurred cost of deleted work already performed, using actuals incurred if possible, or, if actuals are not available, estimates from your accounting records. Attach a detailed inventory of work, materials, parts, components, and hardware already purchased, manufactured, or performed and deleted by the change, indicating the cost and proposed disposition of each line item. Also, if you desire to retain these items or any portion of them, indicate the amount offered for them.

(4) Enter the net cost to be deleted which is the estimated cost of all deleted work less the cost of deleted work already performed. Column (2) minus Column (3) equals Column (4).

(5) Enter your estimate for cost of work added by the change. When nonrecurring costs are significant, or when specifically requested to do so by the contracting officer, provide a full identification and explanation of them. When any of the costs in this column have already been incurred, describe them on an attached supporting schedule.

(6) Enter the net cost of change which is the cost of work added, less the net cost to be deleted. When this result is negative, place the amount in parentheses. Column (4) less Column (5) = Column (6).

(7) Identify the attachment in which the information supporting the specific cost element may be found.

C. Price Revision/Redetermination.

Cutoff Date (1)	Number of Units Completed (2)	Number of Unites to be Completed (3)	Contract Amount (4)	Redetermination Proposal Amount (5)	Difference (6)

Cost Elements (7)	Incurred Cost -- Preproduction (8)	Incurred Cost-Completed Units (9)	Incurred Cost-Work in Process (10)	Total Incurred Cost (11)	Estimated Cost to Complete (12)	Estimated Total Cost (13)	Reference (14)

Column	**Instruction**
(1)	Enter the cut off date required by the contract, if applicable.
(2)	Enter the number of units completed during the period for which experienced costs of production are being submitted.
(3)	Enter the number of units remaining to be completed under the contract.
(4)	Enter the cumulative contract amount.
(5)	Enter your redetermination proposal amount.
(6)	Enter the difference between the contract amount and the redetermination proposal amount. When this result is negative, place the amount in parentheses. Column (4) minus Column (5) equals Column (6).
(7)	Enter appropriate cost elements. When residual inventory exists, the final costs established under fixed-price-incentive and fixed-price-redeterminable arrangements should be net of the fair market value of such inventory. In support of subcontract costs, submit a listing of all subcontracts subject to repricing action, annotated as to their status.
(8)	Enter all costs incurred under the contract before starting production and other nonrecurring costs (usually referred to as startup costs) from your books and records as of the cutoff date. These include such costs as preproduction engineering, special plant rearrangement, training program, and any identifiable nonrecurring costs such as initial rework, spoilage, pilot runs, etc. In the event the amounts are not segregated in or otherwise available from your records, enter in this column your best estimates. Explain the basis for each estimate and how the costs are charged

	on offeror's accounting records (e.g., included in production costs as direct engineering labor, charged to manufacturing overhead). Also show how the costs would be allocated to the units at their various stages of contract completion.
(9)	Enter in Column (9) the production costs from your books and records (exclusive of preproduction costs reported in Column (8)) of the units completed as of the cutoff date.
(10)	Enter in Column (10) the costs of work in process as determined from your records or inventories at the cutoff date. When the amounts for work in process are not available in your records but reliable estimates for them can be made, enter the estimated amounts in Column (10) and enter in Column (9) the differences between the total incurred costs (exclusive of preproduction costs) as of the cutoff date and these estimates. Explain the basis for the estimates, including identification of any provision for experienced or anticipated allowances, such as shrinkage, rework, design changes, etc. Furnish experienced unit or lot costs (or labor hours) from inception of contract to the cutoff date, improvement curves, and any other available production cost history pertaining to the item(s) to which yours proposal relates.
(11)	Enter total incurred costs (Total of Columns (8), (9), and (10)).
(12)	Enter those necessary and reasonable costs that in your judgment will properly be incurred in completing the remaining work to be performed under the contract with respect to the item(s) to which your proposal relates.
(13)	Enter total estimated cost (Total of Columns (11) and (12)).
(14)	Identify the attachment in which the information supporting the specific cost element may be found.

(Attach separate pages as necessary.)

Local Data Requirements (FAR 15.401, 15.403-5(b)(1), 15.408(l)(1), and 15.408(m)(1)). Many contracting

activities establish specific format and data requirements tailored to the products typically acquired by the activity. In addition to FAR and local requirements, the contracting officer may establish format and data requirements for a specific contract.

Be careful. You must obtain the data required for cost analysis, but collection, formatting, manipulation, and analysis of unnecessary data can unreasonably increase contract costs. Offerors may refuse to submit data that they feel are not what "prudent buyers and sellers would reasonably expect to affect price negotiations significantly." Litigation may be required to obtain such data and the results of such litigation are not guaranteed.

Paper or Electronic Data Submission (FAR 15.403-5(b)(1), 15.408(l)(3), and 15.408(m)(3)). Traditionally contracting officers have required offerors to submit cost or pricing data as printed documents. Most firms prepare these documents using company computers and the resulting printouts may be several inches or even several feet thick.

When the contracting officer gets the paper proposal, the data usually must be entered into a Government computer for analysis. Data entry may require hours, days, or even weeks. This is an unnecessary waste of Government manpower and computer resources, because the offeror has the data in electronic files.

Many activities are eliminating this wasted effort by requiring electronic data submission. Data submitted electronically are ready for immediate analysis and the cost of data entry is eliminated.

You may require an offeror to submit data on a computer diskette or you may require electronic transmission (computer to computer) by Electronic Data Interchange (EDI). Whatever method you choose, make sure that the requirement does not place an unreasonable hardship on the offeror.

2.3 Assuring Proper Cost Or Pricing Data Certification

This section will present information on the cost pricing data certification requirements and the consequences of certifying defective data.

2.3.1 Obtaining A Properly Executed Certificate

Situations Requiring a Certificate (FAR 15.403-4(c) and 15.406-2(a)). Whenever you obtain cost or pricing data, you must require a Certificate of Current Cost or Pricing Data unless the contracting officer finds after data submission that the proposal qualifies for an exception to the submission requirement. Never require a Certificate of Current Cost or Pricing Data when a proposal qualifies for an exception.

If the contracting officer determines after data submission that a proposal should be excepted from the cost or pricing data requirement, treat the data received as information other than cost or pricing data.

Certificate Wording (FAR 15.401, 15.403-4(b), and 15.406-2(a)). FAR prescribes the following wording for the Certificate of Current Cost or Pricing Data:

Certificate Of Current Cost Or Pricing Data

This is to certify that, to the best of my knowledge and belief, the cost or pricing data (as defined in section 15.401 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.403-4) submitted, either actually or by specific identification in writing, to the contracting officer or to the contracting officer's representative in support of _____* are accurate, complete, and current as of _____**. This certification includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the Government that are part of the proposal.

Firm _____

Signature _____

Name _____

Title _____

Date of execution*** _____

* Identify the proposal, request for price adjustment, or other submission involved, giving the appropriate identifying number (e.g., RFP No.).

** Insert the day, month, and year when price negotiations were concluded and price agreement was reached or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price.

*** Insert the day, month, and year of signing, which should be as close as practicable to the date when the price negotiations were concluded and the contract price was agreed to.

Assure that the offeror uses the exact wording prescribed in FAR 15.406-2(a). If you accept any variation, you could potentially invalidate the certification.

For example: An offeror might substitute the following sentence for the last sentence of the required certification, "This certification includes only the data used to estimate direct labor hours and direct material dollars." The offeror may be trying to limit the certification or may erroneously think that forward pricing rate agreements have their own certification. If you accept the modified certification, you may limit or waive the Government's rights to pursue remedies for any defective labor or overhead rates.

Other Elements of a Properly Worded Certificate (FAR 15.406-2(a)). In addition to the exact FAR language, a properly executed Certificate of Current Cost or Pricing Data must include the following elements:

- Identification of the proposal, quotation, request for price adjustment, or other submission involved, giving the appropriate identifying number;

- Date when price negotiations were concluded and price agreement was reached or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on price;
- Name of the firm entering into the agreement with the Government;
- Name and signature of the individual signing the Certificate on behalf of the firm;
- Title of the individual signing the Certificate on behalf of the firm; and the
- Date of Certificate execution.

Certification Timing (FAR 15.406-2, 52.215-20(b)(2), and FAR 52.215-21(b)(2)). Require the offeror to submit the Certificate of Current Cost or Pricing Data:

- On or after the "as of" date on the Certificate. The "as of" date may either be:
  - The date when price negotiations were concluded and price agreement was reached, or (if applicable).
  - Another date agreed upon between the parties that is as close as practicable to the date of agreement on price.
  - The contracting officer and the offeror are encouraged to reach prior agreement on criteria for establishing closing or cutoff dates when appropriate in order to minimize delays associated with proposal updates.
  - The offeror should include closing or cutoff dates as part of the data submitted with the proposal and, before agreement on price, data should be updated to the latest closing or cutoff dates for which data are available (e.g., the most recent end-of-month report).
- Prior to executing the contract award or bilateral modification.

Documenting Data Submitted or Identified by the Offeror (FAR Table 15-2). When an offeror is required to submit cost or pricing data, consider every piece of information submitted or identified by the offeror as potential cost or pricing data. Assure that the existence and location of the data are clearly documented.

FAR Table 15-2 requires the offeror to submit an appropriately referenced index of all cost or pricing data

accompanying or identified in its proposal. The offeror must annotate any additions or revisions, up to the date of price agreement, or earlier date agreed upon by the parties.

Assure that the index is an accurate record of the data provided. Accepting the index without question indicates agreement that the Government has received all the data identified.

Data and Judgment (FAR 15.401 and 15.406-2(b)). What is the offeror certifying with the Certificate of Current Cost or Pricing Data? The offeror is certifying that the cost or pricing data submitted are accurate, complete, and current.

Remember that cost or pricing data are facts not judgment. The Certificate does not certify the accuracy of the offeror's judgment in making the projections or estimates (educated guesses) of future costs using these data. It applies only to the data upon which the judgment and estimate were based.

For example: The offeror estimates labor hours based on a recent contract for an identical item. Contract accounting records confirm that the contract required $10,000 of material per unit. Government indexes confirm that there has been a five percent price increase for similar material since the last contract. The offeror estimates that the new contract will require $10,500 of material per unit ($10,000 plus 5% for inflation). The material cost for the last contract is a fact. The general price increase for similar material is a fact. Using that increase to adjust material prices is judgment. This judgment may or may not be reasonable (e.g., actual prices for the material specifically required for this contract may have decreased). Either way, the judgment is not subject to certification or defective pricing remedies. Only the facts are subject to certification as accurate, complete, and current.

Complete Knowledge (FAR 15.406-2). In the Certificate of Current Cost or Pricing Data, the offeror's representative certifies that the data submitted are accurate, complete, and current to the "best of my knowledge and belief" as of the time when negotiations were concluded and price agreement was reached or (if applicable) an earlier date

agreed upon between the parties that is as close as practicable to the date of agreement on price.

If something affecting cost changed between the "as of" date and the date of the certification, the offeror is not required to inform the Government.

However, if anyone in the offeror's firm knew, on the "as of" date, of any data that may have reasonably resulted in a lower contract price, then that data should have been disclosed. If the data were not disclosed prior to agreement on price, then they must be disclosed when the Certificate is submitted. Failure to disclose the data constitutes defective pricing.

For example: An offeror's subcontract negotiator negotiated a $100,000 price reduction on the $450,000 subcontract proposal used as a basis for contract pricing. Data on the negotiated reduction were not disclosed to the offeror's negotiator or the Government because the subcontract had not been signed. That would likely be considered defective pricing, because offeror personnel knew of the subcontract price reduction.

2.3.2 Identifying The Consequences Of Certifying Defective Data

Defective Pricing (FAR 15.407-1(b)).

Defective pricing exists when any price, including profit or fee, for any purchase action covered by a Certificate of Current Cost or Pricing Data, is increased by any significant amount because the data were not accurate, complete, or current.

For example: The following table provides examples of defects related to the three different cost or pricing data requirements:

Defect	Example
Data are not accurate.	The decimal point was accidentally or purposefully moved one place to the right. As a result, the costs used

	for trend analysis of a key component were ten times the actual cost.
Data are not complete.	The past history of vendor prices did not include two recent purchases with lower prices for the item being procured.
Data are not current.	Actual production costs for last month were available but not provided. Instead estimates were based on higher costs from earlier production.

Government Rights Under Defective Pricing (FAR 15.407-1, 52.215-10, 52.215-11, and 32.902).

Under contract defective pricing clauses, the Government is entitled to:

- A price adjustment, including profit or fee, for any price increase that resulted because defective data were provided by the contractor. (This is one reason why proper cost analysis documentation is so important.)
- Interest on any overpayments that resulted from the defective pricing. When calculating overpayments, do not include contract financing.
- Penalty amounts equal to the amount of any overpayments when the contractor knowingly submitted defective cost or pricing data. Obtain the advice of Government legal counsel, before taking any contractual actions concerning penalties.

When a defective pricing clause applies, the Government's right to a price adjustment under defective pricing is not affected by any of the following circumstances:

- The contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the contract price would not have been modified even if accurate, complete, and current cost or pricing data had been submitted;

- The contracting officer should have known that the cost or pricing data were defective even though the contractor or subcontractor took no affirmative action to bring the character of the data to the contracting officer's attention;
- The contract price was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under such contract; or
- The contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

Offsets Under Defective Pricing (FAR 15.407-1(b)). As you calculate the price adjustment due the Government under defective pricing, allow an offset for any estimates that were understated, because cost or pricing data submitted in support of the same pricing action were not accurate, complete, or current.

- Never allow the offset to exceed the amount due the Government (i.e., the contract price can never increase because of defective pricing).
- Only allow an offset in an amount supported by the facts and only if the contractor:
  - Certifies that, to the best of the contractor's knowledge and belief, the contractor is entitled to the offset in the amount requested, and
  - Proves that the cost or pricing data were available before the date of agreement on price but were not submitted. Offsets need not be in the same cost groupings as the defective pricing (e.g., material, direct labor, or indirect costs).
- Never allow an offset if:
  - The understated data were known by the contractor to be understated before the "as of" date specified in the Certificate of Current Cost or Pricing Data, or
  - The Government proves that the facts demonstrate that the price would not have increased in the amount to be offset even if the available data had been submitted before the "as of" date specified in the Certificate of Current Cost or Pricing Data.

Offset example: Contract price was overstated by $100,000 because the offeror did not provide accurate, complete, or

current material cost data. For the same contract action, contract price was understated by $75,000 because the offeror did not provide accurate, complete, or current wage rate data. The amount due the Government would be $25,000.

Penalties and Fraud for Knowingly Withheld Data (GAO/T-NSIAD-88-45, Pages 4-5). The following is an example of defective pricing identified by the General Accounting Office:

A contract was found to be overpriced by $1 million because the company did not disclose lower prices on seven material items. As negotiations were concluding, the material estimating department provided the firm's negotiator a 1-page update showing that substantially lower prices had been received on three of the seven items. However, the firm's negotiator did not disclose the lower prices to the contracting officer.

This is an example of a situation where you should obtain legal counsel before taking action.

- It appears that the Government may be entitled to penalty amounts equal to the amount of any overpayments, because the contractor knowingly failed to update its cost or pricing data.
- However, the contractor's knowing failure to update its cost or pricing data also appears to be evidence of intent to **defraud** the Government. Possibly the case should be prosecuted as a fraud case rather than defective pricing.

The Government cannot pursue both remedies for the same overpricing. Legal counsel can provide you with advice on the proper course of action and the evidence required to support that course of action.

Audit Scrutiny (DCAM 14-121.2). Most Government auditors consider repetitive findings of defective pricing findings in the same firm as an indicator of fraud. Thus repetitive defective pricing findings may lead to substantially more intensive audit scrutiny.

2.4 Recognizing The Need For Information Other Than Cost Or Pricing Data

Situations That May Require Cost Information Other Than Cost or Pricing Data (FAR 15.402 and 15.404-1(d)).

Only require an offeror to submit cost information other than cost or pricing data when you expect that the offeror will be excepted from submitting certified cost or pricing data, but you need cost information to determine price reasonableness or cost realism. The table below provides several examples of such situations. Government technical and audit assistance may be required to analyze the cost information and answer related questions.

Contracting Situation	Analysis Purpose	Analysis Questions
You expect a single offer at or below the cost or pricing data threshold, and you do not expect to be able to determine price reasonableness using price analysis alone.	Support determination of price reasonableness	Does the proposed price appear reasonable based on its relationship with estimated costs?
You expect a single offer greater than the cost or pricing data threshold that will be excepted from cost or pricing data requirements, but you do not expect to be able to determine price reasonableness using price analysis alone.		
You expect competitive offers, but because of technical differences, you do not expect to be able to determine price reasonableness using price analysis alone.		
You expect competitive offers for a cost-reimbursement contract.	Cost realism analysis to determine probable final	Are proposed costs realistic for the work to

	cost to the Government.	be performed? Do proposed costs reflect a clear understanding of contract requirements? Are proposed costs consistent with the offeror's technical proposal?
You expect competitive offers for a fixed-price contract, but new requirements may not be understood by all offerors.	Cost realism analysis to determine an offeror understands all contract requirements.	
You expect competitive offers for a fixed-price contract, but you have concerns about the performance quality that will result from each offeror's proposal.	Cost realism analysis to determine an offeror's ability to deliver proposed quality at the proposed price.	
You expect competitive offers for a fixed-price contract, but market analysis leads you to believe that some offerors may propose unrealistic prices that would jeopardize contract performance.	Cost realism analysis to determine an offeror's ability to meet all contract requirements at the proposed price.	

Tailor Information Requirements (FAR 15.403-3(a) and Table 15-2). Tailor any requirements for cost information other than cost or pricing data so that you only require information essential to your analysis, but not readily available from other sources.

- Identify cost elements that must be considered in evaluating price reasonableness or cost realism.
- Use FAR Table 15-2 to identify the type of information that might be useful in evaluating a particular cost element.
- Identify information readily available from other sources.
- Limit cost information requirements to those facts necessary to determine price reasonableness or cost realism but not available from other sources.

For example: Suppose you are acquiring an estimated $300,000 research study from the only known source. You expect that material and other direct costs will be a small portion of the total price. You have a copy of a Forward Pricing Rate Agreement (FPRA) with the firm, which covers direct labor rates and indirect cost rates (based on direct labor cost). Given these facts, you are particularly concerned about estimated direct labor hours. The solicitation might require an offeror to submit information on:

- Proposed labor hours and costs by task and labor category.
- Total material costs and total other direct costs without further breakdown of those costs.
- Proposed indirect cost, by category (e.g., overhead and general administrative cost).
- Proposed profit or fee.

Format Requirements (FAR 15.403-3(a)(2), 15.408(l)(4), 15.408(m)(4), 52.215-20, and 52.215-21).

The solicitation/contract must describe the format required for offeror submission of cost information other than cost or pricing data.

- State that the offeror may select an appropriate format unless the contracting officer decides that use of a specific format is essential.
- If the contracting officer decides that a specific format is essential, assure format requirements are clearly described.

Requirement for Access to Records (FAR 15.403-5(a)(4), 15.408(l)(4), 15.408(m)(4), 52.215-20, and FAR 52.215-21).

The solicitation/contract must describe the requirement for preaward or post award access to the offeror's records.

- Preaward access requirements should normally permit the contracting officer or an authorized representative the right to examine offeror books, records, documents, or other directly pertinent records to verify the reasonableness of proposed costs.
- Post award access is normally not required for cost information other than cost or pricing data.

Requirement for Current Information (FAR 15.403-3(a)(3)). Ensure that the information used to support price negotiations is sufficiently current to permit negotiation of a fair and reasonable price. However, you should limit requests for updated offeror information to information that effects the adequacy of the proposal for negotiations.

Never require the offeror to certify that the cost information other than cost or pricing data provided to the Government is accurate, complete, or current. Contracts should not provide for price adjustments because the contractor did not provide accurate, complete, or current cost information.

Ch 3 - Identifying Considerations Affecting Cost Allowability

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3.0 - Introduction

Cost Allowability (FAR 31.201-1(b)). While the total costs of a contract includes all costs properly allocable to the contract, the costs which the Government will pay are limited to those costs which are allowable pursuant to FAR Part 31 and applicable agency supplements.

Factors Affecting Cost Allowability (FAR 31.201-2). Consider the following factors in determining cost allowability:

- Reasonableness;
- Allocability (requires a cost to be properly measured, assigned, and allocated);
- Applicable accounting practices and standards;
- Applicable cost principles; and
- Terms of the contract.

As you make your determination on cost allowability, remember that to be allowable, a cost must be properly measured, assigned, and allocated. A cost is first measured (how much is the cost), then assigned (to which cost accounting period should the cost be booked), and then allocated (how much of the cost should be assigned to each of the contracts being performed in the accounting period in which the cost is booked). Measurement, assignment, and allocation are determined using (1) the Cost Accounting Standards (CAS) (for contracts subject to the CAS), (2) FAR Part 31 (when the contract is not subject to CAS or where the FAR addresses an area of the cost where CAS is silent), and (3) Generally Accepted Accounting Principles (when the CAS and FAR are either silent and/or do not apply).

3.1 - Cost Measurement, Assignment, and Allocability

For contracts covered by the cost accounting standards, costs are subject to the measurement, assignment, and allocability provisions contained in the nineteen standards (for contractor business units that are subject to modified coverage, the costs are subject to the provisions of only four of those standards, CAS 401, 402, 405, and 406). For those contracts that are not subject to the CAS, and for those areas of cost that are not covered by the standards, the measurement, assignment, and allocability provisions of FAR Part 31 apply.

When the CAS does not apply (or is silent regarding the measurement or assignment of a particular area of cost) and FAR Part 31 does not specifically address the measurement or assignment of a particular area of cost, the provisions of Generally Accepted Accounting Principles (GAAP) must be followed in determining the proper cost measurement and assignment (note that GAAP does not address cost allocability).

3.2 - CAS

Cost Accounting Standards Board (FAR App B, 9900, FAR 30.101, and DCAM 8-100). Cost Accounting Standards are issued by the Cost Accounting Standards Board (CASB). The Board was first established in 1970 when Congress passed Public Law 91-379. It operated as an independent arm of Congress from 1970 until September 30, 1980. On that date, the Board ceased to function, because Congress did not fund the Board for the new fiscal year. Although the Board ceased operations, the 19 Cost Accounting Standards promulgated by the Board remained in force. Board interpretations were also used in applying those Standards.

In 1990, the new 5-member CASB began operation under the Office of Federal Procurement Policy (OFPP). Membership includes:

- The OFPP Administrator, Chairperson;
- A Department of Defense representative;
- A General Services Administration representative;
- Two private sector representatives:
  - An industry representative; and
  - An individual with knowledge about cost accounting problems and systems.

The current CASB has assumed the responsibilities of the old board. Standards and Board rules and procedures were recodified under Public Law 100-679. All of the waivers, exemptions, modifications, rules, and regulations promulgated by the original Board remain in effect until amended, superseded, or rescinded by the new Board. Standards are reprinted in the Appendix of the FAR (available on the Acquisition Deskbook), along with procedures for applying CAS (e.g., exemptions to CAS and CAS-related requirements for any particular contract action).

CAS Coverage (FAR App B, 9904). When a contract is CAS-covered, the Standards take precedence over all other accounting rules or guidance. The table below lists the 19 standards:

Cost Accounting Standards	
Concepts and Principles	
CAS 401	Consistency in Estimating, Accumulating, and Reporting Costs
CAS 402	Consistency in Allocating Costs Incurred for the Same Purpose
CAS 403	Allocation of Home Office Expenses
CAS 404	Capitalization of Tangible Assets

CAS 405	Accounting for Unallowables
CAS 406	Cost Accounting Period
CAS 407	Use of Standard Cost Systems
CAS 408	Accounting for Paid Absence
CAS 409	Depreciation of Tangible Assets
CAS 410	Allocation of Business Unit G&A
CAS 411	Accounting for Acquisition Costs of Materials
CAS 412	Composition and Measurement of Pension Costs
CAS 413	Adjustment and Allocation of Pension Costs
CAS 414	Cost of Money as an Element of Facilities Capital
CAS 415	Accounting for Deferred Compensation
CAS 416	Accounting for Insurance Costs
CAS 417	Cost of Money of Capital Assets under Construction
CAS 418	Allocation of Direct and Indirect Costs
CAS 419	Reserved
CAS 420	Accounting for IR&D/B&P

CAS Exemptions (FAR App B, 9903.201-1). All contracts awarded using sealed bidding are exempt from CAS coverage. When awarding a contract using negotiation procedures, CAS applies unless the contract or offeror is specifically exempt from CAS requirements.

A contract or subcontract that is not CAS-covered at the time of award cannot become CAS-covered as the result of a contract or subcontract modification.

Criteria for Exempting Negotiated Contracts or Subcontracts From CAS Coverage	
Basis For Exemption	**Exempt If Any of the Following Situations Exist**
Business Unit	The business unit receiving the award is not performing at least one CAS-covered contract or subcontract in excess of $7,500,000 at the time of the award.
Dollar Amount of Contract Award	The contract or subcontract price is less than or equal to $500,000 at the time of award. (When determining CAS exemptions, treat an order issued by one segment of a corporation to another as a subcontract.)
Small Business	The contract or subcontract is with a small business.
Commercial Item(s)	The firm fixed-price or fixed-price economic adjustment (provided that price adjustment is not based on actual costs incurred) contract or subcontract is for commercial item(s).
Method of Pricing	The contract or subcontract price is set by law or regulation.

	The contract or subcontract is firm fixed-price, is awarded based on adequate price competition, and is awarded without submission of (certified) cost or pricing data.
Foreign Contractor/ Performance	• The contract or subcontract is with a United Kingdom contractor for performance substantially in the United Kingdom (provided that the contractor has filed with the United Kingdom Ministry of Defense, for retention by the ministry, a completed disclosure statement which adequately describes its cost accounting practices). Whenever the contractor or subcontractor is already required to follow U.K. Government Accounting Conventions, the disclosed practices must be in accord with those Conventions. • The contract or subcontract is with a foreign government, agent, or instrumentality, or for the requirements of CAS 401 and 402, any contract or subcontract awarded to a foreign concern. • The contract or subcontract will be executed and performed entirely outside the United States, its territories, and possessions. • The subcontract under the NATO PHM Ship program will be performed outside the United States by a foreign concern.

Types of CAS Coverage (FAR App B, 9903.2). You can find guidance on CAS contract and disclosure requirements in FAR App B, 9903.2. In general, you should know that there are two types of coverage for noncommercial contracts and subcontracts.

CAS Coverage		
Coverage Type	**Application**	**Coverage requires that the business unit:**
Full	Applies to contractor business units that -- . Receive a single CAS-covered contract award of $50 million or more; or . Received $50 million or more in net CAS-covered awards during its preceding cost accounting period.	Comply with all Standards that are in effect on the date of contract award and with any Standards that become applicable because of later award of a CAS-covered contract.

Modified	If the offeror certifies that it is eligible for and elects to use modified coverage, it may be applied to a CAS-covered contract of: Less than $50 million awarded to a business unit that received less than $50 million in net CAS-covered awards in the immediately preceding cost accounting period.	Comply with CAS 401, 402, 405, and 406. Note: A contract awarded with modified CAS coverage shall remain subject to modified coverage throughout its life regardless of changes in the business unit's CAS status during subsequent cost accounting periods.

Disclosure Statement (FAR App B, 9903.202-1 and 9903.202-9). A Disclosure Statement is a written description of a contractor's cost accounting practices and procedures. Disclosure is made using a Disclosure Statement Form (CASB DS-1) and requires the contractor to provide general information on its accounting system and specific information on how the firm accounts for specific types of costs.

A Disclosure Statement is required for:

- Any business unit that receives a contract in excess of $50 million.
- Any company which, together with its segments, received net CAS-covered contract awards exceeding $50 million in the contractor's previous accounting period.

When a Disclosure Statement is required, the firm must submit a separate Disclosure Statement for each segment with costs exceeding $500,000 in the total price of any CAS-covered contract or subcontract, unless:

- The contract or subcontract is of the type or value exempted from CAS requirements; or
- CAS-covered awards in the most recently completed cost accounting period are less than 30 percent of total segment sales for the period and less than $10 million.

Each corporate or other home office that allocates costs to one or more disclosing segments performing CAS-covered contracts must submit a completed Part VIII of the Disclosure Statement.

Disclosure Statement for Foreign Firms (FAR App B, 9903.202-1(e)). Foreign contractors and subcontractors who are required to submit a Disclosure Statement may, in lieu of filing a CASB-DS-1, make disclosure by using a disclosure form prescribed by an agency of its Government, provided that the Cost Accounting Standards Board determines that the information disclosed by that means will satisfy the objectives of Public Law 100-679. Currently, the use of alternative forms has been approved for the contractors of Canada and the Federal Republic of Germany.

Disclosure Statement Review (FAR 30.202-6). The cognizant ACO and the cognizant auditor have primary responsibility for the Disclosure Statement review:

- **Adequacy Review**. The cognizant auditor reviews the Disclosure Statement to ascertain whether it is current, accurate, and complete and report the results of that review to the contracting officer. The ACO, in consultation with the auditor, determines if the Disclosure Statement adequately discloses the firm's accounting practices. If it is adequate, the ACO must notify the contractor in writing with copies to the cognizant auditor and affected contracting officers. If not, the ACO must request a revised disclosure statement.
- **Compliance Review**. After the notification of adequacy, the auditor conducts a compliance review to ascertain whether or not the disclosed practices comply with CAS. The ACO, in consultation with the auditor, determines if the Disclosure Statement complies with CAS.

FAR Guidance (FAR Part 31). FAR Part 31 provides guidance on cost accounting issues. For example, FAR defines direct and indirect costs and provides general guidelines for accounting treatment.

Some of the FAR cost principles (presented in the next section) provide detailed guidance for cost accounting, including measurement, assignment, and allocation of costs. In some cases, those cost principles apply CAS requirements to all contracts whether the offeror is CAS-covered or not. For example, FAR 31.205-10, Cost of Money, extends the requirements of CAS 414 to contracts that are not CAS-covered, when the contractor meets certain conditions.

Generally Accepted Accounting Principles. Generally Accepted Accounting Principles (GAAP) are a set of uniform accounting rules for assignment and measurement (but not allocation) of costs that are used for recording and reporting financial data to accurately represent an organization's financial condition. They represent a body of accounting research, precedents, and standards of financial reporting that have evolved over the years.

These standards are endorsed by the Financial Accounting Standards Board (FASB) and their use is required by the Securities and Exchange Commission (SEC) for corporations under its jurisdiction. They are also commonly used by business entities not under SEC jurisdiction. When the CAS and FAR are silent on how a cost should be measured and/or assigned, GAAP applies.

When CAS is silent regarding the allocability of a particular area of cost, the provisions at FAR 31.201-4, Defining an Allocable Cost, apply. Under this provision, a cost is allocable to one or more cost objectives (e.g., contracts) if it is assigned or charged to those objectives based on the relative benefits received or using some other equitable relationship. In other words, the cost objective that benefits the most from the cost being incurred should be allocated the greatest share of the cost. A cost objective that does not benefit should not share any of the cost.

Typically, we think of cost objectives as individual contracts or jobs. However, cost objectives can also include special company projects, independent research, or items in a particular production lot.
For example: The following are examples of proper cost allocation:

- The cost of a component used to produce a particular product, should

logically be charged to that product and only that product.

- The rent for a building used to produce several different products should be allocated to the various products produced in the building. Logically, the product that benefits the most from the building should bear the greatest share of the cost.

Questions to Consider in Determining Cost Allocability (FAR 31.201-4). There are three questions you should consider as you decide if a particular cost is properly allocated to a particular contract:

1. Were the costs specifically incurred for a single cost objective?

Yes: If the costs were incurred for one objective, then the costs should be assigned to that objective and NOT allocated to other non-benefiting objectives.

For example: A company proposes to allocate the cost of material used to complete a Government contract to that contract. That allocation appears acceptable because the cost objective that receives the benefit bears the cost.

No: If the costs were incurred for more than one objective, then they must be allocated to all benefiting objectives.

For example: A company proposes to allocate the cost of office supplies used throughout the company to a single Government contract. That allocation would shift a cost that should be borne by all contracts to a single contract.

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2. Are costs that benefit the contract and other work allocated in reasonable proportion to the benefit received?

Yes: If the contract does benefit the contract and other work, the cost must be equitably allocated to all benefiting cost objectives.

For example: A company allocates the cost of a technical word processing department by dividing the department operation cost by the number of pages produced during the year and then charging each cost objective based on the number of pages produced to support that objective. That allocation appears reasonable because costs are allocated to cost objectives based on the benefit received.

No: If the allocation is disproportionate, then too much cost is being allocated to some cost objective(s) and too little to other cost objective(s).

For example: A company has production equipment used relatively equally on all Government and commercial contracts. The company proposes to charge the entire cost of maintaining that equipment to Government contracts. That would not be a proper allocation of the cost, because Government contracts would bear the entire cost even though commercial contracts benefit equally.

Yes: Commonly known as general & administrative expenses, if the costs are necessary for overall business operation, then it is assumed that they are of general (overall) benefit to all cost objectives.

For example: A company proposes to charge the salary of the chief executive officer's secretary to all operations, because the secretary is necessary to the operation of the firm. That appears to be a proper cost allocation because even though the secretary's activities may not benefit any particular product, they do support the overall operation of the firm.

No: If the cost does not benefit any specific cost objective and does not support the overall operation of the company, it should not be allocated to Government contracts.

For example: The company employs the president's son at a salary of $100,000 per year, but there is no evidence that he has performed any work that is of benefit to the company. This salary should not be allocated to any Government contracts, because it is not necessary for the overall operation of the company.

3.3 - Identifying Allowability Factors to Consider

Pricing Decision (FAR 15.404-1(a) and 15.404-2(a)(2)). The factors affecting allowability can be complex and applying them to a contract situation requires careful judgment. For complex questions, you may need assistance from other members of the Government Acquisition Team. Support from the cognizant Government auditor and technical experts can be particularly valuable.

However, remember that the contracting officer is ultimately responsible for evaluating price reasonableness and determining the level of analysis required to complete that evaluation.

3.3.1 - Identifying Factors That Affect Cost Reasonableness

Once a cost has been properly measured, assigned, and allocated, the specific allowability factors in FAR Part 31 must be considered. One of the factors to consider is reasonableness. This section examines what you should consider in determining whether a proposed or incurred contract cost is reasonable.

Defining a Reasonable Cost (FAR 31.201-3(a)). A cost is reasonable if, in its nature and amount, it does not exceed what a prudent person would incur in the conduct of competitive business.

The underlying assumption in this definition is that a firm in a competitive business will minimize unnecessary costs in order to remain competitive. If a firm does not minimize unnecessary costs, then competitors will underbid the firm and take away market share.

You normally perform cost analysis in an environment where competition is inadequate for determining price reasonableness or cost realism. Therefore, the

objective of cost analysis is to determine what the reasonable cost would be if the offeror were operating in a competitive environment.

Reasonableness of Incurred Costs (FAR 31.201-3(a)). Both proposed costs and actual incurred costs are subject to the tests of reasonableness. The offeror must demonstrate the reasonableness of any incurred cost and cannot simply state that, because the expense has been incurred, it is automatically reasonable.

Questions to Consider in Determining Cost Reasonableness (FAR 31.201-3(b)). There are four questions you should consider as you decide if a particular cost is reasonable. In some situations, your answers to these questions may lead you to other questions that you must answer before you can make a final decision on cost reasonableness.

1. Is the type of cost generally recognized as necessary in conducting business?

Yes: Then it meets this test of reasonableness.

For example: Payment of state and local franchise taxes is a necessary cost of conducting business.

No: If this is not necessary, it may be inappropriate for the contract.

For example: The purchase and up-keep of an ocean-going yacht for exclusive use of the company president is NOT a necessary cost of doing business.

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2. Is the cost consistent with sound business practice, law, and regulation, and are purchases conducted on an "arm's-length" basis?

Yes: Then it meets this test of reasonableness.

For example: Construction of a waste treatment plant to comply with environmental standards is consistent with sound practice and the law.

No: If it is inconsistent with sound practice or violates law or regulation, then all or part of the cost is unreasonable.

For example: Paying a premium price for materials on a Government contract while receiving a bargain price of the same materials for use on a commercial contract under a "basket" purchase deal is NOT consistent with sound business practice.

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3. Does the offeror's action reflect a responsible attitude toward the Government, other customers, the owners of the business, the employees, and the public-at-large?

taxpayer dollars.

No: If the offeror is acting irresponsibly, then some or all of the costs are probably unreasonable.

For example: Excessive salaries to executives and unconscionable retainers for retired executives as consultants is NOT acting responsibly toward the owners of the business or its employees.

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4. Are the offeror's actions consistent with established practices?

Yes: Then the costs meet this test of reasonableness.

For example: The offeror proposed to contract out source inspection of subcontractor parts. Company policy has always required inspection by corporate or subcontract inspectors. Cost will be lower and quality standards will be maintained by the proposed subcontractor. It would be reasonable to accept the proposed change.

No: If the offeror is deviating from established practices, then there is a likelihood that the costs may be unreasonable.

For example: The contractor proposes to contract out redesign effort. Company policy and past practice has been to keep all design effort "in-house". Upon further review, you find that in-house resources are available and the cost would be substantially lower than contracting out. It would be unreasonable to accept the proposed redesign cost.

3.3.2 - Identifying Contract Terms That Affect Cost Allowability

Contract Terms and Cost Allowability. Specific types of cost are often addressed in a contract or request for proposal (RFP). For example, while product transportation costs are generally allowable, the contract may restrict "allowed" transportation costs to a specific mode (e.g., 3rd class mail).

However, the contract terms can only be more restrictive than the other factors that must be considered in determining cost allowability, not less. In other words, the contract terms cannot allow a cost that is:

- Not reasonable;
- Not properly measured, assigned and allocated to the contract;
- Not allowable in accordance with specific cost principles.

3.4 - Determining The Allowability Of Specific Costs

Introduction to Cost Principles (FAR 31.205). Specific cost principles for contracts with commercial organizations are found in FAR Part 31.205. Currently,

there are 48 cost principles. Over the years, the number and wording of these principles have been revised to reflect changes in:

- Business practices (e.g., the large number of business takeovers in the 1980s);
- Public law (e.g., specific legal prohibitions on lobbying costs); and
- Legal precedents established by the court system and the boards of contract appeals.

For example: The cost principle on goodwill was created to address an Armed Services Board of Contract Appeals opinion on a related issue. That opinion alluded to the possible recognition of goodwill as an allowable cost on Government contracts. Goodwill is the difference between the book value of an asset being purchased and a higher amount actually paid by the firm making the purchase. Because they felt that it is inappropriate for the Government to subsidize corporate takeovers, procurement authorities published a cost principle disallowing any costs related to goodwill.

Cost Principles for Other Contracting Environments (FAR Part 31). While cost principle consideration in this text will center on the cost principles for commercial organizations, FAR also identifies cost principles for contracts with:

- Educational institutions;
- State, local, and Federally recognized Indian tribal governments; and
- Nonprofit organizations.

Categories of Cost Identified By the Cost Principles (FAR 31.205). Each cost principle defines a particular type of cost and establishes whether it is allowable, unallowable, or allowable with some restrictions.

- **Allowable cost**. As you perform a cost analysis, a cost is allowable, if it is expressly identified as allowable in the cost principles, and it meets the relevant tests for reasonableness; allocability; and terms of the contract.

- **Unallowable cost**. Many cost principles identify specific types of cost as unallowable. When you perform a cost analysis, you must not allow any proposed or actual costs identified by the cost principles as unallowable.

- **Allowable cost with restrictions**. Many cost principles state that specific costs are allowable, but establish restrictions on the amount that can be considered reasonable. When you perform a cost analysis, you cannot allow proposed or actual costs that exceed the limit set forth in the cost principle.

- **Costs Not Specifically Addressed**. The fact that a cost is not specifically mentioned does not mean it is allowable or unallowable. If the cost is not specifically addressed in the cost principle, it must still meet the relevant tests of reasonableness, allocability, and contract terms to be allowable. If the cost meets these tests, FAR 31.204(c) requires that the determination of allowability under the specific cost principles be based on the treatment of similar or related selected items in FAR Part 31.205.

Cost Principles Summary (FAR 31.205). The table below summarizes the cost

guidance provided by the current cost principles in FAR 31.205. Note that a single cost principle may classify specific costs as allowable, other costs in the same general category as unallowable, and still others as allowable with restrictions.

Allowability Of Selected Costs Under FAR 31.205 Selected Costs May Be Allowable (A), Unallowable (UA), or Allowable With Restrictions (AWR).				
Selected Costs	**FAR Ref.**	**A**	**UA**	**AWR**
Alcoholic Beverages	31.205-51		X	
Asset Valuations Resulting from Business Combinations	31.205-52			X
Bad Debts	31.205-3		X	
Bonding Costs	31.205-4	X		
Compensation for Personal Services	31.205-6	X	X	X
Contingencies	31.205-7	X	X	
Contributions or Donations	31.205-8		X	
Cost of Money	31.205-10			X
Deferred Research & Development Costs	31.205-48		X	X
Depreciation	31.205-11			X
Economic Planning Costs	31.205-12	X	X	
Employee Morale, Health, Welfare, Food Service, & Dormitory Costs & Credits	31.205-13	X		X
Entertainment Costs	31.205-14		X	
Fines, Penalties, & Mischarging Costs	31.205-15		X	X
Gains & Losses on Disposition or Impairment of Depreciable Property or Other Capital Assets	31.205-16			X
Goodwill	31.205-49		X	
Idle Facilities & Idle Capacity Costs	31.205-17		X	X
Independent Research & Development/ Bid & Proposal Costs	31.205-18		X	X
Insurance & Indemnification	31.205-19	X	X	X
Interest & Other Financial Costs	31.205-20		X	X
Labor Relations Costs	31.205-21	X		
Legal & Other Proceedings Costs	31.205-47		X	X
Lobbying and Political Activity Costs	31.205-22		X	
Losses on Other Contracts	31.205-23		X	
Maintenance & Repair Costs	31.205-24	X		
Manufacturing & Production Engineering Costs	31.205-25	X		
Material Costs	31.205-26	X		
Organization Costs	31.205-27		X	
Other Business Expenses	31.205-28	X		
Plant Protection Costs	31.205-29	X		
Patent Costs	31.205-30	X	X	X

Plant Reconversion Costs	31.205-31		X	X
Precontract Costs	31.205-32			X
Professional & Consultant Service Costs	31.205-33	X	X	X
Public Relations & Advertising Costs	31.205-1		X	X
Recruitment Costs	31.205-34	X	X	X
Relocation Costs	31.205-35	X	X	X
Rental Costs	31.205-36	X		X
Royalties & Other Costs for Use of Patents	31.205-37			X
Selling Costs	31.205-38	X	X	
Service & Warranty Costs	31.205-39	X		
Special Tooling & Special Test Equipment Costs	31.205-40			X
Taxes	31.205-41	X	X	
Termination Costs	31.205-42	X		X
Trade, Business, Technical, and Professional Activity Costs	31.205-43	X		X
Training & Education Costs	31.205-44	X	X	X
Transportation Costs	31.205-45	X		
Travel Costs	31.205-46			X

Consider all Relevant Cost Principles (FAR 31.205-8 and 31.205-1). For some costs, more than one cost principle may apply to your decision on cost reasonableness. In such cases, you must consider all relevant cost principles.

For example: An offeror's overhead rate includes the cost of sponsoring a blood drive for the community hospital. Is this donation allowable?

Reviewing the list of cost principles, the one entitled Contributions or Donations appears most relevant in this situation. Reading that cost principle, you would find the following:

FAR 31.205-8, Contributions or Donations.

Contributions or donations, including cash, property and services, regardless of recipient, are unallowable, except as provided in FAR 31.205-1(e)(3).

Based on this cost principle, it appears that the cost of the donation supporting the blood drive is unallowable. However, the referenced cost principle, Public Relations and Advertising Costs, presents a different picture.

FAR 31.205-1, Public Relations and Advertising Costs, para (e).

(e) Allowable public relations costs include the following:

(1) Costs specifically required by contract.

(2) Costs of-

(i) Responding to inquiries on company policies and activities;

(ii) Communicating with the public, press, stockholders, creditors, and customers; and

(iii) Conducting general liaison with news media and Government public relations officers, to the extent that such activities are limited to communication and liaison necessary to keep the public informed on matters of public concern such as notice of contract awards, plant closings or openings, employee layoffs or rehires, financial information, etc.

(3) Costs of participation in community service activities (e.g., blood bank drives, charity drives, savings bond drives, disaster assistance, etc.).

(4) Costs of plant tours and open houses (but see subparagraph (f)(5) of this subsection).

(5) Costs of keel laying, ship launching, commissioning, and roll-out ceremonies, to the extent specifically provided for by contract.

This second cost principle specifically states that the cost of participating in blood bank drives is allowable. Of course, the allowability of these costs is still subject to the tests of reasonableness, allocability, and compliance with applicable accounting principles and standards.

Directly Associated Costs (FAR 31.201-6(a)). Any costs that would not have been incurred if an unallowable cost had not been incurred are known as directly associated costs and are also unallowable. For example, if the cost of a yacht is unallowable, the crew's salaries and related benefits are also unallowable.

Accounting for Unallowable Costs (FAR 31.201-6). Offeror/contractor accounting records must identify the following unallowable costs and exclude them from any billing, claim, or proposal applicable to a Government contract:

- Costs that are expressly unallowable or mutually agreed to be unallowable, and

- Directly associated costs that would not have been incurred if the above costs had not been incurred.

Offerors/contractors must also identify any costs (including directly associated costs) which a contracting officer has specifically disallowed in writing pursuant to contract disputes procedures if the costs have been included or used in the computation of any billing, claim, or proposal applicable to a Government contract. This identification requirement also applies to any costs incurred for the same purpose under like circumstances as the costs specifically identified as unallowable.

The practices used by the offeror/contractor in accounting for and presenting unallowable costs must comply with (1) the requirements of CAS 405, Accounting for Unallowables for those contracts subject to CAS-coverage, or (2) the requirements of FAR 31.201-6 for those contracts that are not subject to CAS-coverage.

Ch 4 - Collecting Information To Support Cost Analysis

4.0 Chapter Introduction

Cost analysis does not begin when you receive the proposal. Just like price analysis, it begins with market research prior to proposal receipt. In this chapter, you will learn to collect and analyze relevant information before you actually begin your analysis of a cost proposal.

4.1 Recognizing Relevant Information For Cost Analysis

Your market research for cost analysis should center on collecting and analyzing information on the cost of efficient and effective contract performance.

4.1.1 Examining Related Contract Files

Using Historical Contract Information (FAR 15.406-3(a) and 15.404-1(c)(2)(iii)). Review the available files of contracts with the same firm to learn about offeror pricing practices, the quality of pricing information provided by the offeror, and any precedents established in past negotiations.

As with any other historical information, use historical information related to contract costs with care. Always consider differences between the past and the current contracting situations.

Identify Past Problems/Precedents (FAR 15.406-3(a)). Information on problems that may have occurred in previous proposals or past contracts and their resolution can give you useful insight into the accuracy of current estimates. As a minimum, consider the following questions:

- ***Does the offeror have a history of problems in controlling costs?***

Did the offeror experience cost overruns attributable to historical problems that do not or should not exist today? Uncritical use of historical cost projections could lead to excessive contract cost estimates.

- ***Does the offeror have a history of not providing adequate cost estimate support?***

Proposal errors can seriously affect your ability to perform an effective cost analysis. If a firm has a track record of problems in a certain area, take care to assure that similar problems do not exist in the current proposal.

- ***Does the offeror have a history of over/under estimating costs?***

Historical proposal tendencies may help you to identify proposed costs that require special scrutiny.

- ***What were the major cost-related problems and negotiation points in past contract negotiations?***

The price negotiation memorandum (PNM) should identify cost-related problems and major points that came up during fact-finding and negotiation. These same issues may come up in the current proposal. Referring to past PNMs can help you identify key areas of analysis and tell you how they were handled.

- ***How did the negotiated price compare with the proposed price?***

The PNM should explain the differences between the proposed price, the Government objectives, and the price negotiated.

These differences may give you an insight into potential weaknesses in the firm's current proposal.

- ***Were any pricing precedents established during previous negotiations that may affect the current negotiations?***

Past negotiations may have included an agreement on how to handle a specific type of cost in specific situations. Such agreements may establish a precedent that you should consider in the current analysis. However, be careful, do not blindly except precedents that do not make sense in the current situation.

Identify Contracting Situation Differences. Identify any differences between the contracting situations of the past and the current contracting situation. These differences may help you identify cost elements requiring special attention during cost analysis. As a minimum, consider the following questions:

- ***Have there been any changes in production methods?***

If the offeror has improved production methods, leading to reductions in costs (e.g., labor, material, or scrap), then those improvements need to be reflected in projected costs.

- ***Have there been any changes in the offeror's make-or-buy program?***

If the offeror has changed component sources, those changes should be considered in cost estimates. Producing previously subcontracted items in-house will normally increase in-house costs and reduce subcontract costs. Give special attention to the effect such changes have on total cost. If such a change increases total cost, offeror make-or-buy decision criteria require further examination.

- ***Have contract requirements changed ?***

Changes in Government requirements documents or business terms will likely affect costs. For example, if a tolerance has been relaxed or a specific process or inspection is no longer required, projected costs should change accordingly.

- ***Have the offeror's accounting practices changed?***

If the offeror has changed procedures for classification or accumulation of a particular cost, projected costs may be affected. For example, if a particular type of cost was

previously classified as a direct cost, and is now classified as an indirect cost, expect changes in the totals for both cost groupings.

- ***Have business or general economic conditions changed?***

Changes in business or general economic conditions will also affect costs. You must adjust historical costs to consider these changes. The most obvious example is inflation/deflation.

4.1.2 Examining Relevant Audits And Technical Reports

Relevant Audit and Technical Reports (FAR 15.406-3(a)(2)(iii)). Your office may not have direct experience with the offer, but you may be able to obtain audits or technical reports from other offeror proposals. Audits and technical reports can be excellent sources of cost information. Obtain and analyze reports on:

- Other proposals for identical or similar items; and
- Proposed forward pricing rates and factors.

Reports on Other Proposals for Identical or Similar Items. Reports on previous procurements of identical or similar items can provide information on cost elements that were particular problems in the past. Knowledge of past problems can give useful insight into the cost elements that will require special attention in cost analysis. Reports may also give you insight into the best approaches to use in your current cost analysis. Consider the following questions:

- ***How do estimating methods compare with past contracts for the same item?***

Changes in estimating methodology are usually attempts to improve cost estimates. However, a change may be an attempt to mask a weakness in the offeror's proposal.

- ***How do estimating methods for similar items compare with the current proposal?***

Often, similar products are produced by the same workers using the same equipment. Similarity is usually identified by similarity of processes, technical requirements, or product. Comparisons can reveal significant data on cost reasonableness.

Comparisons with costs for similar products, are particularly useful when the product offered has never been produced before.

- ***Are any costs questioned in previous reports similar to the costs proposed for the current contract?***

If you find patterns of questioned costs, closely scrutinize similar cost estimates for the current proposal.

- ***Should the analysis methods documented in previous reports be applied to the current contract?***

These reports may document useful approaches to cost analysis. Different approaches can provide very different perspectives of cost reasonableness.

Reports on Proposed Forward Pricing Rates and Factors. Larger Government contractors typically submit proposals that deal exclusively with the rates and factors used in proposal development. Reports on the analysis of these rates and factors can provide a great deal of useful information on projected offeror operations over the forecasted periods, including:

- Projected business volume;
- Capital expenditures; and
- Work force, skill, and seniority levels.

These reports can be very lengthy. Contact the cognizant administrative contracting officer (ACO) or cognizant auditor prior to requesting them. Based on this contact, you may be able to limit your request to only the specific information that you need for cost analysis. As a minimum, consider the following questions as you review these reports:

- ***What rates have been recommended by the auditor?***

Audit recommendations provide rates that may be useful in cost analysis and contract negotiation, particularly when forward pricing rates have not been negotiated with the Government.

- ***When an ACO is assigned to negotiate a forward pricing rate agreement, what rates are currently negotiated or recommended?***

Never deviate from ACO recommended rates without first contacting the ACO. The ACO may be able to provide more detailed support for the current recommendation. **Never deviate from rates**

set in a Forward Pricing Rate Agreement (FPRA) unless the ACO confirms that the FPRA is no longer in effect.

- ***Has anything changed that might significantly affect the rates****?*

Substantial changes in business volume, acquisition or sale of assets, automation, or other changes can affect indirect cost rates. Such changes could be reasons for requesting a new audit or overturning an FPRA. Analysis of direct and indirect cost forward pricing rates will be considered in more detail later in the text.

4.1.3 Examining Reviews Of Offeror's Systems

Common Government Contractor System Reviews. At major contractor locations, the Government typically conducts a variety of system level reviews. The ultimate purpose of all these reviews is to assure that contractor management systems are capable of providing an acceptable product, on time, and at a reasonable cost. Cost risk to both the Government and contractor increases if the contractor's systems are inadequate. Common system level reviews include:

- Contractor Purchasing System Reviews;
- Contractor Accounting System Reviews; and
- Contractor Estimating System Reviews.

Contractor Purchasing System Review (FAR Subpart 44.3 and 15.404-3(a)). Subcontract and material costs typically comprise more than half of most prime contract cost proposals. The Contractor Purchasing System Review (CPSR) is a periodic Government review of contractor's purchasing records, policies, and procedures. The purpose of this review is to ensure that the Government's interests are being adequately protected by the contractor.

Based on the CPSR results, the cognizant ACO may grant, withhold, or withdraw contractor purchasing system approval.

- If the system is approved, the majority of purchase orders (except high dollar cost-reimbursement orders, etc.) can be placed by the prime contractor without first obtaining Government consent.

- If system approval is withheld or withdrawn, the contractor must obtain Government consent before issuing all but the smallest fixed-price purchase orders.

As a minimum, you should consider the following questions concerning a contractor's CPSR results:

- ***Is the offeror's purchasing system currently approved by the Government?***

One item emphasized in CPSRs is the contractor's subcontract pricing policies and procedures. A disapproved contractor purchasing system is a red flag that the subcontract/material portion of a cost proposal may be overpriced. However, purchasing system approval does not relieve you of your pricing responsibility. Regardless of system approval or lack of approval, you are still responsible for determining if proposed prices are fair and reasonable.

- ***How might purchasing system weaknesses effect contract pricing?***

If you can identify purchasing system pricing weaknesses, you can target those elements of the proposal for more intensive cost analysis.

Contractor Accounting System Review (FAR 15.404-2(c)(4), 30.202-7, and DCAM 9-302).

When the contract price is to be negotiated using cost analysis, the contractor's cost accounting system is usually a major source of offeror cost information. The objective of an accounting system review is to determine whether the firm's accounting system and related practices for accumulating costs are adequate to support contracting decisions requiring accurate, complete, and current cost information.

The cognizant auditor, the Government representative with general access to the firm's accounting and financial records, has primary responsibility for conducting the on-site review. In reviewing accounting system adequacy, the auditor considers the results of prior audits, current findings, and other available information.

When applicable, the auditor's review must consider whether the firm has submitted an adequate Disclosure Statement and whether actual accounting practices comply with the Cost

Accounting Standards Board Cost Accounting Standards (CAS) and the firm's Disclosure Statement. If the auditor reports that the firm has not submitted an adequate Disclosure Statement or that actual accounting practices do not comply, the ACO must evaluate the report and take appropriate action. The ACO makes the final determination on the adequacy of the firm's disclosure and compliance.

As a minimum, you should consider the following questions concerning the results of any accounting system review:

- ***Has the cognizant auditor reported that the offeror's cost accounting system is adequate for contract pricing?***

If the cognizant auditor finds that the firm's accounting system is adequate for contract pricing, you can assume the system has sufficient controls to provide valid and reliable information for contract pricing. It does not mean that all judgments applied in estimate development are reasonable.

- ***Has the cognizant auditor reported that the offeror's cost accounting system is not adequate for contract pricing?***

If the auditor finds that the offeror's cost accounting system is not adequate for contract pricing, carefully examine the reasons for the auditor's finding and the effect that the system failure will have on contract pricing.

  - If the finding results from a general system failure, you should not rely on accounting information provided for contract pricing. You will need to find another method of obtaining adequate cost information or another basis for contract pricing.
  - If the finding results from a system failure in a particular area, you must consider the effect on the contract action you are pricing. For example, in an accounting system which provides for tracking direct labor costs by production lot, inadequate controls over job lot cutoffs may result in inaccurate lot cost data. This type of failure could produce inequitable results when estimating manufacturing direct labor hours. However, if your contract action does not require manufacturing labor, this system failure should have no effect on your cost analysis.

- ***If the firm is subject to full CAS coverage, has the firm submitted an adequate Disclosure Statement and is the firm complying with that disclosure?***

A CAS-covered contractor's accounting system cannot be considered adequate, if the firm has not submitted an adequate Disclosure Statement or is not complying with the disclosure or cost accounting standards. In some cases, the ACO may have not yet made a final determination on adequacy or compliance. The auditor, the contractor, and the ACO may all have different positions. You must consider the effect of any identified deficiency on the contract action you are pricing.

Contractor Estimating System Review (FAR 15.407-5 and DFARS 215.407-5-70). An effective cost estimating system is essential for any firm to consistently provide adequate and reliable cost estimates. To assure estimating system quality, many large contractors are periodically subjected to Contractor Estimating System Reviews (CESRs).

A CESR is normally an audit/contract administration team effort led by a representative from the cognizant audit activity.

The objectives of a CESR are to reduce the time and scope of reviews of individual proposals, to expedite the negotiation process, and to increase the reliability of the offeror's cost proposals. A review is an excellent source of information on estimating system weaknesses and problem areas. In addition to the review report itself, pertinent findings are typically referenced in individual proposal audits.

As a minimum, you should consider the following questions concerning any CESR results:

- ***Is the offeror's cost estimating system currently approved by the Government?***

ACO estimating system approval means that the system has the controls to consistently produce adequate estimates. A disapproved system is a red flag indicating that the firm's estimating system does not consistently provide adequate proposals. Normally, proposals from a firm with a disapproved system should be subjected to closer scrutiny, particularly closer scrutiny by audit professionals.

- ***What estimating system deficiencies were noted during the review, and how might those deficiencies affect this proposal?***

Indicators of a potentially deficient estimating system include:

  - Failure to ensure that historical experience is available to, and utilized by, cost estimators, where appropriate;
  - Continuing failure to analyze material costs or failure to perform subcontractor cost reviews as required;
  - Consistent absence of analytical support for significant amounts of proposed cost;
  - Excessive reliance on individual personal judgment where historical experience or commonly used standards are available;
  - Recurring defective pricing findings within the same cost element(s);
  - Failure to integrate relevant parts of other management systems (e.g., production control or cost accounting) with the estimating system, resulting in an impaired ability to generate reliable cost estimates; and
  - Failure to provide established policies, procedures, and practices to persons responsible for preparing and supporting estimates.

4.1.4 Examining Industry Cost Estimating Guides And Standards

Industry Estimating Guides/Standards. In some industries (e.g., construction), there are cost estimating guides and standards that are generally accepted by the industry. Once you identify the tasks required to complete the contract, these guides and standards provide excellent information on the related cost. For other industries, there are various sources of information that you can use as benchmarks in your cost analysis. The table below identifies sources of data that may prove useful in cost analysis:

Sources of Estimating Guides and Standards	
Source	**Information**
Construction Criteria Base Department National Institute of Building Sciences	**Construction** Construction Criteria Base

1090 Vermont Avenue, NW, Suite 700 Washington, DC 20005	*(CCB) System* CD-ROM package that includes Federal Guide Specifications and two estimating guides: *Naval Facilities Cost Estimating System* and *Microcomputer Aided Cost Estimating Support (MCACES)*
Program Manager for Cost Engineering Naval Facilities Engineering Command (NAVFACENGCOM) 1322 Patterson Avenue, SE Washington Navy Yard Washington, DC 20374	**Construction** *SUCCESS Estimating and Cost Management System*, a tri-service system for cost estimating and management
Corps of Engineers Huntsville Engineering Support Center (CEHNC-ED-ES-A) 4820 University Square Huntsville, AL 35816-1822	**Construction** *Microcomputer Aided Costing Support (MCACES)*, a tri-service system which includes unit price data for labor, equipment, and material
R.S. Means Company, Inc. Construction Plaza, 63 Smiths Lane Kingston, MA 02364-0800	**Construction** Building construction cost data, pricing guides, and other information presented in paper-based and electronic formats
John Wiley & Sons, Inc. 605 Third Avenue New York, NY 10158-0012	**Electronics** *Handbook of Electronics Industry Cost Estimating Data* by Theodore Taylor, a collection of time standards and rules of thumb for cost estimating
CCDR Project Office Office of the Secretary of Defense Program Analysis and Evaluation 1111 Jefferson Davis Highway Arlington, VA 22202	**Weapon Systems** The *Contractor Cost Data Reporting (CCDR) System* database for estimating Major Defense Acquisition Program costs
RAND 1700 Main Street P.O. Box 2138 Santa Monica, CA 90407-2138	**Weapon Systems** RAND publishes research on a wide variety of issues related to cost estimating and analysis. Products include the Defense Systems

	Cost Performance Database (DSCPD). This database includes cost growth data derived from information in Selected Acquisition Reports, as well as a range of potential explanatory variables, including cost, schedule, and categorical information.
Electronics Systems Center (ESC) Air Force Materiel Command Hanscom AFB, MA	**Aircraft Avionics** *Automated Cost Estimating Integrating Tools (ACEIT)* estimating system and database for estimating the cost of electronic warfare systems
Space and Missile Systems Center (SMC/FMC) Los Angeles AFB, CA	**Software** *Software Database (SWDB)*, of historical data on software development and maintenance
U.S. Army Cost and Economic Analysis Center 5611 Columbia Pike Falls Church, VA 22410-5050	**Installation Support** *Standard Service Costing (SSC)* service and performance data from on-going Army initiatives combined and statistical techniques for use in cost estimating
Naval Center for Cost Analysis 1111 Jefferson Davis Highway, Suite 400 Arlington, VA 22202-4306	**Microwave and Digital Systems** *Microwave and Digital Cost Analysis Model (MADCAM)* for estimating the cost of electronic boxes as a function of their distinguishing design characteristics and component technology
Naval Air Systems Command 1421 Jefferson Davis Highway, Arlington, VA 22243-1000	**Aircraft Modification** *Naval Aviation Modification Model (NAMM)* database
Air Force Cost Analysis Agency 1111 Jefferson Davis Highway, Suite 403 Arlington, VA 22202	**Aircraft** *Aircraft Cost Handbook*, a single source of consistent

	and comprehensive cost and related information describing the development and production phases of several fixed-wing, rotor-wing, and aircraft engine programs
	Aircraft *Multi-Aircraft Cost Data & Retrieval (MACDAR)* database of contractor labor hours and material costs at the lowest levels available
	Avionics Database of cost, programmatic, and technical avionics data
	Spacecraft Cost estimating relationships (CERs) for estimating development and production costs for the space portion of satellite programs
	Launch Vehicles *Launch Vehicle Cost Model (LVCM)*, cost estimating relationships (CERs) to estimate liquid stage structures; liquid fuel engine; power system; avionics/ power system; guidance and control system; telemetry, tracking, and command system; payload fairing; and integration.
	Space-Flight Instruments *Multi-Variable Instrument Cost Model (MICM)*, multi-variable cost estimating relationship (CER) to estimate the total prototype cost of building a space-flight instrument.
	Spacecraft/Vehicle Systems

	NASA/Air Force Cost Model 96 (NAFCOM96), estimates the development and production costs of up to five spacecraft/vehicle systems and ten WBS levels for either DoD or NASA systems.
	Scientific Instruments *Scientific Instrument Cost Model (SICM)*, a set of design, development, test and evaluation (DDT&E) and flight unit cost estimating relationships (CERs) and the supporting database.
	Infrared (IR) Sensors *Strategic and Experimental IR Sensor Cost Model II* estimates the developmental manufacturing costs for strategic and experimental IR sensors
	Unmanned Spacecraft *Unmanned Spacecraft Cost Model (ASCM7)*, estimates hardware costs of earth-orbiting, unmanned space vehicle programs (including payloads) using cost estimating relationships (CERs)

4.2 **Requesting Acquisition Team Assistance**

Types of Cost Analysis Assistance (FAR 1.102-3, 1.102-4, and 15.404-2). The offeror's cost proposal is the offeror's estimate of reasonable contract costs and profit. This estimate is normally based on a combination of technical information, accounting information, and judgment. Therefore, you will normally need technical and accounting assistance from other members of the Government Acquisition Team as you evaluate these estimates.

Identify the team assistance necessary for proposal analysis as early as possible in the acquisition process. Early communications with team members will assist you in determining the specific areas in which you need assistance, the extent of assistance required, a realistic analysis schedule, and information requirements for cost analysis.

- **Technical Analysis Assistance.** A technical analysis is an examination and evaluation to determine and report on the need for and reasonableness (assuming reasonable economy and efficiency) of the resources proposed by the offeror to complete the contract.
  - To be effective, the personnel performing the technical analysis must have the necessary specialized knowledge, skills, experience, or capability in:
  - Engineering,
  - Science, or
  - Management of the type of effort required to complete the contract.
  - While any area of the proposal may require technical analysis, the following are some of the areas typically evaluated:
  - Material quantities;
  - Labor hours;
  - Special tooling and test equipment types and quantities;
  - Unique facility requirements; and
  - Associated factors set forth in a proposal.
- **Audit Analysis Assistance (DCAM 1-104.2).** Contract audits are performed by Government auditors who have training and experience in analyzing accounting records and information from related offeror management systems. These auditors are the only Government personnel with general access to the contractor's books and financial records. The contract audit objective is to assure that the contractor has adequate controls to prevent or avoid wasteful, careless, or inefficient practices. Areas of particular audit concern include the:
  - Adequacy of the contractor's policies, procedures, practices, and internal controls relating to accounting, and procurement;
  - Adequacy of the contractor's management policies and procedures affecting costs;
  - Adequacy and reasonableness of the contractor's cost representations;
  - Adequacy and reliability of the contractor's records for Government-owned property;

    - Financial capabilities of the contractor; and
    - Appropriateness of contractual provisions having accounting or financial significance.

Sources of Technical Analysis Assistance (FAR 15.404-2). Members of the Government Acquisition Team who are familiar with the offeror and contract technical requirements can usually perform the best technical analysis of an offeror's proposal. In some cases, you may need to request more than one technical analysis, because no one person or office is familiar with all technical aspects of the proposal. Typically, technical analysis assistance may come from one or both of the following sources:

- **In-House Technical Assistance.** In most contracting situations, in-house members of the Government Acquisition Team will be your primary source for technical analysis assistance, because in-house personnel are most familiar with contract requirements and any unique aspects of the acquisition environment.
- **Field Pricing Assistance.** Field pricing assistance may be available from field contract administration activities, such as those operated by the Defense Contract Management Command (DCMC). Personnel in these activities may work in the contractor's facility, or travel from plant to plant in a particular geographic area. In either case, they can provide valuable insights based on their knowledge of contractor facilities and operations. Personnel available to provide field pricing technical assistance typically include, but are not limited to the following:
    - Administrative contracting officers;
    - Price analysts;
    - Engineers;
    - Small business specialists; and
    - Legal counsel.

Sources of Audit Assistance (FAR 15.404-2). Available sources of Government audit assistance differ from agency to agency. Consult agency procedures to determine which of the following types of audit assistance are available to you:

- **In-House Assistance.** Your contracting activity may have in-house financial management personnel assigned to act as contract auditors.
- **Inspector General Assistance.** Your Agency Inspector General office may perform contract audits as well as internal Government audits.

- **Field Pricing Assistance.** You may have access to auditors assigned to contractor plants or specific geographic regions. The Defense Contract Audit Agency (DCAA) is the primary field pricing audit activity servicing the DoD and most other agencies. In fact, most Government contract audits are performed by DCAA personnel.

Assistance For Prime Contract Proposal Analysis (FAR 15.404-2 and DFARS 215.404-2). For each proposal, you must determine what type of Government Acquisition Team assistance you will need for your cost analysis.

- **In-House Assistance.** In most contracting situations, in-house members of the Government Acquisition Team will be your primary source for technical analysis assistance. Consider your specific analysis needs before contacting individuals or organizations for assistance.
- **Field Pricing Assistance.** Always consider the risk to the Government and agency requirements before requesting field pricing assistance.
    - In higher risk situations, you will likely need field pricing assistance. For example, the DoD recommends that contracting officer consider requesting field pricing assistance for:
    - Fixed-price proposals exceeding the cost or pricing data threshold;
    - Cost-reimbursement proposals exceeding the cost or pricing data threshold from offerors with significant estimating system deficiencies; or
    - Cost-reimbursement proposals exceeding $10 million from offerors without significant estimating deficiencies.
    - In lower risk situations, you should normally not need field pricing assistance. For example, the DoD recommends that contracting officers not request field pricing assistance for proposed contracts or modifications in an amount less than that specified above, unless a reasonable pricing result cannot be established because of:
    - A lack of knowledge of the particular offeror; or
    - Sensitive conditions (e.g., a change in, or unusual problems with, an offeror's internal systems).

Assistance For Subcontract Proposal Analysis (FAR 15.404-2 and 15.404-3). The prime contractor or higher-tier subcontractor is responsible for:

- Conducting appropriate cost or price analyses to establish the reasonableness of proposed subcontract prices; and
- Including the results of those analyses in the prime contract price proposal.

You should only request audit or technical field pricing assistance to analyze a subcontract proposal if you believe that such assistance will serve a valid Government interest (e.g., determining total price reasonableness). Give special consideration to requesting subcontract audit or field pricing assistance when one or more of the following situations exist (DFARS 215.404-3(a)):

- The business relationship between the prime contractor and the subcontractor is not conducive to independence and objectivity;
- The prime contractor is a sole source and the subcontract cost represents a substantial part of the proposed contract cost;
- The prime contractor has been denied access to the prospective records;
- The contracting officer determines that factors (e.g., proposed subcontract dollar value) make audit or field pricing assistance critical to a fully detailed prime contract proposal analysis;
- The contractor or higher-tier subcontractor has been cited for having significant estimating system deficiencies in the area of subcontract pricing, especially a failure to perform:
  - Adequate subcontract cost analyses or
  - Timely subcontract analyses prior to negotiation of the prime contract with the Government; or
- A lower-tier subcontractor has been cited as having significant estimating system deficiencies.

Tailor Assistance Requests to Analysis Needs (FAR 15.404-2). Identify analysis needs before requesting analysis assistance. Remember that early communications with Government Acquisition Team members will assist you in determining the specific areas for which assistance is needed, the extent of assistance required, a realistic analysis schedule, and information requirements for cost analysis.

If current and reliable technical or audit information is already available, you may not need assistance or you may be able to limit your assistance request to an informal

verification that available information is still current. For example:

- If there is already information available from an existing audit (completed within the last 12 months), **never** request a separate preaward audit of indirect costs **unless** the contracting officer considers the information already available inadequate for determining the reasonableness of proposed indirect costs.
- If there was an indirect cost audit within the last 12 months but no forward pricing rate agreement, contact the cognizant auditor/ACO to obtain information on the current Government rate recommendations.
- If you have a reliable record of the offeror's current forward pricing rate agreement for direct labor rates, there is no reason to request a direct labor rate analysis from the cognizant auditor or ACO.
- If the offeror's proposal states that the firm has proposed indirect cost forward pricing rates in accordance with an established forward pricing rate agreement, verify that statement with the responsible ACO. If the ACO verifies that the proposed rates are part of a forward pricing rate agreement, no further indirect cost rate analysis is required. However, you should advise the ACO if you believe that rates for all contracts will be affected by your proposed contract.
- If you have a reliable record of recent production costs for an identical item, do not request an audit of production cost history.
- If the Government and the contractor have established pricing formulas, determine whether changes in production methods or market conditions will affect those formulas. If not, further technical or audit analysis should not be necessary. If conditions have changed, request analyses to consider the effect of those changes.
- If the offeror uses standard component prices, determine whether changes in production methods or market conditions will affect those prices. If not, further audit analysis of material prices for those components should not be necessary. If conditions have changed, request an audit to consider the effect of those changes.

Oral Requests for Assistance (FAR 15.404-2(b)(1)). You are encouraged to make face-to-face or telephonic requests for pricing assistance whenever practical. Such requests are particularly appropriate when you only need to verify or obtain existing information. However:

- All requests for analysis assistance must consider agency and buying office requirements.
- When requesting assistance from another activity, you should first contact the assisting activity to determine what means of communications are acceptable for assistance requests.

Record all oral requests in the contract file. The record should include such information as the request date, person contacted, and the assistance requested.

Written Requests for Proposal Analysis Assistance (FAR 15.404-2). Requests for in-depth proposal analysis should normally be made in writing. When practical, meet with the analyst to deliver the request. When distance or other factors make it impractical to carry the request to the analyst, use E-mail or FAX to transmit short requests without attachments. Use mail or expedited shipment for more voluminous requests.

As you prepare each request, ensure that you:

- Describe the extent of assistance needed.
- Identify the **specific areas** for which input is required.
- Include the information necessary for the requested analysis or assure that it is provided to the auditor or technical analyst.
    - A request for technical analysis:
    - Should include a copy of all technical information submitted by the offeror on the cost(s) involved.
    - Should normally not include dollar amounts. Technical personnel are not normally the best sources of labor or overhead rate analysis. Including such information in your request may cloud their analysis of technical issues.
    - A request for audit assistance should include a:
    - Complete copy of the offeror's cost proposal;
    - Copy of any technical analyses already completed; and
    - A request that a auditor concurrently forward the audit report to the requesting contracting officer and the ACO if an audit and technical analysis are both requested.
- Assign a realistic deadline for receipt of any requested report. An unrealistically short deadline may reduce analysis quality. A poor report may make it impossible to determine whether the proposed price is fair and reasonable.

- Encourage analysts to submit all but the briefest responses in writing. However, you should also encourage analysts to use E-mail or FAX to transmit short responses without attachments. More voluminous responses should be submitted by mail or expedited shipment.

Retain a copy of the request in the contract file.

Requests for Subcontract Proposal Analysis Assistance (FAR 15.404-2 and DFARS 215.404-2(c)).

When you request analysis of a subcontract proposal, your request should include a copy of the following (when available):

- Any review prepared by the prime contractor or higher-tier subcontractor;
- Relevant parts of the subcontractor's proposal;
- Cost or pricing data or information other than cost or pricing data provided by the subcontractor; and
- The results of the prime contractor's cost or price analysis.

Assure that you follow agency procedures in requesting any subcontract analysis. For example, DoD contracting officers should notify the appropriate contract administration activities when extensive, special, or expedited field pricing assistance will be needed to review and evaluate a subcontractor's proposal.

As you prepare your request, assure that all personnel involved understand that you must obtain the subcontractor's consent before the Government can provide the results of a Government analysis of a subcontract proposal to the prime contractor or higher-tier subcontractor. If the subcontractor withholds consent, you can only provide information on a range of unacceptable costs for each cost element and you must provide that range in a way that prevents disclosure of subcontractor proprietary information (DFARS 215.404-3(a)(iii)).

Requests for Equitable Adjustment Analysis Assistance (FAR 15.404-2(a)(4) and 43.204(b)(5)).

When preparing a written request for field pricing assistance for an equitable adjustment, provide a list of any significant contract events which may aid in the analysis. This list should include the:

- Date and dollar amount of contract award and/or modification;
- Date of submission of initial contract proposal and dollar amount;
- Date of alleged delays or disruptions;
- Performance dates as scheduled at date of award and/or modification;
- Actual performance dates;
- Date entitlement to an equitable adjustment was determined or a contracting officer decision was rendered if applicable;
- Date of certification of the request for adjustment if certification is required; and
- Dates of any pertinent Government actions or other key events during contract performance which may have an impact on the contractor's request for equitable adjustment.

4.3 Evaluating Acquisition Team Assistance

Oral Responses (FAR 15.404-2(b) and 15.404-2(d)). Most technical and audit responses are written. However an oral response may be particularly appropriate when:

- The analyst is only verifying information already available to the contracting officer (e.g., forward pricing rates); or
- Effective and timely analysis is threatened by a lack of information. For example, the cognizant auditor or ACO, as appropriate, should contact the contracting officer if proposal deficiencies are so great as to preclude review or audit or if the offeror or contractor denies the auditor access to any records considered essential to the conduct of a satisfactory review or audit. Oral notifications must be confirmed promptly in writing including a description of deficient or denied data or records.

Assure that each oral response is clearly recorded in the contract file, including (as a minimum) the date, person providing the information, and the information provided.

Written Reports (FAR 15.404-2(b) and DCAM 10-304.8). Encourage analysts to submit all but the briefest responses in writing. However, you should encourage analysts to use e-mail or fax to transmit short responses without attachments. More voluminous responses should be submitted by mail or expedited shipment.

Retain a copy of any written response in the contract file and consider the results as you prepare the Government pricing position.

- **Technical Reports.** Technical reports typically accept an offeror's proposal or present an alternative position based on a different analysis of the available facts. Differences between the proposed amount and the recommended amount are generally identified as "exceptions." These exceptions may result from a variety of reasons including: a different approach to estimate development, different estimating assumptions, or the use of additional facts not used by the offeror.
- **Audit Reports.** Audit reports on cost estimates are based on a similar analysis approach. However, audit reports typically assign exceptions to the offeror's proposal to one of three categories:
  - **Unallowable costs.** These are costs which (under the provisions of a pertinent law, regulation, or contract) cannot be included in the contract price.
  - **Unsupported costs.** These are costs which the auditor cannot evaluate as allowable or unallowable, because there is not enough information for analysis. For example, auditors commonly classify oral vendor quotes as unsupported, because there is no factual evidence to support the amount quoted.
  - **Unresolved Costs.** These are costs that have not yet been evaluated. Typically costs are associated with proposals from subcontractors or transfers from other operating units of the firm. The auditor may have requested an assist audit, but not received the results from the auditor responsible for the assist audit.

Identify Report Strengths and Weaknesses. As you evaluate each analysis report, use the following questions to identify analysis strengths and weaknesses:

- ***Does the report answer the questions in your request?***

If your assistance request identified specific proposal areas requiring analysis, **the analysis report should address** each area identified.

- ***Does the report explain the evaluator's position in clear language that you can understand?***

You are responsible for integrating the proposal analysis into the overall Government position. However, you are not responsible for rewriting the technical or audit report. Each report should clearly communicate its recommendations and stand on its own.

- ***Does the report support its conclusions?***

The "looks good to me" or "based on my experience and judgment" reports are of little use in negotiations. Each conclusion, whether it agrees with or disputes the offeror's proposal, should be accompanied by an understandable rationale. A good evaluation will tell you what was analyzed and how it was analyzed.

Identify Inconsistencies Within Each Report. Analysis reports may contain inconsistencies, (i.e., one part of an analysis report may accept the offeror's estimating approach, while another part of the same report rejects the same approach in similar circumstances). An analysis report with such inconsistencies will likely be of limited value to you as you prepare your pricing objectives. Identify any analysis inconsistencies, so that you can resolve them.

As you evaluate analysis report(s), use the following questions to identify inconsistencies within each report:

- ***Did a single analyst provide inconsistent analysis?***

An analyst may only report the results from using a particular analysis technique when the resulting cost estimate is lower than that proposed by the offeror. Analysis results that result in an estimate higher than those proposed by the offeror are not reported. This should not happen. If the technique produces estimates that are more accurate than the estimates submitted by the offeror, the results should be reported regardless of whether the estimated cost is higher or lower than the costs proposed. Remember, your objective is to obtain a fair and reasonable price.

- ***Did multiple analysts working on the same report provide inconsistent analyses of similar elements of cost?***

Different analysts involved in preparing the same report may take different positions on the use of a particular estimating technique or estimating assumption. This is particularly likely when there is inadequate coordination between multiple analysts.

Identify Inconsistencies Between Analyses. As you review different analyses of the same proposal, you may find apparent inconsistencies. One report accepts a cost estimate while another report takes exception to all or part of the same estimate. Such inconsistencies typically occur when different analysts have different professional perspectives or different guidelines for analysis.

- ***Are there any inconsistencies between the technical and audit analyses?***

An auditor might take exception to an offeror's round-table cost estimate accepted by a technical analyst. Why? Auditors base their analyses on facts and projections made from those facts. A round-table estimate may be based on judgment with little or no factual support. As a result, the auditor takes exception to the cost as unsupported. On the other hand, a technical analyst may look at the estimating situation and ask, "Does the estimate make sense, in this situation?" If it does, the technical analyst may accept the estimate. Same estimate, different analysis results.

- ***Are there any inconsistencies between in-house and field analyses?***

In-house and field personnel may have different perspectives concerning the cost analysis. In-house personnel may be more familiar with the contract requirements. Field personnel may be more familiar with the offeror's estimating and operating procedures.

Resolve Apparent Weaknesses and Inconsistencies (FAR 15.406-1(a)). As you review report results, reconcile any inconsistencies that you identify. Technical and audit reports should provide key inputs to your cost analysis. Report weaknesses and inconsistencies, bring the value of these reports into question.

You may be able to resolve weaknesses and inconsistencies without assistance from the report writer. More likely, you will need to contact the report writer for support.

- **Minor concerns.** You can usually obtain minor clarification or additional support by contacting the report writer informally. This form of contact has the advantage of direct communication without barriers of protocol.

- **Major concerns.** If you have major concerns about the accuracy or value of a particular written report, you should make a written request for clarification. A written request provides documentation of your concern and indicates the need for a written response.

Check Reality. Keep the results of all analyses in perspective. Don't just consider the numbers. Use your own common sense.

For example: Material cost per unit has been increasing over the five years that the offeror has produced similar units. The Government analyst based a material cost recommendation on the average material unit price over the five years of production. In developing this recommendation, the analyst averaged the cheaper units from five years ago with the more expensive units used in recent production. The history is valid, the calculations are correct, but the recommendation makes no sense unless prices are expected to decline for some reason.

Ch 5 - Defining and Evaluating Work Design For Contract Performance

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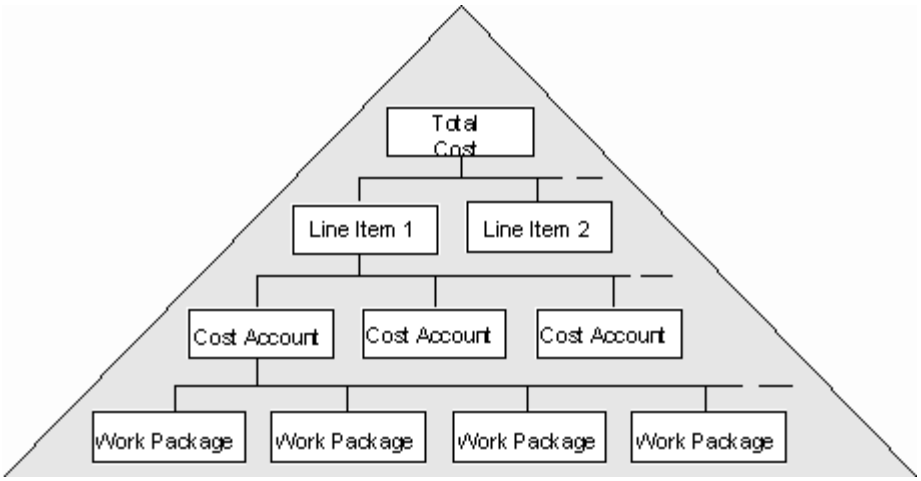
5.0 Chapter Introduction

As you perform your cost analysis, develop Government pricing objectives based on what the price of the contract should be if the firm operates efficiently and effectively. Scrutinize the offeror's assumptions and related work design, considering the factors identified in this chapter.

Proposal Structure (FAR Table 15-2). To understand and evaluate work design, you first need to break total cost into its basic elements. The proposal should include a description of the structure used in preparing the proposal. This description should resemble a pyramid, with total contract cost at the top. Each lower level of the pyramid should further break total cost into its component costs until the foundation for proposal development is reached -- the work package.



Work Package. A proposal work package should:

- Serve as the foundation for proposal development;
- Describe a detailed short-term task that can be identified and controlled by the contractor in assigning contract effort;
- Distinguish the task to be performed from the work identified in all other work packages;
- Assign responsibility for work package completion to a single operating organization of the firm;
- Identify objective start and completion events which:
  - Are associated with physical accomplishments;
  - Can be scheduled to calendar dates; and
  - Can be objectively measured;
- Include a budget expressed in terms of dollars, work hours, or other measurable units.
- Minimize work in progress.

Work Breakdown Structure (MIL-HDBK 881). The request for proposal (RFP) for a large complex system may require the offeror to provide cost information based on a Work Breakdown Structure (WBS) identified in the solicitation. This concept can be used in acquiring any large system, but it is most commonly used in acquiring large DoD systems.

The WBS is a product-oriented family-tree division of hardware, software, services, and other work required to complete the contract. It organizes, defines, and graphically displays contract requirements and the work

required to meet those requirements. The multiple levels of the WBS "explode" the work required down to identifiable work packages. In a common WBS:

- Level 1 is the entire system;
- Level 2 identifies the major elements of Level 1;
- Level 3 identifies the major elements of Level 2;
- Level 4 and later levels provide increasingly detailed information.

The number of levels of detail that you require in the solicitation, should depend on the complexity of the system and the perceived need for in-depth visibility.

The following table provides an example of a WBS structure for a missile system. For other large systems, the elements will change, but the concept will remain the same.

Missile System Work Breakdown Structure, Levels 1-3		
Level 1	**Level 2**	**Level 3**
Missile System	Air Vehicle	Vehicle Integration and Assembly Propulsion Vehicle Stages (each stage included in system design) Guidance and Control Equipment Airborne Test Equipment Auxiliary Equipment
	Command and Launch Equipment	Integration and Assembly Surveillance, Identification, and Tracking Sensors Launch and Guidance Control Communications Data Processing Launcher Equipment Auxiliary Equipment
	Training	Equipment Services Facilities

	Peculiar Support Equipment	Organizational Level Intermediate Level Depot Level
	System Test and Evaluation	Development of Test and Evaluation Operational Test and Evaluation Mock-ups Test and Evaluation Support Test Facilities
	Systems/Project Management	Systems Engineering Project Management
	Data	Technical Publications Engineering Data Management Data Support Data Data Depository
	Operational/Site Activation	Contractor Technical Support Site Construction Site/Ship/Vehicle Conversion On-site System Assembly, Installation, and Checkout
	Common Support Equipment	Organizational Level Intermediate Level Depot Level
	Industrial Facilities	Construction Conversion/Expansion
	Initial Spares and Repair Parts	Identified Spares Allowance List (by system grouping or element)

5.1 Identifying The Offeror's Planning Assumptions

This section will identify points to consider as you identify and analyze offeror planning assumptions.

- 5.1.1 - Identifying Basic Planning Assumptions

5.1.1 Identifying Basic Planning Assumptions

Basic Planning Assumptions, Each proposal cost estimate is based on certain planning assumptions. Most good proposals specifically identify key assumptions at the beginning of the proposal. Whether the assumptions are identified or not, they exist. Because these assumptions are basic to cost estimate development, you should begin your cost analysis by identifying the offeror's assumptions.

You should be able to classify each of the offeror's assumptions into one of two basic perceptions of the future:

- **The future will be the same as the past.**

If the offeror assumes that the future will be the same as the past, the proposal should explain the reason for that belief. Then the estimator should rely on data gathered from past performance in estimating future contract costs.

For example: An offeror is estimating the cost for a contract to manufacture 100 units of Product A. The firm has recently completed a contract to produce 100 units of Product A. The recent contract required 125 units of a key component. Based on that assumption, they would estimate that 125 units of that key component will be required to complete the proposed contract.

- **The future will be different from the past.**

If the offeror assumes that the future will be different than the past, the offeror should rely less on historical data in proposal development. The offeror may estimate contract costs using a factor to adjust historical data or the offeror may rely on an estimating technique that is not based on historical data. In either case, the proposal should explain why the estimate provided is more reasonable than an estimate based on historical data.

For example: An offeror is estimating the cost for a contract to manufacture 200 units of **Product B**. The firm

recently completed a contract to produce 200 units of **Product B.** The recent contract required 40,000 direct labor hours. However, the offeror believes that experience gained on the completed contract will make labor more efficient on the proposed contract. The estimator might adjust the historical labor hours using a quantitative technique (e.g., an improvement curve). Alternatively, the estimator might use an entirely different basis for estimate development (e.g., an industry labor standard).

Identify and Evaluate Planning Assumptions. As you begin your cost analysis:

- **Identify the planning assumptions used by the offeror in proposal development.**

The offeror's proposal may have a single overall statement of the assumptions used in planning. However, if the assumptions are not presented in one place, you must carefully review the proposal to find them. Often individual estimates will include statements about the assumptions and factors used in preparing that estimate.

- **Develop a position on whether assumptions are realistic and consistent, and how they affect the proposal.**

Request technical assistance in developing your position on technical assumptions (e.g., labor efficiency) and audit assistance in developing your position on financial assumptions (e.g., labor rate increases). For each assumption, you should ask specific questions based on the following:

  - ***Is the proposal assumption realistic?***
  - ***Is the assumption consistent with the rest of the proposal?***
  - ***How does the proposal assumption affect contract cost?***

5.1.2 Analyzing Specific Assumptions

Common Assumptions, Cost proposals typically involve many assumptions. The details of these assumptions will vary depending on the acquisition situation. However, you will

find that most assumptions will involve the effect of one of the following on contract performance:

- General performance problems;
- Technology changes;
- Interruptions and shortages; or
- Inflation/deflation.

Because assumptions involving these topics are so common, you must be prepared to identify and evaluate them in your analysis.

Identifying Assumptions Regarding General Performance Problems. When calculating the estimated cost of a proposal, an offeror will try to anticipate problems in the project that will affect contract cost. Problems may be related to any of the wide variety of factors affecting contract performance (e.g., technical, managerial, financial, environmental, etc.).

The proposal should estimate the likelihood that the problem will occur and the cost involved. As you develop your pricing position, you must evaluate the reasonableness of the offeror's proposal and develop your own estimate of contract costs.

For example: Consider the assumptions and associated costs that an offeror might include in a proposal to produce rocket fuel using highly toxic and explosive chemicals. The proposal might include assumptions related to:

- Locating a plant site;
- Higher wages and employee benefit costs due to the danger associated with an untested and explosive product;
- Meeting Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulatory requirements;
- Waste disposal; or
- Hazardous product storage.

Evaluating Assumptions Regarding General Performance Problems. When analyzing the offeror's assumption of an anticipated problem, answer the following questions:

- ***Is the proposal assumption realistic?***

If answering this question is beyond your technical expertise, request a technical analysis. In your request for technical analysis assistance, specifically ask for an assessment of the likelihood of the problem occurring and the probable effect of the problem on contract performance.

- ***Is the assumption consistent with the rest of the proposal?***

Sometimes a proposal will project a problem in one area of contract performance, but not in other areas that should be affected by the same problem. With assistance from technical experts, identify and resolve any apparent inconsistencies.

- ***How much should it reasonably cost to handle the problem?***

Cost estimates should consider the likelihood that the problem will occur and the cost to resolve the problem if it does occur. Advice from technical personnel is generally invaluable in estimating a reasonable cost associated with a potential problem.

Identifying Assumptions Regarding Technological Changes. Technological change can affect the product, the production process, or both. In this time of rapid technological advancement and the often long lead times for awarding Government contracts, an offeror has to anticipate the effect technological change will have on contract performance and cost. The contract itself may require the offeror to assume the risk associated with developing new state-of-the-art technology.

In any case, the offeror must assess the likelihood of technological change and the effect of the change on contract cost. Assuming that an anticipated technological advancement will reduce contract costs may be risky. After all, many advancements that appear to be just around the corner do not actually happen, or if they occur do not bring the expected benefits.

As you develop your pricing position, you must evaluate the reasonableness of the offeror's proposal and develop your own estimate of contract costs. You cannot allow an offeror to ignore expected advancements that will lower contract cost, and you cannot automatically assume that

every contract requiring an advance in the state-of-the-art will require an awesome effort with costs to match.

For example: An offeror is preparing a proposal to produce a new control subsystem that will replace and improve the existing control subsystem in an automated material handling system. The existing control subsystem has had significant problems because current technology does not permit the production of equipment that meets required reliability and maintainability standards. In preparing the proposal, the offeror should consider the:

- Costs associated with each method that might be used to advance the product state-of-the-art to meet Government requirements and the probability that method will succeed; and
- Costs associated with each method that might be used to advance the production process state-of-the-art to produce the new product and the probability that method will succeed.

Evaluating Assumptions Regarding Technological Changes. When analyzing the effect of anticipated technological changes on contract cost, consider the following questions:

- ***Are proposal assumptions about technological change realistic?***

If answering this question is beyond your technical expertise, request a technical analysis. Remember that the offeror may have been overly optimistic or overly pessimistic in developing assumptions about technological change.

- ***Is the assumption consistent with the rest of the proposal?***

Look for inconsistencies in the proposal assumptions about technological change. It is not uncommon for one part of a proposal to state that technology already exists, while another indicates that substantial effort will be required to obtain the same technology.

- ***What will be the cost/benefit of the indicated technological change to the proposed contract?***

There may be ways of completing the contract that do not require technological change. Existing products and methods may be quite satisfactory. The required technology may already be available.

Identifying Assumptions Regarding Interruptions and Shortages. There are many factors that might affect a contractor's ability to complete the contract on schedule, including:

- Reasonable interruptions by the Government under the terms of the contract (e.g., delays required to obtain required security clearances);
- Conflicts with other contractors performing related tasks; and
- Material shortages

Interruptions or shortages, will result in a cost to the offeror, so the offeror will try to anticipate the likelihood of interruptions and include them in the total proposed cost. You will need to determine what interruptions may reasonably occur and the costs that would be incurred by the contractor as a result of those interruptions.

For example: An offeror is proposing to perform a contract for electrical rewiring on five reserve cargo ships. On a similar contract, the offeror experienced numerous delays because of scheduling conflicts with other contractors performing related work on the same ships. The firm expects similar working conditions on the proposed contract, so it has estimated costs based on the firm's experience on the earlier contract.

Evaluating Assumptions Regarding Interruptions and Shortages. When analyzing the effect of projected interruptions or shortages, consider the following questions:

- ***Are proposal assumptions about interruptions and shortages realistic?***

In particular, remember that if the contractor can prevent the interruption or shortage without additional cost, you should not include additional cost in your position on contract price.

- ***Are proposal assumptions about interruptions and shortages consistent with the rest of the proposal?***

Be particularly careful to assure that the effects of potential interruptions and shortages are only considered once in a proposal. For example, an estimate based on the actual cost of previous contracts may already include costs of interruptions (e.g., security requirements) that are a common part of contract performance.

- ***Is the proposal estimate of the effect of an interruption or shortage reasonable?***

Examine the reasonableness of the estimate prepared by the offeror based on the offeror's approach to the interruption or shortage. In addition, you should consider other approaches. If the Government customer can tolerate a delay in contract performance, it may be wiser to delay contract award until the danger of interruption or shortage is eliminated.

Identifying Assumptions Regarding Inflation/ Deflation. Offerors commonly consider inflation/deflation when making contract cost estimates based on historical contract costs. When the contract performance is expected to extend beyond a few months, an offeror may also include assumptions about inflation/deflation during contract performance.

For example: An offeror is preparing a proposal to manufacture 500 units of equipment to meet Government contract requirements. The firm completed a similar contract just nine months ago. Because the cost data are so recent, the firm has decided to estimate contract costs based on cost data from the recent contract plus five percent to allow for inflation since the last contract.

Evaluating Assumptions Regarding Inflation/ Deflation. When analyzing the effect of projected inflation/deflation, consider the following questions:

- ***Is the proposal assumption realistic?***

There are numerous price indexes that you can use in evaluating the offerors assumed inflation/deflation. Be sure that any index numbers are appropriate for your analysis situation. Two of the most common index sources are the:

- Producer Price Index (PPI); and
- DRI/McGraw (DRI) Cost Information Services.

- ***Is the assumption consistent with the rest of the proposal?***

Assure that it is appropriate to use an adjustment for inflation. For example, do not add an inflation factor to current quotes when contract material will be ordered and delivered immediately after contract award.

- ***How does the proposal assumption affect contract cost?***

Remember that some prices are actually decreasing. Make sure that you consider potential price decreases as well as potential price increases

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5.1.3 Determining Proper Contingency Cost Treatment

Contingencies (FAR 31.205-7). Most estimates of the cost of future contract performance involve contingencies. A contingency is a possible future event or condition arising from presently known or unknown causes, the outcome of which cannot be precisely determined at the present time.

For cost estimating purposes, contingencies fall into two categories:

- **Contingencies that arise from presently known and existing conditions, with effects on contract cost that can be forecast within reasonable limits of accuracy.**

In other words, the contracting parties are aware of the conditions that will affect future costs and they are able to reasonably estimate the related affect on contract cost.

For example: An offeror is preparing an estimate of material cost. One material item is sheet metal that will be used to produce parts of different shapes. The offeror knows that some part of the metal will eventually become scrap. Using scrap records from similar contracts and an understanding of the proposed contract requirements, the

offeror can develop a reasonably good estimate of proposed contract costs.

- **Contingencies that arise from presently known or unknown conditions, with effects on contract cost that cannot be forecast precisely enough to provide equitable results to the contractor and the Government.**

In other words, the contracting parties cannot reasonably estimate contract costs for one of the following reasons.

  - The contracting parties are aware of conditions that will affect future costs but they are unable to reasonably estimate the related affect on contract cost.
  - The contracting parties are not aware of all the conditions that will affect future contract cost and are therefore unable to reasonably estimate contract cost.

For example: A firm is involved in litigation concerning the proper interpretation of an apparent conflict between Government contract cost principles and state tax law. If the court accepts the state's position, contract costs will increase substantially. If the court accepts the contractor's (and the Government's) position, costs will remain unchanged. The case may not be resolved for several years. Right now there is no way to forecast how the case will end, and there is no way to estimate the final effect of the litigation on contract cost.

Contingencies, Contract Costs, and Separate Agreements (FAR 15.402(c), 31.205-7(c), and 31.109).

If you can reasonably estimate the cost associated with a particular contingency, include that estimated cost in the contract total cost estimate.

If you cannot reasonably estimate the cost associated with a particular contingency, exclude all costs related to that contingency from the contract cost estimate. Instead, the cost should be disclosed separately to facilitate the negotiation of appropriate contract coverage. Normally, that contract coverage will be based on a formal agreement about how the cost will be treated once the cost is known or can be equitably estimated. That agreement may apply to

a single contract, group of contracts, or all contracts with the contractor.

- Before you begin negotiation of an agreement that is likely to affect more than one contract:
  - Identify contracts and contracting activities that might be affected;
  - Inform each contracting activity or agency of the matters that you intend to negotiate; and (as appropriate)
  - Invite the affected contracting activities or agencies and the cognizant audit agency to participate in prenegotiation discussions and/or subsequent negotiations.
- After you reach an agreement that is likely to affect more than one contracting activity or agency, distribute a copy of the executed agreement to other interested parties, including the cognizant audit agency.

Contingencies and Historical Costs (FAR 31.205-7). As stated above, a contingency is a possible future event or condition arising from presently known or unknown causes, the outcome of which cannot be precisely determined at the present time. Therefore, you should not include contingency-related costs in pricing positions based on actual incurred costs. If all contract costs are known, future events will no longer have any affect on contract cost.

For example: An offeror normally estimates direct labor hours for engineering support as five percent of manufacturing direct labor hours. The purpose of this contingency for engineering support is to estimate the hours required to resolve product design problems identified during product production. If you are analyzing a contract modification proposal after all manufacturing work is completed there will be no need for additional engineering support on that contract, because there will no more production design problems that require resolution. In that situation, concentrate on evaluating the reasonableness of actual costs. Do not simply calculate engineering support direct labor hours as five percent of actual manufacturing direct labor hours.

Note: In some cases (e.g. contract termination), you may need to use a contingency factor to recognize minor

unsettled contract factors. Make sure that the contingency factor does not duplicate costs already specifically included in available actual costs.

5.2 Applying Should-Cost Principles In Objective Development

This section identifies principles that you should consider as you attempt to determine what a contract should cost.

5.2.1 Identifying Causes Of Inefficient Or Uneconomical Performance

Key Areas for Cost Analysis (FAR 15.404-1(c)(1)). Once you have identified and evaluated offeror planning assumptions, you are ready to continue your cost analysis. As you do, remember that the objective of cost analysis is to review and evaluate the separate elements of cost to form an opinion on whether proposed costs represent what the cost of the contract should be, assuming reasonable economy and efficiency. Put another way, the objective of cost analysis is to develop a position on what the contract should cost, assuming reasonable economy and efficiency.

To attain this objective, you must understand where to look and what to look for. Key areas to check for possible improvements in economy and efficiency include:

- Contract task and subtask contribution to meeting contract requirements;
- Methods used in contract performance;
- Facilities used in contract performance;
- Equipment used in contract performance;
- Computer hardware and software used to support contract performance;
- Contractor management and operating systems; and
- Other aspects of contract performance.

Contract Task and Subtask Contribution to Meeting Contract Requirements. Examine the tasks and subtasks within the work packages of the contractor's proposal to see if they are necessary and if they really add value to the final product.

For example: A manufacturer's proposal may include repetitive tests of the same product performed by workers, line managers, and various quality assurance personnel. Even with all of this repetitive testing, the number of defective units is still projected to be a large percentage of total production. Likely many of the these tests can be eliminated by greater reliance on worker application of statistical process control techniques. The result could be improved quality and reduced cost.

Methods Used in Contract Performance. With the assistance of technical personnel, examine offeror-proposed methods for possible improvement. Consider both different methods and improvements to existing methods. Question any methods that appear inefficient or uneconomic.

For example: Some tasks can be performed manually, but they can be performed more efficiently and effectively using automated equipment.

Facilities Used in Contract Performance. Examine facilities and facility layout for possible changes that might reduce costs and improve contract performance. When appropriate, complete a cost-benefit analysis as part of your examination. In simple terms, a cost-benefit analysis compares the savings from the change with the cost of making the change. If the costs are less than the savings, then the change is worth pursuing.

For example: The cost of fabricating a system component could be reduced by $150,000 per unit if a new $1,000,000 facility were placed in operation. The current proposal is for six systems and the facility would not be operational until the fourth system. However, the total program calls for production of 38 systems over the next five years.

- ***Is it cost effective to invest in the new facility considering only the current contract?***

If you only consider the six remaining systems under the current contract, the new facility would increase costs by $100,000.

Net Benefit = (Savings per Unit * Units) - (Cost of Change)

= ($150,000 * 6) - $1,000,000

= $900,000 - $1,000,000

= - $100,000

- ***Is it cost effective to invest in the new facility considering projected requirements?***

If you consider the projected 38 system requirement, the new facility would decrease costs by $4,700,000.

Net Benefit = (Savings per Unit * Units) - (Cost of Change)

= ($150,000 * 38) - $1,000,000

= $5,700,000 - $1,000,000

= $4,700,000

- ***Should you only consider the current contract, or should you consider projected requirements.?***

In the example above, if you only consider the current contract, the investment would not be cost effective. If you consider all 38 systems, the savings would substantially outweigh the cost of the investment. When evaluating which results to use in your analysis, you should consider the viability and direction of the entire program

Note: To simplify the examples above, the concept of present value analysis and cost of money adjustments were not considered. You should include both in any contract-related cost-benefit analysis.

Equipment Used in Contract Performance. Examine equipment and contract requirements for possible inefficient or uneconomical performance. Equipment may be inefficient, out of tolerance, or expensive and time consuming to maintain. The projected production rate may be significantly greater

or less than the optimum rate for the equipment. In any case, you should review the total shop loading for a machine or work station, not just the current proposal.

For example: The offeror proposes to use a large piece of automated equipment to meet contract subsystem requirements. The capacity of this equipment is 20,000 units per day, but the contractor is currently producing only 2,800 units per day. A cost benefit analysis shows that the cost of producing the small number of units required is about twice the cost of using a system designed to produce 4,000 units per day.

Computer Hardware and Software used to Support Contract Performance. The cost of computer resources used to support the contract could be categorized as a direct cost (specific to the program), or indirect cost (general purpose). Both categories are worth attention. Check both categories for inefficient and uneconomical use. In particular, look for duplications in computer resources, because duplications are commonly found at all types of contractors.

For example: An offeror's Data Automation Department has the capability to perform program planning analysis. Department A uses its own, non-networked personal computers for its program planning analysis. Department B uses computers on a local area network for the same tasks but with software that is not compatible with Department A or the Data Automation Department. This duplication is costly and there are substantial opportunities for cost reduction.

Contractor Management and Operating Systems. Examine the effect of management systems on contract performance and contract cost. In particular, look for inefficient or unnecessary systems. Since business automation has reduced the need for many clerical and mid-level management functions, these functions are good targets for improvement. Look for ways to eliminate nonvalue-added functions and shorten the line of communication and authority.

For example: A contractor is producing a large system to meet unique Government requirements. Effective scheduling of the firm's vast resources is essential to efficient contract performance. Over the past year, the firm has had several lay-offs in key production areas. Later the

employees were recalled and put on substantial overtime to meet production requirements. Experts estimate that an effective scheduling system could have reduced the cost of these operations by 25 percent.

Other Aspects of Contract Performance. Depending on the type of contract effort involved, the specific circumstances of the acquisition, and contractor's particular practices, other aspects of the total environment may deserve attention. While these aspects differ greatly from contract to contract, some of the possible candidates include:

- Business forecasting,
- Staff planing,
- Capital investment planning,
- Test planning, and
- Anything else that has the potential of significantly affecting contract cost.

5.2.2 Performing A Formal Should-Cost Review

Should-Cost Review Concept (FAR 7.105(a)(3)(iii) and 15.407-4). You can use should-cost techniques in any proposal cost analysis. However, for a major program involving large costs, consider using a formal should-cost review. A formal should-cost review is a multifunctional team evaluation of the economy and efficiency of the contractor's existing work force, methods, materials, facilities, operating systems, and management.

There are two types: the program should-cost review and the overhead should-cost review. These analyses may be performed together or independently. The scope of a should-cost review can range from a large-scale review examining the contractor's entire operation (including plant-wide overhead and selected major subcontractors) to a small-scale tailored review examining specific portions of a contractor's operation.

Each should-cost team should be tailored to the required analysis, but it is not uncommon for a should-cost team to include 50 - 60 analysts. Team members typically include representatives from contracting, contract administration, pricing, audit, engineering, and other

technical specialties. Most will be Government personnel, but some may be technical specialists contracted to support the should-cost review.

The decision on conducting a should-cost should be a part of acquisition planning. Before initiating a should-cost review, consider the potential benefits and the cost of the analysis. A large-scale should-cost will be expensive, but savings can be substantial. Management support is vital to an effective should-cost review. The information and findings produced by formal should-cost analyses have historically attracted a great deal of attention and support from upper levels of both contractor and Government management.

Should-Cost Objective (FAR 15.407-4(a)(1)). The should-cost objective is not restricted to optimizing costs on a single contract. The should-cost objective is to promote both **short and long-range improvements in the contractor's economy and efficiency** in order to reduce the cost of performing Government contracts. By providing a rationale for any recommendations and quantifying their impact on cost, the Government will be better able to develop realistic price objectives for use in contract negotiations.

Program Should-Cost Review (FAR 15.407-4(b) and DFARS 215.407-4(b)(2)). A program should-cost review is an evaluation of significant direct cost elements (e.g., material, labor, and associated indirect costs) usually incurred in the production of major systems (e.g., DoD definitive major systems contracts exceeding $100 million). Consider initiating a program should-cost review (particularly in the case of a major system acquisition) in the following circumstances:

- Some initial production has already taken place;
- The contract will be awarded on a sole-source basis;
- There are future year production requirements for substantial quantities of like items;
- The items being acquired have a history of increasing costs;
- The work is sufficiently defined to permit an effective analysis and major changes are unlikely;
- Sufficient time is available to adequately plan and conduct the should-cost review; and

- Personnel with the required skills are available or can be assigned for the duration of the should-cost review.

Program Should-Cost Team Organization (FAR 15.407-4(b)(3)). A program should-cost facilitates a comprehensive review by bringing together an integrated team of experts. The breadth and depth of available experience permits the team to identify and pursue problems in much greater depth than would be possible using a traditional review format.

Select team members after determining which elements of the contractor's operation have the greatest potential for cost savings. Use the experience of on-site Government personnel when appropriate. If the team is large, consider dividing team members into subteams. Each subteam will then be able to concentrate on a specific area of contractor performance, such as:

- Manufacturing;
- Pricing and accounting;
- Management and organization; and
- Subcontract and vendor management.

Program Should-Cost Report (FAR 15.407-4(b)(4)). When you conduct a program should-cost review, you must prepare a should-cost report in accordance with agency procedures. That report should clearly identify any uneconomical or inefficient practices identified during the review.

When the should-cost team is divided into subteams, you might request each subteam to contribute its findings and recommendations. Then you can review subteam findings for consistency and combine them to produce a comprehensive final report.

Normally, you should formally review significant team findings with the contractor before the should-cost report is finalized and distributed. Provide the contractor an overview of major areas of team concern, but do not make specific recommendations on how the contractor should correct identified deficiencies.

Government Action Based on Program Should-Cost Review Results (FAR 15.407-4(b)(4)).

Consider the findings and recommendations contained in the program should-cost report when negotiating the contract price. After completing the negotiation, provide the administrative contracting officer (ACO) a report of any identified uneconomical or inefficient practices, together with a report of correction or disposition agreements reached with the contractor. Then establish a follow-up plan to monitor contractor correction of identified uneconomical or inefficient practices.

Overhead Should-Cost Review (FAR 15.407-4(c)). An overhead should-cost review is an evaluation of contractor indirect costs, such as fringe benefits, shipping and receiving, facilities and equipment, depreciation, plant maintenance and security, taxes, and general and administrative activities. An overhead should-cost review is normally used to support evaluation and negotiation of a forward pricing rate agreement (FPRA) with the contractor.

Consider the following factors whenever you evaluate a contractor site for possible overhead should-cost review:

- Dollar amount of Government business;
- Level of Government participation;
- Level of noncompetitive Government contracts;
- Volume of proposal activity;
- Major system or program;
- Corporate reorganizations, mergers, acquisitions, or takeovers; and
- Other conditions (e.g., changes in accounting systems, management, or business activity).

Also consider any additional criteria established by your agency. For example, in the DoD, the head of the contracting activity may request an overhead should-cost review for any business unit. However, the DoD does not normally consider a contractor business unit for a should-cost review unless it meets all of the following criteria:

- Projected annual sales to the DoD exceed $1 billion;
- Projected DoD business exceeds 30 percent of total business;
- Level of sole-source DoD contracts is high;
- Significant volume of proposal activity is anticipated;
- Production or development of a major weapon system or program is anticipated;

- Contractor cost control/reduction initiatives appear inadequate, and
- No overhead should-cost has been conducted at the business unit in the last three years.

Overhead Should-Cost Team Organization. Like the program should-cost review, the overhead should-cost review requires an integrated team of experts. The breadth and depth of available experience permits the team to identify and pursue problems in much greater depth than would be possible using a traditional review format.

Select team members after determining which elements of the contractor's areas affecting indirect costs have the greatest potential for cost savings. If the team is large, consider dividing team members into subteams. Each subteam will then be able to concentrate on a specific area, such as:

- Sales volume and indirect cost allocation bases;
- Indirect labor cost ; and
- Non-labor indirect cost.

Overhead Should-Cost Report (FAR 15.407-4(c)(3)). If an overhead should-cost review is conducted in conjunction with a program should-cost review, a separate overhead should-cost report is not required. However, the findings and recommendations of the overhead should-cost team, or any separate overhead should-cost review report, must be provided to the ACO responsible for negotiating indirect cost rates.

Government Action Based on Overhead Should-Cost Results (FAR 15.407-4(c)(3)). The ACO should use the results of the should-cost review as the basis for the Government position in negotiating an FPRA with the contractor. In addition, the ACO must establish a follow-up plan to monitor the correction of the contractor's uneconomical or inefficient practices.

5.3 Recognizing Cost Risk

In this section, you will learn to identify the types of risks inherent in an offeror's cost estimate and how these risks affect the offeror's estimate.

5.3.1 Identifying Principal Sources Of Cost Risk

When the offeror considers entering into a contract with the Government, the offeror must consider the risk of the various contract obligations.

The risk to the offeror can be viewed from several perspectives:

- **Investment risk** -- the risk in recovering the money invested by the offeror to perform the job.
- **Economic risk** -- the risk in earning a reasonable profit on the investment, especially when compared to other possible investments.
- **Performance risk** -- the risk in successfully performing the work required by the contract.

You can be assured that, as long as there is a reasonable expectation of success and the profit or other payoff is great enough to warrant taking the risk, there will be contractors available to take on the work. However, if the outcome is too uncertain and the rewards too little for the risk involved, you might NOT find a responsible contractor willing to submit an offer.

Investment Risk. In order to perform on a contract, the offeror may have to plan to make costly investments for such things as facilities, equipment, and materials. The offeror will need a reasonable assurance that these investments will be recouped from contract performance. If the offeror feels that the investments are for facilities, equipment, and materials that can only be used for a specific Government product, then the offeror may conclude that the investment risk is too great. Or, the offeror may choose to avoid such investment risk by proposing a less

efficient use of manual labor, instead of investing in more efficient-and more expensive-facilities and equipment. (One of the reasons frequently given for the high proportion of manual labor in Government contracts, compared tct are well established and the costs can be reasonably estimated. You should not use a fixed-price contract when the methods required to complete the contract are not well established and costs cannot be reasonably estimated. If you do, the uncertainty will likely have one of two results:

  - Competition will decrease, because potential offerors will decline to submit a proposal rather than accept the risk, or
  - Costs will increase, because offerors will "pad" their estimates to cover the uncertainties.

Cost-Reimbursement Contracts. Cost-reimbursement contracts provide for reimbursement of all allowable contract costs whether or not the contractor completes all contract requirements.

- Consider a cost-reimbursement contract when cost risk is high and the contractor cannot estimate cost with reliable accuracy.
  - These conditions commonly exist when the contract requirements are only generally defined and the amount of work needed to complete the contract is uncertain.
  - Cost-reimbursement contracts deal with this uncertainty by only requiring the contractor to deliver its "best effort" to provide the product.
- You should not use a cost-reimbursement contract when contract risk is low, because cost-reimbursement contracts require substantial administration and do not provide the same motivation to control costs that is provided by fixed-price contracts.

Most Frequently Use Contract Types. There are different types of contracts within both the fixed-price and cost-reimbursement categories. Each type deals differently with cost risk. You will want to select the contract type best suited to each requirement.

Consider all available contract types, but the most commonly used are:

- Firm fixed-price (FFP);

- Fixed-price economic price adjustment (FPEPA);
- Fixed-price incentive firm (FPIF);
- Cost-plus-incentive-fee (CPIF);
- Cost-plus-award-fee (CPAF); and
- Cost-plus-fixed-fee (CPFF).

Cost Risk and Contract Type. The following figure uses the stages of a major system acquisition to demonstrate how contract type alternatives typically change as contract requirements become better defined and the amount of work needed to complete the contract more certain.

COST RISK AND CONTRACT TYPE						
Cost Risk	High <==========>Low					
Requirement Definition	Poorly-defined Requirement <==========>Well-defined Requirement					
Production Stages	Concept Studies & Basic Research	Exploratory Development	Text/ Demonstration	Full-scale Development	Full Production	Follow-on Production
Contract Type	Varied types of cost-reimbursement contracts	CPFF	CPIF or FPIF	CPIF, FPIF, or FFP	FFP, FPIF, or FPEPA	FFP, FPIF, or FPEPA

Firm Fixed-Price (FFP) (FAR 16.202). When the contractor is able to accurately estimate the cost of the work called for in the contract and the cost risk to the offeror is therefore very low, use an FFP contract.

An FFP contract places ALL cost risk on the contractor. It requires the Government to pay a specific price when the contract items have been delivered and accepted. Unless there are contract modifications, the price for the original work is NOT adjusted after contract award regardless of the contractor's actual cost experience.

Fixed-Price-Economic Price Adjustment (FPEPA) (FAR 16.203 and DFARS 216.203). When there are volatile economic conditions (e.g., an unstable labor or material market) outside of the contractor's control that could affect contract cost, a FFP contract may not cover the offeror's cost risk sufficiently. In this situation, you should consider a contract that allows for price adjustments due to changes in economic conditions.

FPEPA contracts are designed to cope with economic uncertainties that would threaten long-term, fixed-price arrangements. Economic price adjustment clauses provide for both price increases and decreases to protect the Government and the contractor from the effects of economic changes.

If you use an FFP contract instead of an FPEPA contract, you can expect offeror's to include contingency allowances in their proposals to eliminate or reduce the risk of loss. Including such contingency allowances in contract prices is not a good solution for either the contractor or the Government. The contractor may be hurt if the changes exceed the estimate and the Government may pay unreasonably high prices if the contingency does not materialize.

Fixed-Price Incentive Firm (FPIF) (FAR 16.204 and 16.403-1). In circumstances where contract requirements are largely defined but major performance uncertainty still exists (e.g., the first production run of a completely designed and tested prototype product), there will still be major cost risk but much of that risk can be limited by effective contract performance. Consider using a fixed-price incentive firm (FPIF) contract to give the contractor an incentive to effectively control costs.

The basic structure of the FPIF contract includes the following elements:

- Target cost;
- Target profit;
- Ceiling price; and
- Under-target and over-target sharing formulas.

Costs under target are shared according to the share ratio established in the under-target sharing formula. Costs over target are shared according to the over-target sharing formula until the sum of incurred costs and profit equal the ceiling price -- the point of total assumption (PTA). At the PTA, cost risk responsibility shifts completely to the contractor. Each additional dollar of cost will reduce the contractor's profit or increase the contractor's loss by one dollar.

Cost-Plus-Incentive-Fee (CPIF) (FAR 16.304, 16.405-1, and DFARS 216.405-1). When the contract calls for such risky

ventures as the development and testing of a new system, the offeror's risk may be too high for any fixed-price type contract. However, you may still want to motivate the contractor to control costs. If you can negotiate a target cost and a fee adjustment formula that will motivate the contractor, consider using a CPIF contract.

The basic structure of a CPIF contract includes the following elements:

- Target cost;
- Target fee;
- Maximum fee;
- Minimum fee; and
- Under-target and over-target sharing formulas.

The cost risk on this type of contract is shared by the Government and the contractor according to "sharing formulas" with limits that assure the minimum fee is large enough to motivate effective contract performance but the maximum fee is not unreasonably large for the risk involved. These limits create a range of incentive effectiveness around the target cost.

- If the costs fall within the limits, they are shared by the contractor and the Government using the under-target or over-target sharing formula.
- If the costs go above the upper limit, the Government is responsible for contract costs and the contractor receives the minimum fee identified in the contract.
- If the costs fall below the lower limit, the Government is responsible for contract costs but the contractor's fee is limited to the maximum fee identified in the contract.

Cost-Plus-Award-Fee (CPAF) (FAR 16.305, 16.405-2, and DFARS 216.405-2). When the required contract level of effort is uncertain and it is neither feasible nor effective to devise predetermined incentive targets based on cost, technical, or schedule, consider the use of a CPAF contract if:

- The likelihood of meeting acquisition objectives can be enhanced by a flexible plan that awards fee after an evaluation of both performance and the conditions under which it was achieved; and

- The expected benefits justify the additional cost and effort required to monitor and evaluate performance.

The CPAF contract provides for a fee consisting of two parts:

- Base fee agreed to at the time of contract award; and
- Award fee that the contractor may earn in whole or in part during contract performance based on such criteria as quality, timelines, technical ingenuity, and cost effective management.

CPAF contracts MUST provide for fee evaluations at stated points during contract performance. The points may be at stated intervals (e.g., quarterly) or at stated milestones of contract performance (e.g., completion of a product design test).

The amount of award fee is judgmental determination made by the Government fee determining official (FDO) and is not subject to dispute under the contract Disputes clause. The U.S. Court of Appeals for the Federal Circuit found in 1997 that a Board of Contract Appeals may not reverse an FDO's discretionary decision on fee **unless the discretion employed in making the decision is abused** -- for example if the decision was arbitrary and capricious (US-CT-APP-FC, 41 CCF ¶ 77,043).

Cost-Plus-Fixed-Fee (CPFF) (FAR 16.306). When the work required to complete a contract is so uncertain (e.g., a development or maintenance contract) that establishment of predetermined targets and incentive sharing arrangements could result in a final fee out of line with the actual work performed, you should consider a cost-plus-fixed-fee contract.

This type of contract is designed chiefly for use in research or exploratory development or operation and maintenance types of contracts where the level of contractor effort CANNOT be accurately estimated. The Government agrees to reimburse the contractor for all allowable costs incurred during the performance of the contract up to the contract cost or funding limits. Moreover, the Government agrees to pay the contractor a fixed number of dollars above the cost as a fee for doing the work. Fee dollars are fixed at time of contract award and change only if the scope of work changes.

Contract Type Selection. The following table describes five acquisition situations and the appropriate contract type for each situation.

When ...	**Select a ...**
The offeror can accurately estimate cost.	Firm Fixed-Price Contract
Economic conditions that will likely affect cost significantly are outside of the offeror's control, but otherwise the offeror can accurately estimate cost.	Fixed-Price Economic Price Adjustment Contract
There are substantial cost uncertainties, but it should be possible to reasonably estimate maximum cost and effective contractor management should be able to assure that final costs will not exceed the estimated maximum cost.	Fixed-Price Incentive Firm Contract
The cost uncertainties are so great that any fixed-price contract would force the contractor to accept an unreasonable risk, but you can negotiate reasonable targets and formulas for sharing costs.	Cost-Plus-Incentive-Fee Contract
The contract level of effort is uncertain and it is NOT feasible or effective to negotiate an adjustment formula but the likelihood of meeting objectives can be enhanced by a clear subjective fee plan.	Cost-Plus-Award-Fee Contract
Cost uncertainty is so great that establishment of predetermined targets and incentive sharing arrangements could result in a final fee out of line with the actual work	Cost-Plus-Fixed-Fee Contract

Cost-Plus-Percentage-Cost (CPPC).

BEWARE! The CPPC contract is illegal in Government contracting. A CPPC contract can occur in any situation where the contractor is allowed to increase fee by increasing cost, thereby creating a negative cost control incentive. If the answers to the following four questions are yes, you have a CPPC contract.

- Will fee be paid based on a predetermined percentage fee rate instead of an identified dollar value?
- Will the predetermined percentage fee rate be applied to actual future performance costs?
- Is the contractor's fee entitlement uncertain at the time of contract pricing?
- Will the contractor's fee entitlement increase as performance costs increase?

5.3.4 Using Clear Technical Requirements To Mitigate Risk

Requirements and Risk. You can influence the inherent risk of a project by using clear contract technical requirements. If the requirements are actually impossible to perform, conflict, or are open to interpretation, the Government and the contractor are at risk of unacceptable or substandard contract performance.

Government and contractor technical personnel must understand, however, that if any technical problems are identified, they MUST be brought to the attention of the contracting officer **immediately**. The longer the problems exist without resolution, the greater the risk to both the Government and the contractor. Costly legal actions can result from defective technical requirements.

Impossible Requirements. The writer of the contract requirements is responsible for their accuracy. If technical requirements are impossible to meet (e.g., a set of drawings has mistakes that make the product impossible to build), the writer of the requirements is the responsible party and liable for any related additional costs. Since the Government writes contract requirements, the Government is liable for reasonable additional costs related to those requirements.

Conflicting Areas Within Requirements. Contract technical requirements do NOT have to be written so poorly that they are impossible to perform for them to have a detrimental effect on contract performance. If requirements conflict with each other, changes and rework can cause costly delays. Again, the Government, as writer of the contract requirements, is responsible and liable for reasonable additional costs.

Requirement Ambiguity. Make sure the contract requirements are written as clearly as possible. Ambiguities can lead to misinterpretation. The Government will be held liable, as writer of the contract, for any ambiguity resulting in additional costs.

5.3.5 Using Government Furnished Property To Mitigate Risk

Government Furnished Property and Risk. Government furnished property (GFP) is one way you can reduce the risk to the contractor and thus make a contract more attractive. GFP, including Government-owned equipment, facilities, and materials, provided to the contractor can lower contract costs by shifting investment risk from the contractor to the Government.

Risks Assumed with GFP. By providing GFP to the contractor, the Government accepts risk in one of several ways:

- **Investment Risk.** GFP will shift the risk of NOT recouping the initial capital expense for the property to the Government.
- **Property Loss Risk:** If the property might be destroyed or be a hazard during or after contract performance (e.g. high explosives or rocket fuel production), the Government assumes the risk of property loss.
- **Market Risk.** The Government may reduce the risk to the contractor on production materials by providing them as GFP. Using its buying power, the Government may be able to purchase materials at lower prices than are available to the individual contractor and less risk of changes in market prices (e.g., special purpose fuels that are often supplied to contractors).

Positive Effects of GFP. GFP has positive effects for the contractor and for the Government:

- The **contractor** avoids risky investment, high liability costs, and the need to include contingencies in its proposal.
- The **Government** has lower cost on the current contract and reduced risk on future contracts, because the Government has the option of moving the GFP from one contractor to another, thus avoiding a high-cost, sole-source situation.

Negative Effects. The largest negative effect of using GFP is the large amount of administrative effort required on the part of both the Government and the contractor to track, maintain, and dispose of GFP. Large companies have entire departments dedicated to property administration. Smaller firms can easily be overwhelmed by the administrative burden.

If GFP is not properly administered, it could be lost or used inappropriately on non-Government work allowing a contractor a competitive advantage over other competitors at Government expense.\

5.3.6 Using Contract Terms and Conditions To Mitigate Risk

Contract Terms and Conditions and Risk. Contract terms and conditions can provide an avenue for tailoring requirements to specific contract cost risk concerns. Consider the needs of the Government, commercial practice, the capabilities of the offerors, and elements of risk identified in the offeror(s) proposal. It may be possible to reduce contractor risk and contract cost while still meeting the needs of the Government. The following are examples of how contract terms may be used to reduce cost risk:

Example 1: When a contract specifically requires the contractor to obtain a portion of contract performance from firms in other nations, accepting defined risks associated with that requirement can substantially reduce contractor cost risk (e.g., currency fluctuation risk or performance risk associated with international production).

Example 2: Allowing variations in delivery schedules can reduce contract cost risk by allowing for optimal production and shipping schedules.

Example 3: Obligating the Government to provide existing Government data can eliminate the cost and risk associated with the contractor obtaining the data from other sources.

Example 4: Permitting variations in delivery quantities can reduce risk by allowing for standard lot shipments and the elimination of excessive administrative work related to insignificant shipment shortages or overages.

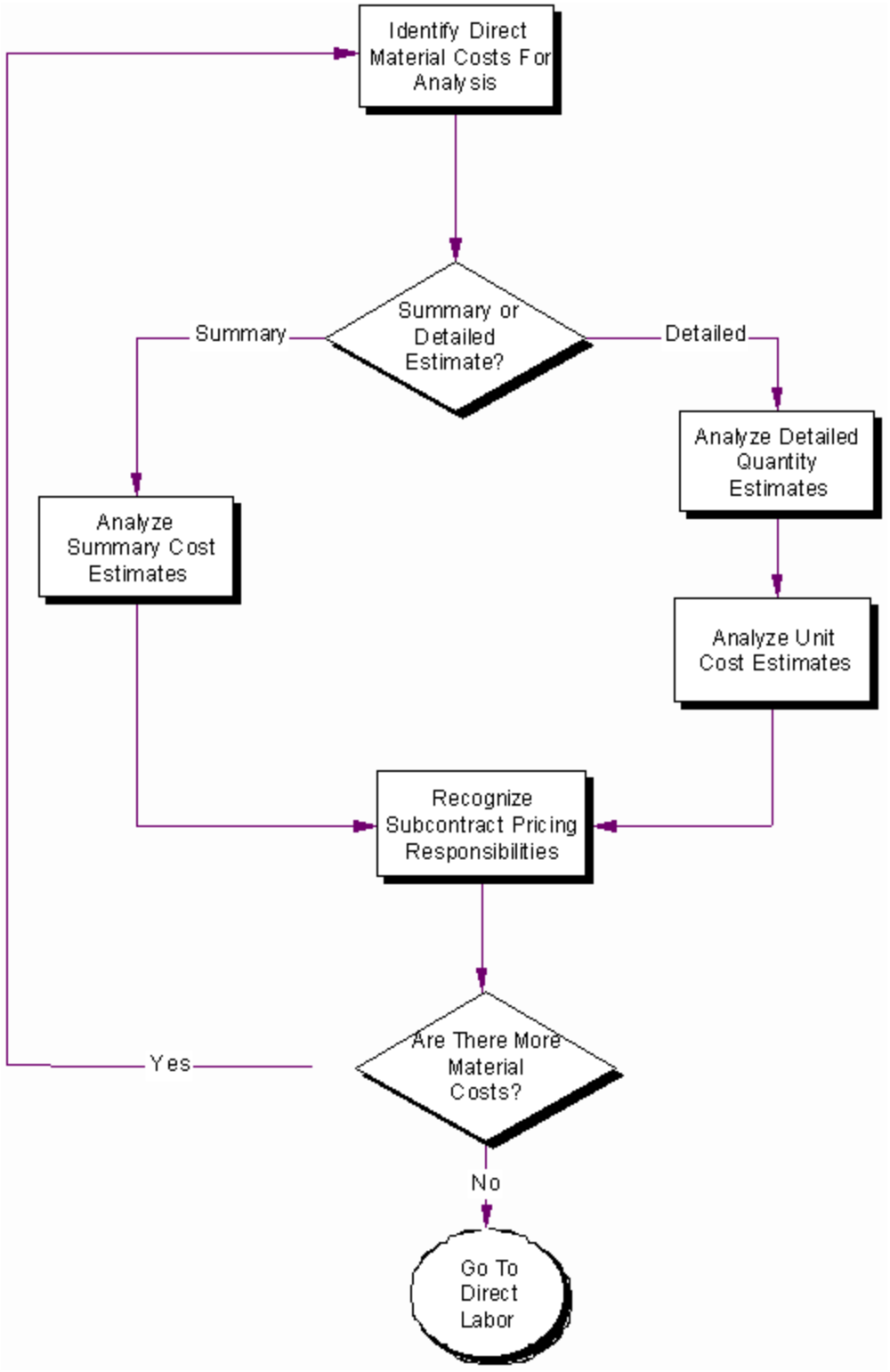
Example 5: Unusual contract financing in lieu of customary contract financing can reduce contractor cost risk on a long-term contract requiring significant capital investment.

Ch 6 - Analyzing Direct Material Costs

6.0 Chapter Introduction

Direct material costs often account for more than half of total contract cost. This chapter will present points to consider when you develop a prenegotiation position on direct material costs.

Flowchart of Direct Material Costs Analysis:



6.1 Identifying Direct Material Costs For Analysis

This section will identify the types of cost that may be classified as direct material costs and points to consider in planning for further analysis.

6.1.1 Identifying Material Cost Elements

Material Cost (FAR 31.205-26). The cost of materials used to complete a contract normally includes more than just the cost of the materials that actually become part of the product. Costs typically include:

- Raw materials, parts, subassemblies, components, and manufacturing supplies that actually become part of the product;
- Collateral costs, such as freight and insurance; and
- Material that cannot be used for its intended purpose (e.g., overruns, spoilage, and defective parts).

Direct vs. Indirect Material Cost (FAR 31.202 and 31.203). Each firm is responsible for determining whether a specific cost will be charged as a direct cost or an indirect cost, and you will find that accounting and estimating treatment will vary from firm to firm. This section describes the general practices that you can use to identify direct material costs for analysis.

- **Direct Material Cost.** A direct material cost is any material cost that can be identified specifically with a final cost objective (e.g., a particular contract).
  - Material costs identified specifically with a particular contract are direct costs of the contract and must be charged to that contract.
  - Material costs must not be charged to a contract as a direct cost if other material costs incurred for the same purpose in like circumstances have been charged as an indirect cost to that contract or any other contract.
  - All material costs specifically identified with other contracts are direct costs for those

contracts and must not be charged to another contract directly or indirectly.

- **Indirect Material Cost.** An indirect material cost is any material cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or an intermediate cost objective. For reasons of practicality, any **direct material cost of minor dollar amount** may be treated as an indirect cost if the accounting treatment:
  - Is consistently applied to all final objectives, and
  - Produces substantially the same results as treating the cost as a direct cost.

Accounting for Materials. The following table matches material types with their most common accounting treatment. This table is only a general guide. Proper accounting treatment will vary with different acquisition environments and the specific accounting guidance adopted by the firm.

Material Type*	Description	Accounting Treatment
Raw Materials	Materials that require further processing	Normally a direct cost
Parts	Items which, when joined together with another item, are not normally subject to disassembly without destruction or impairment of use	Normally a direct cost but possibly an indirect cost if price is very small
Subassemblies	Self-contained units of an assembly that can be removed, replaced, and repaired separately	Normally a direct cost
Components	Items which generally have the physical characteristics of relatively simple hardware items and which are listed in the specifications for an assembly, subassembly, or end item	Normally a direct cost
Manufacturing Supplies	Items of supply that are required by a manufacturing process or in support of manufacturing activities	Normally an indirect cost

* The material types in this table are drawn from FAR 31.205-26(a), Material Costs. The terms reflect a manufacturing orientation. When analyzing material costs proposed for services or construction, compare the proposed use of the materials with the definitions in this table for the most appropriate accounting treatment. Also, consider the general guidance offered on the previous page.

6.1.2 Identifying Collateral Costs

Collateral Cost Accounting Treatment (FAR 31.205-26(a)). Collateral costs are expenses associated with getting materials into the offeror's plant. Inbound transportation and intransit insurance are two common examples. These costs may either be treated as direct costs or indirect costs depending on the guidelines established by the firm. If they are treated as direct costs, they are normally tracked with the cost of the associated material item.

As you perform your cost analysis, make sure that the proposed treatment is consistent with the firm's treatment of similar costs under similar circumstances. Also make sure that the offeror is not charging twice for the same transportation and insurance cost. The cognizant Government auditor will be able to assist you in determining whether the proposal correctly recognizes transportation costs consistent with the offeror's prescribed accounting practices.

For example: When an item is bought f.o.b. destination the price normally includes delivery to a point designated by the buyer. Unless some type of special handling is required, the buyer should not have any additional transportation or in-transit insurance costs.

Inbound Transportation (FAR 31.205-26(a) and 31.205-45). Inbound transportation cost, also known as freight-in expense, is the cost of transporting material to the place of contract performance. It may be the cost of transportation from the supplier's plant or some intermediate shipping point. This cost is allowable as long as it is reasonable, but remember that this cost should be included in any price quoted f.o.b. destination.

Intransit Insurance (FAR 31.205-19, 31.205-26(a), and 31.205-45). The intransit insurance expense related to material is the cost of insurance for inbound material. Any costs of insurance required or approved by the Government and maintained by the contractor under a Government contract are allowable. The cost of intransit insurance not specifically required or approved under a Government contract must meet appropriate FAR and CAS requirements. The most basic requirements are that the types and extent of insurance must follow sound business practice, and the rates and premiums must be reasonable.

6.1.3 Identifying Related Costs

Accounting for Related Materials (FAR 31.205-26(b)). Identify estimates of excess materials that the offeror proposes to purchase to assure that sufficient material is available for production of the item. Estimates may include costs related to material overruns, scrap, spoilage, or defective parts.

- Some offerors will develop a single estimate which encompasses all of these costs. When a single estimate is used, it is usually referred to as scrap.
- Other offerors will develop separate estimates for several of the different types of excess material cost. When a firm develops separate estimates, make sure that each type of excess material cost is clearly defined and that the same costs do not appear in different estimates.

Estimates of these costs are usually developed using a cost estimating relationship (CER) -- a relationship between the cost and some independent variable related to a parameter of the item or service being acquired or a related contract cost. The proposal and related documentation must provide adequate analysis and statistical data to identify and support any CER used in estimating direct material cost.

Remember that material overruns, scrap, spoilage, or defective parts not used on the proposed contract will still have residual value. The offeror might use this material in producing other products, or sell it for reclamation or reprocessing. As a result, the estimated

contract cost must be adjusted to consider that residual value. The offeror might adjust the proposal by subtracting the estimated residual value from the estimated direct material cost. More commonly, offerors will estimate the residual value of such material for all contracts for the year and then subtract that estimated amount from an appropriate overhead account. Each contract proposal estimate is then reduced by use of the lower overhead rate.

Overruns. Simply stated, overruns are the purchase or production of more units than are required by the job.

For example: A minimum order quantity requirement is a common example. An assembly requires 25 units of a special fastener that can only be bought in quantities of 100. If the fastener can only be used on the one contract, you should expect to pay for all 100 units. On the other hand, if the fastener has general application to other items produced by the firm, you should expect to only pay only for the units used on your contract.

Scrap. Scrap is material that is no longer usable for the purpose for which it was originally purchased.

For example: A casting may require machining prior to its use as part of a larger assembly. The material removed during the machining process is scrap. A sheet of metal may have a variety of shapes cut from it. The leftover pieces that are too small to cut into the required shapes are scrap.

Spoilage. There are many kinds of spoilage. Some of the more common types of spoilage are:

- **Shelf-life.** Shelf-life is the length of time some materials retain their usable properties while waiting to be used, after that time they must be discarded.

For example: Industrial silicon rubber compounds are used as coatings or adhesives in many manufacturing processes. If these compounds are not used within a certain time period (their shelf-life), they lose their usable properties and have to be discarded.

- **Losses.** Material losses are discrepancies between inventory records and physical inventory. Normally, these discrepancies are discovered during physical

inventories. The inventory records indicate that the material is there, but an actual count finds that the material is no longer available. When inventory records indicate that the inventory includes more material than the physical count, the excess material must be removed from the inventory records or "written off."

For example: Lost materials may have been stolen, inadvertently discarded, or misplaced.

- **Obsolescence.** This can occur anytime there is a large inventory that will meet needs for a long period. Materials may become obsolete due to design changes that require new parts or materials, thus rendering the old inventory useless.

For example: Item specifications are changed. A production part is now obsolete because it is no longer needed for production.

Defective Parts. Defective parts are items that fail to meet required specifications. Depending on the severity of the defect, such parts can be scrapped, reworked, or "used as is." Defective parts are also known as "yield." Whether a defective part is usable as is, reworkable, or just scrap, there are costs associated with the action that must be considered in a cost estimating and analysis.

- **Scrap.** If the defective part cannot be used for its intended purpose or made usable, it will usually be charged as scrap.

- **Rework.** This is the process of taking the defective part and working on it again to correct the identified defects. If, after rework, the item meets specifications, it can be accepted. If the reworked item fails inspection again, it may be either reworked again or scrapped.

Rework cost is normally seen in labor expense. However, rework does help reduce scrap costs. Depending on the offeror's accounting system, the material used during rework may be accounted for separate from normal scrap.

- **Use as is.** This means that, while the part does not meet all contract requirements, the defect does not

affect the part's ability to perform its intended function.

After a part has been properly examined and approved for use by the offeror's quality system, a "use as is" part, it can be incorporated into the end product. The costs associated with making the "use as is" decision are normally quality assurance labor and overhead. The value of the part is not affected unless a specific cost reduction is negotiated by the contractor and the Government.

6.1.4 Planning For Further Analysis

Points to Consider. As you prepare your plan for direct material cost analysis, look for indicators of uneconomical or inefficient practices. Material items with a large dollar value or unusual requirements normally rate in-depth analysis. If an element of proposed material cost appears suspicious, concentrate more analysis effort on that element than on a less suspicious cost element of similar dollar value. As you plan:

- Identify and evaluate the methodology used by the offeror to estimate direct material cost
- Identify any proposed direct material that does not appear necessary to the contract effort
- Identify any proposed direct material that should be classified as an indirect cost
- Identify any proposed direct material costs that merit special attention because of high-value or other reasons
- Assure that preliminary concerns about material cost estimates are well documented

Identify and Evaluate Estimating Methodology. To identify and evaluate the methodology used by the offeror to estimate direct material cost, ask questions such as the following:

- ***Is the estimate a summary-level or a detailed estimate?***

In a summary estimate, material cost is estimated on a total-cost basis without the benefit of a detailed cost breakdown of material units and cost per unit. In a

detailed-level estimate, material cost is estimated based on estimates of the number of material units required and the cost per unit.

- ***Does the methodology appear appropriate for the current estimating situation?***

The method selected should use the information available to produce reasonable and equitable results. If the methodology used by the offeror does not appear appropriate, consider using a different methodology to develop your pricing position.

- ***Is the estimating methodology consistent with estimating assumptions?***

If any part of the estimate is not consistent with stated estimating assumptions, question the costs involved.

Identify Apparently Unnecessary Material Cost. To identify any proposed direct material that does not appear necessary to the contract effort, ask questions such as the following:

- ***Is the material necessary?***

The reasons for any direct material not obviously required for contract performance should be clearly described in the proposal.

- ***Should the item be purchased, not made (or vice versa)?***

Mark any item where the make-or-buy decision does not appear to result in the best value to the Government. There may be good reasons why such a decision will produce the best value to the Government, but the decision may also represent an attempt by the offeror to gain advantage at Government expense (e.g., gain capability in new technology currently available from potential subcontractors at a lower total contract cost).

- ***Can less expensive material be substituted, in whole or in part?***

Sometimes, proposed material may be over specified (i.e. excessively tight tolerances). Consider using value

engineering techniques to identify less expensive parts (e.g., a commercial part might be available to replace a part made to unique Government requirements).

- ***Is the material acceptable under terms of the contract?***

If the contract requires new materials, or material certifications in accordance with specifications or standards, then the proposed materials must meet those requirements.

Identify Any Material That Should be Indirect. To identify any proposed direct material that should be classified as an indirect cost, ask questions such as the following:

- ***Has the offeror consistently treated material similar to the proposed material as direct material?***

If similar material has been treated as an indirect cost under similar circumstances, proposed material should likely also be an indirect cost. If the offeror classifies similar material as a direct cost in one situation and as an indirect cost in a similar situation, there is a good chance that you are being double charged -- once as a direct cost and a second time as an indirect cost! If in doubt, contact the cognizant Government auditor for assistance.

- ***Is the material cost proposed and accounted for in a manner consistent with the contractor's disclosure statement and documented accounting practices?***

Question any apparent inconsistencies. If you have any questions, check with the cognizant Government auditor.

Identify Material Costs Which Merit Special Attention. To identify any proposed direct material costs that merit special attention because of high-value or other reasons, ask questions such as the following:

- ***Is any material estimate a large portion of the entire material cost estimate?***

Many times a single estimate will be a large part of the entire estimate. That estimate will normally merit special attention because of the dollars involved.

- ***Is any material uniquely critical to contract performance?***

Many times a specific material item is essential for contract performance. Related estimates may merit special attention, because the offeror may be willing to pay "any price" for the material.

Document Material Cost Concerns. To assure that preliminary concerns about material cost estimates are well documented, ask questions such as the following:

- ***Have you identified material estimates that merit special attention?***

If the answer is "yes" document the areas of concern for reference as you perform more in-depth analysis.

- ***Has the offeror had an opportunity to answer your concerns?***

Consider raising these concerns in fact-finding conversations with the offeror. If the problem is an error in the proposal, bring the error to the offeror's attention so that it can be corrected prior to formal negotiations.

6.2 Analyzing Summary Cost Estimates

Steps for Summary Estimate Analysis. In a summary material cost estimate, material cost is estimated on a total cost basis without the benefit of a detailed cost breakdown of units and cost per unit. Summary estimates may be round-table or comparison estimates. Round-table estimates commonly use words such as "engineering estimate" or "professional judgment." Comparison estimates involve the use of some form of comparison based on data from efforts completed or in progress.

As you conduct your analysis of summary direct material cost estimates:

- Give special attention to any direct material concerns identified during your preliminary review of the material mix.

- Determine whether use of summary cost estimates is appropriate for the estimating situation.
- Determine which summary estimating technique(s) was used in proposal development.
- Determine if cost estimating relationships (CERs) used in the proposal were properly developed and applied.
- Determine if direct comparisons used in the proposal have been properly developed and applied.
- Develop and document your prenegotiation position on direct material cost.

Determine If Summary Estimates Are Appropriate. To determine whether the use of a summary cost estimate is appropriate for the estimating situation, ask questions such as the following:

- ***Does the item cost warrant the expense of a detailed estimate?***

The time and effort put into an analysis needs to be commensurate with the cost of the material involved. As the dollars and percentage of total cost increase, emphasis on obtaining a detailed estimate should also increase.

- ***Do the cost accounting data provide a clear history?***

If detailed cost data do not provide a clear material cost history, then summary estimating techniques may be the most viable alternative.

- ***Would the summary-level analysis be as accurate as a detailed analysis?***

If the summary-level estimate is as good as a detailed analysis, then it is more cost effective to use the less costly summary analysis.

Determine Which Summary Estimating Technique Was Used. To determine which summary estimating techniques were used in proposal development, ask questions such as the following:

- ***Has the offeror estimated direct material cost using a cost estimating relationship (CER)?***

Estimators can use a CER to estimate costs based on an established relationship between the cost and some independent variable. The independent variable may be a

parameter of the item or service being acquired (e.g., item size or speed), or another contract cost (e.g., direct labor cost).

For example: An offeror might use a CER to estimate material cost for a research and development (R&D) contract. Since the purpose of an R&D contract is to learn about the unknown, there is likely no firm list of material requirements to use as a basis for estimate development. However, it may be possible to develop a CER based on the relationship between material cost and a related independent variable (e.g., material cost per direct labor dollar or material cost per direct labor hour). Of course the offeror should clearly document development and use of the CER.

- ***Has the offeror estimated direct material cost using a direct comparison with the cost of a similar contract effort?***

A direct comparison is just that, a comparison with the cost of a similar contract effort. The similar effort could be a contract or contracts for the same product or a similar product. The assumption is that contracts with similar material requirements will have similar material costs. If this assumption is valid, the estimator can use the historical cost to estimate the cost of the new contract. When preparing the estimate, the estimator should consider the need to adjust historical costs for differences in the acquisition situation (e.g., changing value of the dollar, labor improvement, and differences in work complexity). The proposal should clearly document the similarity in material requirements and the rationale for any adjustments required to compensate for differences in the acquisition situation.

Determine If CERs Were Properly Developed and Applied. To determine if cost estimating relationships (CERs) used in the proposal were properly developed and applied, ask questions related to the issues and concerns associated with CER development.

- ***Does the available information verify the existence and accuracy of the proposed relationship?***
- ***Is there any trend in the relationship?***
- ***Is the CER used consistently?***
- ***Has the CER been consistently accurate in the past?***

- ***How current is the CER?***
- ***Would another independent variable be better for developing and applying a CER?***
- ***Is the CER a self-fulfilling prophecy?***
- ***Would use of a detailed estimate or direct cost comparison with actuals from a prior effort produce more accurate results?***
- ***Does the CER estimate consider the changing value of the dollar?***

Determine If Direct Comparisons Were Properly Developed and Applied. To determine if direct comparisons used in the proposal have been properly developed and applied, ask the following questions:

- ***Is the basic nature of the new contract effort similar enough to the historical effort to make a valid comparison?***
- ***Does data analysis consider the changing value of the dollar?***
- ***Were there significant cost problems or inefficiencies in the historical effort that would distort the estimate on the new effort?***
- ***Have there been significant changes in technology or methods that would distort the estimate on the new effort?***
- ***If the historical costs have been adjusted in any way, are the adjustments reasonable?***
- ***Are there any significant differences in the material mix between the two efforts?***
- ***Did the offeror assume any improvement from historical effort to the current effort? If not, why not? If so, does the estimate properly consider improvement curve theory?***

Develop and Document Your Prenegotiation Position. As you develop and document your prenegotiation position on direct material cost:

- If you accept the offeror's summary estimate, document that acceptance.
- If you do not accept the summary estimate, document your concerns with the estimate and develop your own prenegotiation position for costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate analysis of material costs,

use the available information. Your analysis is not bound by the estimating methods used by the offeror.

6.3 Analyzing Detailed Quantity Estimates

Detailed Direct Material Cost Estimates. A detailed cost estimate is more costly to develop and analyze than a summary estimate. However, when properly completed, the accuracy of a detailed estimate should compensate for the additional cost.

To prepare a detailed direct material cost estimate the estimator must first prepare an estimate of the material quantities required to complete the contract and then estimate the unit price for that material. Estimated material quantities will include the material that will become part of the product and any additional material required to compensate for material overruns, scrap, spoilage, and defective parts. Estimated prices must consider the total quantities required.

Bill of Materials (FAR Table 15-2). A bill of materials is a listing of all the materials, including the part numbers and quantities of all the parts required to complete the contract. When the contract is complex, there may be individual bills of material for different contract tasks or line items. If the estimate includes more than one task or item bill of materials, the offeror must submit a consolidated bill of materials for all items, with a breakdown suitable for analysis. The estimate must identify the item, the source, the quantity, and the price.

For supply and construction contracts, the estimator should estimate base material requirements for the bill of materials using contract drawings and specifications. Estimates of additional material requirements to compensate for material overruns, scrap, spoilage, and defective parts should be based on offeror experience and contract requirements.

Service contracts may not include drawings and specifications, but direct material quantity estimates will still be based on an analysis of contract requirements and offeror experience. These quantity estimates may be based on a detailed analysis of contract requirements or on

comparisons with the material quantities actually required to complete similar contracts.

The table below presents an example of a priced consolidated bill of materials to produce 500 units of a product.

Part Number	Item and Source Information	Quantity per Assembly	Scrap Factor	Total Quantity	Unit Price	Total Price
9876543	Housing casting. (Vendor: PIC Corp. PO 351522, issued 12/20, competitive)	1	4%	520 ea.	$84.72	$44,054.40
9876542	Bearing. (Vendor: Sun Co. PO 351480, issued 12/5, noncompetitive).	2	12%	1120 ea.	$14.87	$16,654.40
9876541	Gear, 14 tooth. (Vendor: AUTOCO, competitive)	4	8%	2160 ea.	$4.18	$9,028.80
9876540	Cable Assembly (Vendor: Rockway Corp., noncompetitive)	1	4%	520 ea.	$328.00	$170,560.00
9876539	Bracket, main. (Vendor: Cee Cee Corp., prior price was $22.19 ea. (PO 341110) 8% added in making estimate, two years since last buy)	3	1%	1515 ea.	$23.97	$36,314.55
9876538	Race assembly. (Similar item bought 5/25 from HUP, Inc. for $150 ea. Engineering estimates that new item will cost 1/3 more)	1	2%	510 ea.	$200.00	$102,000.00
9876537	Solenoid. (Engineering estimate)	1	3%	515 ea.	$90.00	$46,350.00
9876536	Gear, drive. (Engineering estimate)	1	3%	515 ea.	$24.00	$12,360.00
Total Material						$437,322.15

Points to Consider When Analyzing Detailed Quantity Estimates. As you conduct your analysis of detailed direct material quantity estimates:

- Give special attention to any direct material quantity concerns identified during your preliminary review of the material mix.
- Select a sampling strategy for analysis.
- Determine the reasonableness of the base estimate of direct material quantities required to complete the contract.
- Determine the reasonableness of any adjustments to the base estimate of direct material quantities required to complete the contract.
- Develop and document your prenegotiation position on direct material quantities required to complete the contract.

Sampling Strategy for Analysis. If the proposal includes only a few material items, you may have time to review all bill of materials items. For larger proposals with more items, you will probably need to limit your review to an item sample.

Consider using stratified sampling procedures that permit you to give more attention to high-value items, but still consider all bill of materials items. You can then adjust item estimates based on analysis results. A reduction to proposed costs is commonly called a **decrement,** and the percentage adjustment a **decrement factor**.

For example: You draw a sample from all material items with an extended cost of $1,000 or less. In analyzing that sample, you find that the sampled items are overpriced by five percent. The proposed cost of all items in the sampled stratum ($1,000 or less) should be reduced by five percent. The reduction is referred to as a decrement and the five percent is a decrement factor.

Determine the Reasonableness of the Base Estimate. The base quantity estimate is the quantity of material that will actually be used in the final product. Technical personnel should be able to verify this quantity by comparison with drawings and other relevant contract requirements.

Determine the Reasonableness of Any Adjustments. The actual direct material required to produce a product will likely exceed the material that will be included in the product. The reasons for this difference typically include material overruns, scrap, spoilage, and defective parts. All these costs are normally estimated using cost estimating relationships (CERs) based on the base estimates of direct material required to produce the product. Your analysis should center on assuring that the estimate is reasonable.

In the bill of materials example above, examine the estimate for Part Number 9876543. A total of 520 parts must be purchased to complete assemblies requiring 500 parts. The additional 20 parts are estimated to be scrap.

Adjustment factors are normally based on accounting data and statistical analysis or other relevant experience. The most common method of calculation is a moving average, incorporating 6 to 12 months of data.

For example: CERs used to estimate the cost of scrap may be calculated using either dollars or units of material and are commonly calculated in one of the following ways:

$$\frac{\text{Scrap Dollars}}{\text{Total Assembly Material Dollars}} \quad \text{or} \quad \frac{\text{Scrap Units}}{\text{Total Assembly Material Units}}$$

$$\frac{\text{Scrap Dollars}}{\text{Material Dollars Purchased}} \quad \text{or} \quad \frac{\text{Scrap Units}}{\text{Material Units Purchased}}$$

As you analyze any adjustments to the base bill of materials quantities, consider the answers to the following questions:

- ***If a CER (e.g., a scrap factor) is used to estimate adjustments, did the offeror consider the issues and concerns associated with CER development?***

Quantitative Techniques for Contract Pricing (Volume II) identifies a series of questions related to issues and concerns that you should consider when evaluating any CER.

- ***Do you know what types of material costs are covered by the CER?***

Material costs estimated using a CER must not duplicate material costs estimated using some other method. A CER developed to estimate the cost of scrap for electronic components should normally not be used to estimate the cost of scrap for metal components.

- ***Is the method used to apply the CER in the estimate consistent with the method used in rate calculation?***

The independent variable used as a base for applying the CER (e.g., total assembly material dollars) must be the same as the base used to calculate the CER and the value of the independent variable must be calculated using the same procedures used in CER development.

- ***Does related estimate information indicate that the additional material amounts are consistent with past experience?***

A CER or another method of adjustment may produce results that do not appear reasonable based on past experience. In such situations, consider the need for further analysis.

- ***Are the materials, tolerances, and processes similar to those used to calculate the CER?***

Note that different items in the consolidated bill of materials example above have different scrap rates. Some materials tend to produce more scrap than others in similar processes. Tighter tolerances tend to produce more scrap. Different processes produce different rates of scrap.

- ***Are the data used to calculate the CER changing over time?***

Experience with the same material and processes should reduce scrap rates. Many CERs that are used to estimate additional material requirements are developed using moving averages to smooth variations in the data. A longer moving average (e.g., 12 months) may mask improvement. A shorter

(e.g., 6 months) moving average will react faster to improvement, but may overreact to a random change in the data.

- ***Is the amount of the adjustment for material overruns, scrap, spoilage, and defective parts reasonable from a should-cost viewpoint?***

The CER may be based on history, but does that history represent efficient and effective operations. Consider these related questions:

  - Are potential process improvements that would reduce material cost considered by this adjustment?
  - Would a different type, size, or shape of material reduce the need for this adjustment?
  - What is the offeror doing to reduce the need for this adjustment?

- ***Does the proposal consider the residual value of the material overruns, scrap, spoilage, and defective parts?***

Material that cannot be used for its intended purpose is probably not worthless, and the offeror must consider that residual value in the proposal. Depending on the offeror's accounting methods, this residual value may be credited directly to the contract or credited through an appropriate overhead rate reduction.

Develop and Document Your Prenegotiation Position. As you develop and document your prenegotiation position on direct material quantities, consider the following:

- If you accept the offeror's quantity estimate, document that acceptance.
- If you do not accept the quantity estimate, document your concerns with the estimate and develop your own prenegotiation position for direct material costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate analysis of material costs, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

6.4 Analyzing Unit Cost Estimates

Points to Consider When Analyzing Unit Cost Estimates. After you have established the quantity of material required to complete the contract, you must analyze the proposed unit costs. As you conduct your analysis:

- Give special attention to any direct material unit cost concerns identified during your preliminary review of the material mix.
- Determine if the offeror used an appropriate base for estimating unit material costs.
- Determine the reasonableness of material unit cost estimates based on current quotes.
- Determine the reasonableness of material unit cost estimates based on historical quotes or purchase prices.
- Determine the reasonableness of material unit cost estimates based on inventory pricing.
- Determine the reasonableness of interorganizational transfers.
- Develop and document your prenegotiation position on unit costs for direct materials.

Determine Appropriateness of Estimating Bases. There are three general bases commonly used for estimating direct material unit prices for future contract performance. Use the following table as you determine whether the base used by the offeror is appropriate under the circumstances.

Use estimates based on:	**When the following conditions exist:**
Current Quotes	Work will be performed using materials not currently in inventory; Material prices may vary significantly from current inventory values; There is sufficient lead time to acquire materials being estimated; and There is sufficient proposal preparation time for the offeror to solicit and receive vendor quotes.
Historical	Work will be performed using materials not

Quotes or Purchase Prices	currently in inventory; Price changes (or lack of changes) between price history and contract performance are relatively or predictable; and There is sufficient lead time to acquire materials being estimated. (Note: This method is particularly appropriate when there is insufficient proposal preparation time for the offeror to solicit and receive vendor quotes.)
Inventory Pricing	Work will be performed by using materials in the existing inventory.

Analyzing Current Quotes. As you evaluate the reasonableness of material unit cost estimates based on current quotes, consider the answers to the following questions:

- ***Are the quotes for quantities required to complete the contract?***

Make sure the vendor quotations match the quantities necessary for the proposed work. For example, if 1,000 units of a part are needed, the quote should be based on 1,000 units. If the offeror is proposing to make five purchases of 200 units, the units are likely to be overpriced, because larger quantity purchases usually mean lower unit prices.

Exceptions. There are two general exceptions to this rule.

- If the items being estimated are used on more than one contract, quantities for all parts required during the time period should be combined in order to obtain the best possible prices through quantity purchasing.
- If the increased cost of holding the product exceeds the potential savings from quantity procurement. Then the contractor may be able to justify buying the product in smaller lots at different times in the production process.

- ***Did the proposal consider probable negotiated price reductions?***

If the offeror has a history of negotiating reductions from subcontract price quotes, the proposed material price should reflect the historical proposal reduction (decrement). Even when multiple prospective subcontractors have submitted "competitive quotes," be on the lookout for purchase orders placed at prices less than the quote.

Most contractors will try to negotiate reductions even with competitive quotes. Techniques the offeror may employ to reduce quoted prices include: asking vendors for another round of best and final offers; continuing negotiations; switching to a lower priced vendor; and increasing order quantities to gain quantity discounts.

If the proposal did not consider negotiated price reductions, consider developing your own decrement factor. For example, if history shows that the offeror commonly negotiates prices five percent below the prices subcontractors propose, you could use a five percent decrement factor to consider the anticipated reduction.

- **Did the proposal properly consider subcontract terms and conditions?**

Sometimes, special conditions in the business arrangements between the offeror and vendor result in savings to the offeror. These savings should be passed on to the Government. Some examples include:

  - **Quotations with escalation already included.** Sometimes the offeror will ask a vendor to quote prices for orders placed over an extended period of time. The vendor will most likely include some escalation in the price for cost increases. While this is acceptable, it would be unacceptable for the offeror to add an additional escalation factor to a vendor quote that already includes escalation for the same period of time.
  - **Quantity discount rebates.** Occasionally, you may see an arrangement where the vendor will charge a set price on each individual order and at the end of the year offer a rebate based on the total quantity purchased. If the Government pays the individual order price, the contractor could

realize excessive profits through the rebate. The offeror should project the estimated quantity for the year and discount the current quote considering the estimated amount of the rebate or use the estimated rebate to reduce any indirect cost related to material.

- **Priced options.** While the offeror may propose a current quote, there may be an existing order with a priced option for additional quantities at a price lower than the current quote. The price the offeror really expects to pay the vendor is the lower priced option price, and that is the price that should be used to estimate direct material cost.

- ***Has the prime contractor completed subcontract negotiations?***

You will likely find it harder to negotiate price reductions after the offeror has agreed to a subcontract price. However, if the subcontract has been negotiated, do not accept a subcontract cost that you believe is unreasonable just because the price has been negotiated.

- ***Will some (or all) of the contract material come from existing inventory?***

Determine if the offeror will purchase the entire quantity or if some of it will come from existing inventory. Remember that the inventory value may be less than the current market price.

- ***Are there any other significant price-related factors that should be considered in estimating direct material unit cost?***

Determine what price-related factors are built into (or excluded from) the material quotes. For example, if a quote includes surface transportation cost to the prime's plant, do not accept additional surface transportation cost estimates for that material.

- ***What is the nature and adequacy of the subcontract price competition?***

In your evaluation of subcontract competition, ask the same questions about the existence and adequacy of price

competition that you would ask in evaluating offers for a Government contract.

- ***How do quotes compare with commercial prices, historical prices, pricing yardsticks, or Independent Government Estimates?***

Be wary of subcontract quotes that are substantially different than commercial prices, historical prices, pricing yardsticks, or Independent Government Estimates. Ask the offeror to explain the differences, and, in light of those differences, justify the reasonableness of the quoted prices.

Analyzing Historical Quotes or Purchase Prices. As you evaluate the reasonableness of material unit cost estimates based on current quotes, consider the answers to the following questions:

- ***Was the historical quote or subcontract price reasonable?***

Be cautious as you review material unit cost estimates based on vendor quotes or contract prices paid by the prime contractor. Such estimates assume that the historical price was reasonable. That may not be true. If you have questions, review the offeror's subcontract files and related market information.

- ***Are there other historical quotes or subcontract prices that support or refute the reasonableness of the estimated price?***

Verify that the subcontract price quote used by the offeror is not unusually high (or unusually low) for the quantity required. For example, the most recent purchase may have been at a relatively higher unit price because the contractor acquired an unusually low quantity.

- ***Are current material item requirements the same as the historical requirements?***

Changes in specifications can affect material prices. If a particular process, inspection, or specification has been eliminated, the cost of producing the item will most likely drop. If this circumstance exists, the historical price must be adjusted accordingly.

- ***How has the offeror's specific purchasing situation changed?***

You need to understand the contractor's acquisition situation as it existed in the previous purchase and how the current acquisition situation differs. As a minimum, you should consider the probable affect of changes in:

  - Number of sources;
  - Quality of sources and competition;
  - Quantities purchased;
  - Production / delivery rates;
  - Start-up costs; and
  - Terms of purchase.

- ***Has the item's production status changed?***

Item prices typically decrease when a part is in continuous production. If the item was in continuous production, but is no longer produced, the vendor may incur start-up costs to begin manufacturing the item again. If an item's production status has changed, the estimator should either adjust historical prices to consider start-up costs and related inefficiencies or use another base to estimate direct material cost.

Remember that the opposite situation can also occur. If the last purchase included nonrecurring costs (e.g., tooling, set-up, or first article expenses) that should not be charged again. The cost of the current item should reflect only recurring production costs.

- ***How has the general economic situation changed?***

Economic changes are reflected in the general level of inflation or deflation related to the material item. Price index numbers can be invaluable to you in analyzing price changes.

- ***Is there more recent pricing information available?***

Be alert to possible discrepancies between estimating system information and the purchasing system information. The offeror should always provide you with the most up-to-date information. However, if the firm's estimators do not communicate effectively with the firm's buyers, the estimators may still be relying on historical costs even

though the firm's buyers have obtained current quotes and prices.

Analyzing Inventory Pricing (FAR 31.205-26(d) and App B, 9904.411-50). When the firm intends to use existing inventory to perform the contract, the direct material estimate should be based on one of the five acceptable methods of inventory pricing: first-in-first-out, last-in-first-out, weighted average, moving average, and standard cost. As you evaluate the reasonableness of material unit cost estimates based on inventory pricing, consider whether the offeror consistently uses one (and only one) of those acceptable methods.

- **First-in-first-out (FIFO).** This method of inventory pricing works just as the name implies. For accounting purposes, you assume that the first unit into the inventory is the first unit to be drawn out. The inventory value assigned to the unit drawn out is the value of the first unit recorded as still being in inventory. It does not matter which unit is physically drawn out of inventory. It could actually be the last unit added to inventory. Under FIFO, the value assigned would still be that of the first unit recorded as being on-hand.

For example: A firm using FIFO has five widgets in inventory. The following are the acquisition costs in order of receipt:

Unit A @ $100

Unit B @ $110

Unit C @ $105

Unit D @ $115

Unit E @ $120

During the year, the firm performs three jobs requiring one widget each. Direct material costs for each job would be:

~~Unit A @ $100~~ Job 1 cost = $100

~~Unit B @ $110~~ Job 2 cost = $110

~~Unit C @ $105~~ Job 3 cost = $105

Unit D @ $115

Unit E @ $120

The remaining inventory value would be $235 ($115 + $120).

- **Last-in-first-out (LIFO).** As with FIFO, LIFO is what the name implies. Pricing is based on the assumption that the last, or most recent unit received, will be the first drawn out. Using the same situation as above, but with LIFO, you would get the following:

For example: A firm using LIFO with the following five widgets in inventory and three jobs requiring one widget each would have the direct material cost indicated for each job:

Unit A @ $100

Unit B @ $110

~~Unit C @ $105~~ Job 3 cost = $105

~~Unit D @ $115~~ Job 2 cost = $115

~~Unit E @ $120~~ Job 1 cost = $120

The remaining inventory value would be $210 ($100 + $110).

- **Weighted Average.** Under this method inventory unit prices are recalculated at designated times during the year (e.g., quarterly). The weighted average is calculated by dividing the total cost of the inventory on-hand by the number of units on-hand.

For example: A firm using the weighted average method of inventory pricing with the five widgets below in inventory and three jobs requiring one widget each would have a direct material cost of $110 for each job.

Unit A @ $100 Job 1 cost = $110

Unit B @ $110 Job 2 cost = $110

Unit C @ $105 Job 3 cost = $110

Unit D @ $115

Unit E @ $120

Total $550 for five units

The inventory price for each widget would be the weighted average $110 ($550/5). Note: In this example, the weighted average price is the same as the simple average price because there is only one unit at each unit price.

The remaining inventory value would be $220 ($110 x 2).

- **Moving average.** A moving average is calculated in the same way as a weighted average except that the calculation is done every time there is a new addition to inventory.

For example: Five widgets listed in the Original Inventory below are in inventory. During the year, three jobs were performed requiring one widget each. After the completion of Job 1, an additional unit was added to inventory, and inventory prices recalculated.

Original Inventory:

Unit A @ $100 Job 1 cost = $110

Unit B @ $110

Unit C @ $105

Unit D @ $115

Unit E @ $120

Total $550 for five units

The inventory price for each of the original five widgets would be the weighted average $110 ($550/5).

Inventory after Completion of Job 1 and addition of Unit F:

4 Units @ $110 = $440 Job 2 cost = $112

Unit F @ $120 = $120 Job 3 cost = $112

$560

The new moving average price would be $112 ($560/5).

The remaining inventory value would be $336 ($112 x 3).

- **Standard cost.** Under this method of inventory pricing, the value of inventory equals the number of units times the unit standard cost. Standard costs are usually based either on expected prices for the period in question (sometimes as short as a week) or on prices prevailing at the time the standards are set. Standard costs do not change in response to short-term fluctuations in volume, quantity, or unit costs.

The difference between the acquisition cost and standard cost of inventory units is called a *variance*. Variance adjustments may be handled by making cost adjustments on each job, or if the cost is insignificant, it can be done as an overhead adjustment.

There may be substantial differences between contractor inventory standard cost systems. If you encounter an inventory standard cost system, ask the contractor to identify the source of the applied standards and to explain any variances. Where possible, contact the cognizant Government auditor for assistance.

Inter- Organizational Transfers (FAR 15.403-1(b) and 31.205-26). Interorganizational or interdivisional transfers are materials, supplies, or services that are sold or transferred between divisions, subsidiaries, or affiliates of the contractor under a common control. They require special analysis because any profit included in an interorganizational transfer permits a contractor to pyramid profits by including profit (for other elements of the overall firm) in contract costs. A firm could conceivably create more divisions and transfer material back and forth between those divisions to further increase total profit for the total corporate entity.

- **Transfers at cost.** To prevent contractors from pyramiding profits using interorganizational transfers, the Government has adopted the policy that interorganizational transfers must be made at cost. In other words, the transfer must not include any profit for the division, subsidiary, or affiliate making the

transfer. Furthermore, the costs of that division, subsidiary, or affiliate are subject to audit and analysis, just like any other contractor costs.

- **Transfers at price.** However an interorganizational transfer may be made at price (with profit), when all of the following four conditions are met:
  - It is the established practice of the transferring organization to price interorganizational transfers at other than cost (with profit) for commercial work of the contractor or any division, subsidiary, or affiliate of the contractor under common control.
  - The item being transferred qualifies for an exception to statutory requirements for cost or pricing data.
  - When the transfer price is based on a catalog of market price, the price should be adjusted to reflect the quantities being acquired and may be adjusted to reflect the actual cost of any modifications necessary because of contract requirements.
  - The contracting officer does not determine that the price is unreasonable.

6.5 Recognizing Subcontract Pricing Responsibilities

Privity of Contract Concept. The term "privity of contract" refers to the direct relationship that exists between contracting parties.

- The Government has a contract with the prime contractor, therefore there is privity of contract between the Government and the prime contractor.
- The prime contractor has a contract with its subcontractors, so privity of contract exists between the prime contractor and its subcontractors.
- However, the Government does not have a contract with any subcontractor, so no privity of contract exists between the two parties. Since no privity of contract exists, you cannot:
  - Negotiate directly with the subcontractor; or
  - Direct the subcontractor to take any action.

While the Government has an interest in the activities and performance of the subcontractors, you must be careful not to violate the contractual relationship.

Responsibility to Analyze Subcontract Proposals (FAR 15.404-3(b)). The firm awarding the subcontract (the offeror or a higher-tier subcontractor), is responsible for subcontract pricing. At the same time, the contracting officer is responsible for the total price paid by the Government, and must be satisfied that each subcontracting tier has performed an adequate cost or price analysis of each subcontract proposal. Part of that responsibility is to assure that the subcontracting activity has performed an appropriate price or cost analysis.

- **Price Analysis.** The firm awarding a subcontract must perform a price analysis when no cost analysis is performed and should perform a price analysis in conjunction with any cost analysis to ensure overall price reasonableness. This analysis should be similar to one that you would perform in pricing a similar contract under similar circumstances.
- **Cost Analysis.** The firm awarding a subcontract must analyze:
  - Any required subcontractor cost or pricing data, and
  - Any subcontractor cost information other than cost or pricing data required to determine cost reasonableness or cost realism.

The firm awarding a subcontract must include the results of these analyses as part of its own cost or pricing data submission. Lower-tier subcontract analyses become part of higher-tier submissions, and eventually the prime contractor's submission to the Government.

The results of these analyses should help the firm awarding the subcontract to arrive at a fair and reasonable subcontract price. Those same results should provide you with information that will help you arrive at a fair and reasonable contract price.

Consider a firm's failure to analyze subcontract costs as a potentially significant estimating system deficiency. If you believe that an analysis is inadequate or that the subcontract price is unreasonable, question the costs involved. Remember that a firm's failure to perform and

submit an adequate analysis could lead to contract overpricing.

Responsibility to Obtain Subcontract Cost or Pricing Data (FAR 15.404-3(c)). Unless the subcontract qualifies for an exception to statutory cost or pricing data requirements, any contractor or subcontractor required to submit cost or pricing data must also obtain cost or pricing data before:

- Awarding any subcontract or purchase order expected to exceed the cost or pricing data threshold, or
- Issuing any modification with a price adjustment amount expected to exceed the cost or pricing data threshold.

Responsibility to Submit Subcontract Cost or Pricing Data (FAR 15.404-3(c)). An offeror required to submit cost or pricing data to the Government must also submit (or cause submission of) cost or pricing data from prospective subcontractors in support of each subcontract priced at the lower of either:

- $10,000,000 or more, or
- Both more the cost or pricing data threshold and more than 10 percent of the prime contractor's proposed price, unless the contracting officer believes such submission is unnecessary.

The contracting officer may require subcontractor cost or pricing data below these thresholds when the data are considered necessary for adequately pricing the prime contract.

Exceptions to Subcontract Cost or Pricing Data Requirements (FAR 15.404-3(c)). If you are satisfied that a subcontract will be priced on the basis of one of the exceptions to statutory requirements for cost or pricing data, do not require submission of subcontract cost or pricing data.

If the subcontract estimate is based upon the cost or pricing data of the prospective subcontractor most likely to be awarded the subcontract, do not require submission to the Government of data from more than one proposed subcontractor for that subcontract.

Responsibility to Support Subcontract Estimates (FAR 15.404-3). Require the offeror to support subcontractor

cost estimates below the cost or pricing data threshold with any data or information (including other subcontractor quotations) needed to establish a reasonable price.

To provide adequate cost estimate support, the offeror may need to obtain information other than cost or pricing data from prospective subcontractors.

Responsibility for Updating Subcontract Cost or Pricing Data (FAR 15.404-3(c)(4)). The offeror is responsible for assuring that subcontractor cost or pricing data are accurate, complete, and current as of the date of price agreement or, if applicable, another date agreed upon between the parties, given on the contractor's Certificate of Current Cost or Pricing Data. Accordingly, the offeror is also responsible for updating a prospective subcontractor's cost or pricing data.

Remember that subcontract proposals are an integral part of prime contract proposals. As a result, when a prospective subcontractor's cost or pricing data are not accurate, complete, and current, the prospective prime contractor's proposal cannot be accurate, complete, and current.

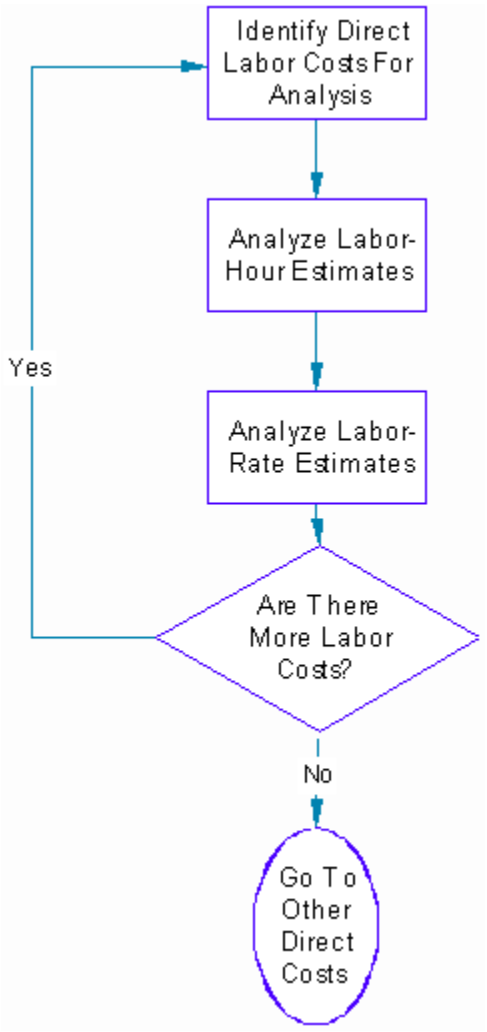
Ch 7 - Analyzing Direct Labor Costs

7.0 Chapter Introduction

This chapter identifies points to consider as you develop your prenegotiation position on direct labor costs.

Analysis Responsibility (FAR 15.402(a) and 15.404-2(a)). The contracting officer has the ultimate responsibility for determining price reasonableness, but no one expects the contracting officer to be an expert in all the accounting and technical issues associated with direct labor cost analysis. However, you are expected to know who to ask for assistance and when.

Flowchart of Direct Labor Cost Analysis. The following flowchart depicts the key events completed as part of a typical direct labor cost analysis.



7.1 Identifying Direct Labor Costs For Analysis

This section presents points that you should consider as you identify direct labor costs and plan for further analysis.

7.1.1 Identifying Direct Labor Classifications

Labor Classification System. Each offeror should have a position classification system which serves as a guide for personnel selection and assignment. This system should provide both contractor and Government members of the Acquisition Team with information on relevant position descriptions, position classes, and the position classification plan. That information can prove invaluable as you and other Government personnel evaluate the appropriateness of proposed labor estimates. In other words, this system can help you and other Government personnel determine if employee qualifications match contract requirements.

For example: When auditors perform formal contractor employee compensation reviews, they compare the firm's personnel classification data and related compensation with the compensation paid for similar skills by other firms in the local area.

Position Description. A position description is the documentation of the types of work (i.e., duties and responsibilities) assigned to an employee. Most firms should be able to produce a position description for each position. That description should identify specific position duties and responsibilities, as well as, qualification requirements (e.g., the required experience, skills, knowledge, and educational need to work in the position).

Position Class. A position class is a grouping of all positions that share the same title and pay level. For example, "Senior Electrical Engineer - Pay Level IV" is the title assigned to a class of positions. Normally, positions are assigned the same title and pay level only if the workers in the positions perform duties that:

- Are comparable in kind or subject matter;
- Are at the same levels of difficulty and responsibility; and
- Require the same basic qualifications.

Position Classification Plan. Sometimes called job evaluation plans, position classification plans identify the classes of labor employed by the firm and provide guidelines for determining the title and pay level of each position in the firm. Guidelines are generally in the form of job factors, degree requirements, skill qualification

requirements, and conversion tables (such as the possible trade-offs between education and experience).

The position classes and labor rates identified in the proposal should be consistent with the offeror's classification plan. In other words, the offeror should not propose a top scientist to perform the type of work normally assigned to a journeyman engineer.

If an offeror does propose a top scientist to perform work normally assigned to a journeyman engineer, question the related excess cost. However, a top scientist may be acceptable if the offeror can demonstrate related savings, such as a reduction in the total labor hours required.

7.1.2 Identifying Major Types Of Direct Labor

Labor Cost. The amount and types of labor required to complete a contract will vary based on contract requirements. To complete a supply contract, the contractor will likely require engineers, manufacturing personnel, and a wide range of support personnel. A service contract might require a wide variety of personnel depending on contract requirements. Of course, most contracts will require personnel involved in administration and support of contract operations.

Direct vs. Indirect Labor Cost (FAR 31.202 and 31.203). Most contracts require both direct and indirect labor. However, you will find that accounting and estimating treatment will vary from firm to firm.

- **Direct Labor Cost.** A direct labor cost is any labor cost that can be identified specifically with a final cost objective (e.g., a particular contract).
  - Labor costs identified specifically with a particular contract are direct costs of the contract and must be charged to that contract.
  - Labor costs must not be charged to a contract as a direct cost if other labor costs incurred for the same purpose in like circumstances have been charged as an indirect cost to that contract or any other contract.
  - All labor costs specifically identified with other contracts are direct costs for those

contracts and must not be charged to another contract directly or indirectly.

- **Indirect Labor Cost.** An indirect labor cost is any labor cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or an intermediate cost objective. For reasons of practicality, any **direct labor cost of minor dollar amount** may be treated as an indirect cost if the accounting treatment:
  - Is consistently applied to all final objectives, and
  - Produces substantially the same results as treating the cost as a direct cost.

Common Direct Labor Categories. While each offeror will have different terminology and different ways of categorizing its labor force, the two most common and largest types of direct labor in manufacturing contracts are engineering and manufacturing labor. The labor categories in service contracts are much more diverse.

Engineering Labor. Engineering involves a variety of activities associated with product research, product design, and the development of manufacturing methods and procedures. Most engineering activity is typically charged as a direct labor cost. However, the efforts of supervisors and many engineering support personnel may be charged as indirect costs.

Assure that the offeror is consistent in charging these costs as direct or indirect. If you have any question about proper cost treatment, contact the cognizant Government auditor for advice and assistance.

The following table presents descriptions of some of the most common engineering labor classifications.

Examples of Engineering Classifications	**Description**
Design Engineer	Involves delineating the end-product's characteristics and specifications
Manufacturing Engineer	Involves manufacturing planning, process instructions & work methods, shop loading, organizing work stations, and matching shop capabilities to contractual

	requirements
Reliability & Maintainability Engineer	Involves designing and manufacturing products to meet longevity and repair requirements
Quality Assurance Engineer	Involves the formulation of standards and specifications for tests and inspections
Sustaining Engineer	Involves "as needed" support as problems arise throughout the life of the contract

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Manufacturing Labor. Manufacturing labor is the effort required to actually produce an item. Most manufacturing labor cost is a "hands-on" direct cost. Some types of manufacturing direct cost (e.g., inspection), may be allocated to each job as an indirect cost. Depending on the circumstances and contractor accounting procedures, supervision may be a direct or an indirect cost.

As with engineering labor, assure that the offeror is consistent in charging these costs as direct or indirect under similar circumstances. If you have any question about proper cost treatment, contact the cognizant Government auditor for advice and assistance.

The following table presents examples of some of the most common manufacturing labor classifications.

Examples of Manufacturing Classifications	**Description**
Fabrication Labor	Involves the fashioning of parts from raw or purchased materials
Assembly Labor	Involves the effort to combine parts into subassemblies and assemblies
Quality Control Labor	Involves the act of testing or inspecting the product during the manufacturing process and prior to final acceptance

Services Labor (FAR 37.101). A service contract directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end-item of supply. It can require professional or nonprofessional personnel on a individual or organizational basis.

The classes of labor effort required for contract performance will vary widely based on the tasks that must be performed to complete the contract. Tasks might include any of the following:

- Maintenance, overhaul, repair, servicing, rehabilitation, salvage, modernization, or modification of supplies, systems, or equipment;
- Routine recurring maintenance of real property;
- Housekeeping and base services;
- Advisory and assistance services;
- Operation of Government-owned equipment, facilities, and systems;
- Communications services;
- Architect-engineering services;
- Transportation and related services;
- Research and development; or
- Other services.

The service contract solicitation may define labor categories which the offeror must use in proposal preparation and contract performance (e.g., senior engineer or senior analyst). To comply with these solicitation-defined labor categories, the offeror may need to use a blend of personnel from more than one of the firm's position classes. In such cases, the offeror should identify the labor classifications that were blended to meet solicitation requirements. The blended labor-rate should correspond to the blend of skills required.

If you have any question about proper cost treatment, contact the cognizant Government auditor for advice and assistance.

7.1.3 Planning For Further Analysis

Points to Consider. As you prepare your plan for direct labor cost analysis, look for indicators of uneconomical or inefficient practices. Consider the results of any technical analyses. If an element of proposed direct labor cost appears suspicious, concentrate more analysis effort on that element than on a less suspicious cost element of similar dollar value. As you plan:

- Identify and evaluate the methodology used by the offeror to estimate direct labor cost.
- Identify any proposed direct labor cost that does not appear reasonable.
- Identify any proposed direct labor cost that should be classified as an indirect cost.
- Identify any proposed direct labor cost that merits special attention because of high value or other reasons.
- Assure that preliminary concerns about direct labor cost estimates are well documented.

Identify and Evaluate Estimating Methodology. To identify and evaluate the methodology used by the offeror to estimate direct labor cost, ask questions such as the following:

- ***What basis did the offeror use to estimate direct labor cost?***

Labor cost estimates normally include estimates of both labor hours and a labor-rate for each position classification. Estimates may be developed using round-table, comparison, or detailed estimating techniques.

- ***Does the methodology appear appropriate for the current estimating situation?***

The method selected should use the information available to produce reasonable and equitable results. If the methodology used by the offeror does not appear appropriate, consider using a different methodology to develop your pricing position.

Identify any Cost That Does Not Appear Reasonable. To identify any proposed direct labor cost that does not appear reasonable, ask questions such as the following:

- ***Is the proposed labor effort consistent with the offeror's estimating assumptions?***

If any part of the estimate is not consistent with stated estimating assumptions, question the costs involved.

- ***Is the proposed labor effort necessary to complete the contract?***

Require the offeror to support the need for any direct labor cost that does not appear needed to complete contract tasks.

- ***Has the offeror accounted for all types of labor reasonably required to complete the contract?***

Compare the contract task requirements with the skills proposed by the offeror. If the proposed labor cost does not include personnel with adequate qualifications to perform a specific task, question the labor cost for that task.

- ***Are the proposed labor classes and pay levels consistent with the firm's position classification plan?***

If the proposed labor classes are not consistent with the offeror's position classification plan, it is likely that the proposal was not prepared in accordance with the firm's normal estimating procedures. Such proposals may include inflated labor costs or proposed personnel that do not have the knowledge, skills, and experience required to complete the contract.

- ***Are position class qualifications consistent with the knowledge, skills, and experience required to complete identified contract tasks?***

When less-qualified personnel are assigned to tasks requiring higher qualifications, contract performance risk increases. Performance may even be impossible with the identified personnel. Assignment of high-skilled personnel with higher labor rates to tasks that can be efficiently completed by less-qualified personnel needlessly increases contract cost unless their higher qualifications increase performance efficiency enough to compensate for the higher labor rates.

- ***Do the proposed labor classes and wage levels meet solicitation requirements?***

Many service solicitations identify the types of skills needed to perform the contract. If proposed personnel fail to meet minimum solicitation requirements, the offeror's proposal will likely be unacceptable. If you accept unnecessarily high skilled personnel, contract cost

increases unless their higher qualifications increase performance efficiency enough to compensate for the higher labor rates.

- ***Does the proposal include labor to complete the same task more than once?***

Watch for task overlaps. For example, in writing technical publications and manuals, the proposal should clearly define where the responsibilities of the design engineer for preparing drawings, supporting materials, and documentation end and the responsibilities of the technical writer to transform these materials into a document begin. If the different tasks are not clearly defined, it is possible that both engineering and technical writing estimates may include estimated hours to perform the same work.

- ***Does the proposal include labor to complete work being performed under a related contract?***

Occasionally an offeror will propose work that is actually performed under a related contract. Tasks that cross different contracts in the same project/program (e.g., project administration) are particularly susceptible to such overlaps.

- ***Is the proposed labor mix consistent with the historical mix for the task?***

If the mix of labor used to complete past contracts is substantially different than the proposed mix, the proposal should explain why the change is necessary and reasonable.

Even if the mix is consistent with the past, you may want to consider whether there should be a change. For example, when a product is new, contract performance may require more highly skilled engineers. As a product matures and moves into the later stages of its product life cycle, fewer and less skilled (and less expensive) engineers may be more appropriate.

- ***Does the proposed labor mix represent the firm's available work force, or the skill mix actually needed to complete the contract?***

Be careful when the proposed labor is a better representation of the skill mix in the offeror's work force than the skill mix required to complete the contract. The offeror may not understand the work required to complete the contract. Alternatively, the offeror may be overestimating the work required to complete the contract.

- ***Do the labor hours proposed for any labor classification exceed the offeror hours available in that classification?***

Occasionally an offeror will propose more hours in a particular position classification than the firm has available in that classification. When that happens assure that the estimate includes information on how the offeror will obtain the skilled personnel required to complete the contract.

Identify Any Proposed Direct Labor Cost That Should Be Classified As an Indirect Cost. To identify any proposed direct labor cost that should be classified as an indirect cost, ask questions such as the following:

- ***Has the offeror consistently treated this type of labor as a direct cost?***

Similar costs incurred under similar circumstances should be charged in the same way. For example, if labor cost for shop expediter is normally charged as an indirect cost, then shop expediter labor cost for similar expediting effort should always be charged as an indirect cost.

Be careful, a technical evaluator may object to classifying a cost (e.g., shop expediter labor cost) as a direct cost because other firms classify similar labor as an indirect cost. However, the issue is not how other firms classify the cost but rather how the offeror's estimating and accounting systems treat the cost.

- ***Do the personnel projected to the work on this contract charge their time as a direct or an indirect cost under similar circumstances?***

If similar costs are charged as a direct cost on one occasion and as an indirect cost on another occasion, the Government may be double charged for similar costs (once as a direct cost and once as an indirect cost). One way to

quickly check if this type of labor should be a direct or indirect cost is to review the time cards of personnel projected to work on the contract. If an employee is currently charging time to a charge number that goes to an overhead account, you should determine how the situation will change under the proposed contract. If you have any questions, contact the cognizant Government auditor.

- ***Will each labor hour proposed for this contract benefit only this contract?***

There may be situations where an employee is charging part-time to each of several contracts and part-time to overhead (e.g. a lead engineer who does both team management tasks and "hands-on" design work). Only those hours proposed for specific contract tasks should be recognized as a direct cost. Any indirect contract support (e.g., as team management) will be covered by application of overhead rates.

- ***Is it practical to account for this labor as a direct cost?***

Good cost accounting practices will specifically identify a direct contract cost to the appropriate contract whenever it is practical. However, a minor direct cost may be treated as an indirect cost if the accounting treatment:

  - Is consistently applied to all contracts, and
  - Produces substantially the same results as treating the cost as a direct cost.

If you have a question concerning whether a cost should be a direct cost or is already covered in an overhead account, seek assistance from the cognizant Government auditor.

Identify Direct Labor Costs Which Merit Special Attention. To identify any proposed direct labor cost that merits special attention because of high proposed cost or other reasons, ask questions such as the following:

- ***Is the direct labor estimate for any task a large portion of the entire direct labor cost estimate?***

Many times a single task estimate will be a large part of the entire estimate. That estimate will normally merit special attention because of the dollars involved.

- ***Is any direct labor effort uniquely critical to contract performance?***

Many times the direct labor effort for a specific task or group of tasks will be uniquely critical to contract performance, because of schedule or technical requirements. Related cost estimates may merit special attention, to assure offeror understanding of the task.

Document Concerns About Direct Labor Cost Estimates. To assure that concerns about direct labor cost estimates are well documented, ask questions such as the following:

- ***Have you identified concerns about direct labor cost estimates?***

If the answer is "yes" document the areas of concern for reference as you perform more in-depth analysis.

- ***Has the offeror had an opportunity to answer your concerns?***

Consider raising these concerns in fact-finding conversations with the offeror. If the problem is an error in the proposal, bring the error to the offeror's attention so that it can be corrected prior to formal negotiations.

7.2 Analyzing Labor-Hour Estimates

This section identifies points to consider as you analyze direct labor- hour estimates.

Steps for Labor-Hour Estimate Analysis. The points that you consider in your analysis will not be the same for every estimate. However, there are general steps that you should follow as you conduct your analysis of direct labor-hour estimates:

- Give special attention to any direct labor-hour concerns identified during your preliminary review of direct labor cost estimates.
- Determine whether the estimating method is appropriate for the estimating situation.
- Determine whether the estimating method was properly applied.

Develop and Document Your Prenegotiation Position. As you develop and document your prenegotiation position on direct labor hours:

- If you accept the offeror's labor-hour estimate, document that acceptance.
- If you do not accept the labor-hour estimate, document your concerns with the estimate and develop your own prenegotiation position for costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate analysis of direct labor-hours, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

7.2.1 Analyzing Round-Table Estimates

Round-Table Estimates. Experts develop round-table labor-hour estimates based on their experience and judgment without using detailed drawings or a bill of materials, and with limited information on specifications.

Determine If a Round-Table Estimate Is Appropriate. To determine whether use of a round-table estimate is appropriate for the estimating situation, ask questions such as the following:

- ***Are there sufficient information and historical data available for use of a more accurate cost estimating method?***

Round-table estimating should only be used in situations where detailed drawings, bills of material, and firm specifications are not available. Carefully scrutinize all round-table estimates to assure that sufficient information and historical data are not available for use of cost

estimating method that typically produces more accurate results.

- ***Does the offeror commonly use round-table estimates in similar estimating situations?***

Round-table labor-hour estimates are most commonly used for research and development contracts and other contracts that will require the offeror to perform tasks that are not well defined at the time the estimate is prepared.

- ***Does the cost involved warrant a more detailed estimate?***

For a small dollar amount, a round-table estimate may be acceptable, because the cost risk involved does not warrant the collection the data required for use of another estimating method.

Determine If The Round-Table Estimate Was Properly Developed And Applied. To determine if the round-table estimate was properly developed and applied, ask questions such as the following:

- ***Is the estimator's experience appropriate for developing a round-table estimate in this situation?***

The offeror may assign a single estimator or a group of estimators to develop the estimate. The estimators will define the effort required in general terms and use that definition to estimate the number of people and the time required to perform the task.

Evaluate the estimators' experience with similar work. Anyone can guess about future costs. Personnel preparing round-table estimates should have experience with similar work and similar situations.

- ***Has the estimator prepared accurate round-table estimates for other contracts?***

Normally, you should be more concerned about estimates prepared by a person with little estimating experience or a record of inaccurate estimates.

- ***Does the estimate include an adequate description of the task involved?***

Round-table estimates may be summary level estimates of the time to complete an entire contract or lower level estimates of the time to complete a particular task. Require the offeror to document the definition of the task used in preparing the estimate.

- ***Does the estimate include an adequate description of the process and assumptions used to develop the estimate?***

The estimate should include a clear description of the rationale used to develop the estimate. The rationale may be brief, but it must describe the process and assumptions used in preparing the estimate.

- ***If the estimate assumes a fixed level of effort over a period of time, is that assumption reasonable?***

A fixed level of effort is commonly used to estimate the hours to perform repetitive tasks such as those found in project management and administration (e.g., a full-time project manager throughout the term of the contract). Evaluate the need for a fixed level of effort. For example, a large staff may be required for contract start-up but a much smaller staff may be able to do the work required during later contract performance.

- ***Does the estimate indicate that the required effort is more complex than it really is?***

A more complex effort will require more time and higher skill levels than a less complex effort. Evaluating the task complexity is usually rather subjective. However, you might be able to develop a feel for the complexity of a task by relating it to the effort required to perform a similar task.

Do not be misled. For years, the Government and its contractors have pushed forward the state-of-the-art in many fields. Today's knowledge is far broader than it was a few years ago. Because complexity is relative, the problems of today, relatively speaking, may be easier to solve than the less complex problems of the past.

- ***What does YOUR professional JUDGMENT tell you?***

It is not enough to ask for the advice of technical experts. Ask questions until YOU understand. You will receive two benefits from asking questions: you will learn about the labor specialties and the language involved in performing the work required and you will become more confident in your objective if you truly understand the contract effort required.

7.2.2 Analyzing Comparison Estimates

Comparison Estimate. To develop a comparison labor-hour estimate, an estimator must first determine the cost to complete the same or similar work in the past. Then the estimator must develop an estimate of future contract cost based on the historical experience. Comparisons can be simple or involve the use of complex quantitative techniques. The two most common forms are:

- **Direct Comparison.** Comparisons may be based on a direct comparison with the hours it took to perform the same or similar effort in the past. The effort may be a specific task or a level of effort. The comparison may be used to estimate the labor cost for an entire contract or a segment of the contract. Remember even in a contract for a unique requirement, there may be tasks that are similar to the work performed in past contracts.

Most direct comparison estimates will include an adjustment to consider differences in the acquisition situation. The rationale for these adjustments should be explained whether they are made using a quantitative or a subjective analysis.

  - Quantitative techniques (e.g., moving averages, improvement curves, or regression analysis) are frequently used to identify trends in historical data. Once a trend is identified, you can use these same techniques to project it into the future.
  - Estimators also frequently use subjective adjustment factors in comparison estimate development. These subjective factors are commonly given names such as, "plant condition factor," "manufacturing allowance," or

"complexity factor." For example, the estimate may state that the direct labor cost of a proposed contract is similar to the effort on a previous contract but is 20 percent more complex.

- **Cost Estimating Relationships.** A cost estimating relationship (CER) is a technique used to extend comparisons. Instead of simply basing a labor-hour estimate on the labor hours required to complete a similar task in the past, an estimator can develop CER that relates changes in cost to changes in an independent product variable or group of independent variables. Once a CER is developed, you can use it to develop more accurate estimates of labor-hour requirements. That independent variable may be another contract cost or a product characteristic:

    - A **cost-to-cost relationship** is based on an established relationship between two contract costs. For example, the offeror may analyze historical data from contracts that require engineering effort and find that engineering assistants work four hours for every hour worked by a senior engineer. Based on that analysis the estimator would include four engineering assistants for every hour of senior engineer labor.
    - The **product-to-cost relationship** relates a labor-hour estimate to a physical or performance characteristic of the product. For example, the offeror may find that the labor effort required to complete a janitorial service contract is related to number of square feet included in the contract.

Determine If a Comparison Estimate Is Appropriate. To determine whether use of a comparison estimate is appropriate for the estimating situation, ask questions such as the following:

- ***Is there a detailed analysis of work requirements that could be used for estimate development?***

Comparison estimates can be quite accurate, but detailed estimating information should generally be used when available.

- ***Does the offeror commonly use comparison estimates in similar estimating situations?***

If the offeror typically uses a detailed estimate in similar situations, question why one was not used to prepare the estimate under analysis.

- ***Does the cost involved warrant a more detailed estimate?***

While they typically provide more insight into offeror procedures and requirement analysis, detailed estimates are time consuming and costly to develop. For a small dollar amount, a round-table or comparison estimate may be more desirable, because of the faster and less expensive analysis required.

Determine If The Comparison Estimate Was Properly Developed And Applied. Analysis of any labor estimate based on historical labor hours should consider the acquisition situation that existed when the historical labor hours were incurred and any differences between that situation and the current acquisition situation. To determine if the comparison estimate was properly developed and applied, ask questions such as the following:

- ***Are the methods to be employed on the proposed contract identical to those used in the historical effort?***

If methods have changed, the value of comparison estimates is open to question. You are in effect comparing apples and oranges. For example, the use of new labor saving equipment could significantly reduce the labor hours required on the contract.

- ***Do the historical costs represent efficient application of labor to contract completion?***

If a one-time problem occurred during performance of the prior contract and no adjustment is made, you will be assuming that the same problem or a similar problem will occur on the proposed contract.

- ***Do historical costs include the cost of changes?***

If the cost history includes the cost of changes, a cost estimate based on that history will project similar changes in the future. It may be necessary to purge the history of costs that are not anticipated to be part of the proposed work. Examples of costs that may need to be purged include: non-recurring costs, engineering changes, program redirection, rework, and production start-up.

- ***Has the make-or-buy plan changed?***

If the offeror is now buying items that were previously made, the historical data should be adjusted to preclude estimating the labor cost to make an item that is being purchased.

- ***Is there any labor activity included in the historical costs that is also estimated separately?***

If there is, the offeror has double estimated the cost. It must be eliminated in one estimate or the other. The time for rework and repair is an important example. Actual costs typically include the time for rework and repair. If such costs are included, do not accept any additional factors for rework and repair.

- ***Are the historical data complete?***

The history should be accurate, complete, and current. Assure that portions of the relevant history are not missing, and that latest cost history is included.

- ***How reliable are the historical data?***

The cognizant Government auditor can provide guidance on the acceptability of the offeror's cost accounting system. If the auditor feels that the offeror's system lacks appropriate checks and balances, is riddled with errors, or has resulted in mischarging, then the accuracy and reliability of the data are questionable.

- ***Does application of the should-cost principles reveal incidents of uneconomical or inefficient historical performance?***

Use of cost history without critical examination could perpetuate the inefficiencies and problems of the past.

- ***Did the offeror correctly adjust the estimate for all significant changes in the production environment since the last contract?***

Look for any significant differences in working or operating conditions that could throw off the estimate. For instance, be alert for differences in:

  - Specifications (especially if specifications have been simplified since the last contract);
  - Process steps;
  - Equipment and tooling;
  - Plant layout;
  - Inspection procedures;
  - Labor mix;
  - Employee skill levels;
  - Type of shop (e.g., model vs. production);
  - Delivery schedules;
  - Production rates and quantities;
  - Plant capacity (full vs. idle);
  - Number of shifts; or
  - Overtime hours.

- ***If the labor-hour estimate includes a subjective adjustment factor, is the factor reasonable?***

The offeror may have provided subjective estimates for such factors as task complexity. When an offeror uses a subjective adjustment factor, the offeror should document both the need for such a factor and the rationale used to arrive at the adjustment included in the estimate.

- ***Have appropriate quantitative techniques been used to adjust historical data to estimate proposed contract costs?***

If the offeror has had experience in making this or a like deliverable, examine historical data for evidence of trends in labor hours per unit. If there is such evidence, trend analysis or improvement curve theory could result in a more accurate projection of future labor hours.

- ***If the labor-hour estimate was developed using a quantitative technique (e.g., a CER, moving average, improvement curve, or regression analysis), did the estimator consider the related issues and concerns?***

Whenever an estimator uses a quantitative analysis technique in estimate development, the proposal and related data should consider the issues and concerns related to the use of that technique.

7.2.3 Analyzing Estimates Developed Using Labor Standards

Labor Standard. A labor standard is a measure of the time it should take for a qualified worker to perform a particular operation. Labor standards are commonly grouped into two types:

- **Engineered Standards** are developed using recognized principles of industrial engineering and work measurement. The standards developed define the time necessary for a qualified worker, working at a pace ordinarily used, under capable supervision, and experiencing normal fatigue and delays, to do a defined amount of work of specified quality when following the prescribed method.
- **Non-engineered Standards** are developed using the best information available without performing the detailed analysis required to develop an engineered standard. Historical costs are commonly used standards that are often a measure of the hours that have been required to complete a task rather than the hours that should be required.

Determine If Labor Standard Use Is Appropriate. To determine whether use of a labor standard is appropriate for the estimating situation, ask questions such as the following:

- ***Does the offeror commonly use labor standards in similar estimating situations?***

If the offeror does not use labor standards for other contracts, the proposed contract or a group of similar contracts will likely be required to cover the entire expense for standard development and maintenance. Prospective benefits may not warrant the cost involved.

- ***Is the offeror using non-engineered labor standards, when projected costs appear to warrant use of engineered labor standards?***

As described above, historical costs are commonly used to develop non-engineered standards. As a result, non-engineered standards do not benefit from an assessment of what the cost should be. Such analysis is invaluable for identifying inefficiencies in contractor operations.

- ***Does the cost involved warrant use of an engineered labor standard?***

While they typically provide more insight into offeror procedures and analysis of Government requirements, engineered labor standards are time consuming and costly to develop. For a small dollar amount, a comparison estimate may be more desirable, because of the faster and less expensive analysis required.

Determine If The Labor Standard Was Properly Developed And Applied. To determine if the labor standard was properly developed and applied, ask questions such as the following:

- ***Did the estimator consider the issues and concerns related to labor standard development and application?***

Whenever an estimator uses a labor standard in estimate development, the proposal and related data should consider the issues and concerns related to standard development and use.

- ***If the estimator used a non-engineered standard based on historical data, did the estimator consider the questions related to developing and applying an estimate based on comparison estimates?***

A non-engineered estimate based on historical cost is really a form of comparison estimate. If there has been no engineering analysis of what the task completion time should be, the estimate should be analyzed like any other comparison estimates.

7.3 Analyzing Labor-Rate Estimates

This section identifies points to consider as you analyze direct labor labor-rate estimates.

- 7.3.2 - Considering The Skill Mix Of Labor Effort
- 7.3.3 - Considering The Time Period Of Labor Effort
- 7.3.4 - Considering Company-Unique Factors

Consider Preliminary Review Results. As you analyze offeror-proposed labor rates, give special attention to any direct labor rate concerns identified during your preliminary review of direct labor cost estimates.

Obtain Available Audit and ACO Analysis Support (FAR 15.404-2(c) and 15.407-3). As you evaluate offeror labor rates, remember that employee compensation includes more than just wages. Many elements of compensation (e.g., pensions, savings plan benefits, incentive bonuses, and health insurance) typically appear in indirect cost accounts. As a result, compensation analysis is a complex task that requires in-depth understanding of the firm's compensation package and accounting procedures.

In most cases, the Government auditor and the administrative contracting officer (ACO) are the two Government Acquisition Team members who have the most in-depth knowledge of a firm's compensation package and accounting procedures. The auditor is the only Government Acquisition Team member with general access to the offeror's accounting records. The ACO is responsible for negotiating Forward Pricing Rate Agreements (FPRAs), including labor-rate agreements.

Honor ACO Recommendations and Agreements (FAR 15.407-3(b) and DFARS 215.407-3(b)). If the ACO has issued a written forward pricing rate recommendation (FPRR), do not deviate from the ACO-recommended rates without first contacting the ACO. The ACO should be able to provide detailed support for the current recommendation. After that contact, if you feel that the recommended rate is not reasonable and you can document why an alternative rate is more reasonable, you may use the alternative rate as a basis developing your position on contract price.

If the offeror and the ACO have negotiated a forward pricing rate agreement (FPRA), the offeror is obligated to use FPRA rates in proposal preparation and Government contracting officers are obligated to use them as a basis for contract pricing. If you have information indicating that the FPRA rates are not reasonable, inform the ACO and request the ACO to negotiate an adjustment or terminate the

FPRA. However, unless the FPRA is terminated or you are authorized under agency procedures to develop your own rate position, use the current FPRA as a basis for contract pricing.

Bases for Determining Labor Rate Reasonableness (FAR 31.205-6(b)). Center your labor-rate analysis on the five questions below. If you can answer yes to one or more of these five questions, you should normally determine that the proposed labor rate is reasonable:

- ***Is the proposed labor rate and related compensation reasonable based on comparisons with the compensation practices of other firms of the same size?***
- ***Is the proposed labor rate and related compensation reasonable based on comparisons with the compensation practices of other firms in the same industry?***
- ***Is the proposed labor rate and related compensation reasonable based on comparisons with the compensation practices of other firms in the same geographic area?***
- ***Is the proposed labor rate and related compensation reasonable based on comparisons with the compensation practices of firms engaged in predominantly non-Government work?***
- ***Is the proposed labor cost reasonable based on comparisons with the cost of comparable services from other sources?***

Factors to Consider in Labor Rate Comparisons. The questions above are straight-forward, but the related comparisons may not always be easy. As you make labor-rate comparisons, consider the effect of the following factors on those comparisons:

- Government labor-rate requirements;
- Skill mix of labor effort;
- Time period of labor effort; and
- Company-unique labor factors.

Develop and Document Your Prenegotiation Position. As you develop and document your prenegotiation position on labor rates:

- If you accept the offeror's labor-rate estimate, document that acceptance.
- If you do not accept the labor-rate estimate, document your concerns with the estimate and develop you own

prenegotiation position for costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate labor-rate analysis, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

7.3.1 Considering Government Labor-Rate Requirements

Contracts and Labor Rate Requirements. The Government is concerned that firms may attempt to compete by lowering employee compensation. As a result, there are laws and Government labor policies that limit a firm's ability to lower compensation. The laws with the most obvious affect on labor rates pricing include the:

- Service Contract Act of 1965, as amended;
- Davis-Bacon Act;
- Walsh-Healey Public Contracts Act;

The Office of Federal Procurement Policy Letter No. 78-2, provides additional guidance for professional employee labor rates for large service contracts.

Service Contract Act Requirements (FAR 22.1001, 22.1002, and 22.1003). As you analyze labor rate reasonableness, consider the following questions related to Service Contract Act of 1965, as amended:

- ***Does the Service Contract Act apply to this type of labor?***
  - The Service Contract Act applies to service employees under Government service contracts in excess of $2,500.
  - A service employee is any person engaged in the performance of a service contract except those employed in a bona fide executive, administrative, or professional capacity.
  - To be a service contract, the principle purpose of the contract must be to provide services. For example, the Act does not apply to contracts for equipment that require incidental services to install the equipment.
  - By statute, the Act does not apply to any:
  - Contract performed outside the United States;

- Contract for construction, alteration, or repair of public buildings or public works, including painting and decorating;
- Work required to be performed in accordance with the provisions of the Walsh-Healey Public Contracts Act;
- Contract for transporting freight or personnel by vessel, aircraft, bus, truck, express, railroad, or oil or gas pipeline where published tariff rates are in effect;
- Contract for furnishing services by radio, telephone, or cable companies subject to the Communications Act of 1934;
- Contract for public utility services;
- Employment contract providing for direct services to a Federal agency by an individual or individuals; or
- Contract for operating postal contract stations for the U.S. Postal Service.
- In addition, the Secretary of Labor has exempted several types of contracts from all provisions of the Act. These include:
- Most Government contracts with common carriers;
- Certain contracts between U.S. Postal Service and individual owner-operators for mail service;
- Contracts for the carriage of freight or personnel if such carriage is subject to rates covered by Section 10721 of the Interstate Commerce Act; and
- Contracts principally for the maintenance, calibration, or repair of certain types of equipment.

- ***Do the proposed labor rate and related fringe benefits meet the minimum requirements established by any Department of Labor wage determination (for that class of employee) attached to the solicitation/contract?***

A contractor must pay the wages and fringe benefits required by the wage determination for that class of labor. Those requirements are based on Department of Labor's evaluation of the prevailing wage rates and fringe benefits in the locality.

- If a wage rate determination is attached to the solicitation/contract, the offeror must classify any class of service employee which is not listed

- However, you cannot require an offeror to comply with a wage determination when none is provided to the offeror. If there is no wage determination, the offeror must propose to pay at least the minimum wage established by the Fair Labor Standards Act (FAR 52.222-43).

- ***If the labor rate exceeds the appropriate Department of Labor wage determination, is the difference reasonable?***

The wage determination only sets the minimum wage that can be paid for a particular class of labor. The offeror may pay more than the minimum. However, remember that these wage determinations are based on the prevailing wage in the locality or the collective bargaining agreement negotiated by the contractor under any predecessor contract.

- ***Do proposed rate increases conflict with the Fair Labor Standards Act and Service Contract Act -- Price Adjustment (Multiple Year and Option Contracts) clause?***

If the contract is a multi-year contract or includes an option to extend the contract, remember that the Fair Labor Standards Act and Service Contract Act -- Price Adjustment (Multiple Year and Option Contracts) clause provides for price increases based on changes in the wage determination or minimum wage. Affected labor rates are based on the wage determination or minimum wage that is current on the contract anniversary or the beginning of each renewal option period.

- The offeror cannot project a labor rate increase and also benefit from an additional adjustment due to a change in a related wage determination or the minimum wage. By submitting an offer under a solicitation that includes the above clause, the offeror certifies that the offer does not

include any allowance for any contingency covered by the clause.
    - The offeror can project labor rate increases that are not the covered by the clause. For example, if the offeror's labor rate is $7.25 and the wage determination is $7.00, the labor rate would not be affected by an increase in the wage determination from $7.00 to $7.05. If the offeror projects an increase in the $7.25 labor rate to $7.30 after one year, that must be separately estimated. Still, remember that wage determinations are based on the prevailing wage in the locality, the collective bargaining agreement negotiated by the contractor under any predecessor contract (FAR 22.1008-3), or the minimum wage set forth in the Fair Labor Standards Act.
- ***Do the proposed labor rate and related fringe benefits meet the minimum requirements established by an applicable collective bargaining agreement negotiated by a predecessor contractor?***

- The Act provides that a successor contractor must pay wages and fringe benefits (including accrued wages and benefits and prospective increases) to service employees at least equal to those agreed upon by a predecessor contractor under the following conditions:
        - The services to be furnished under the proposed contract will be substantially the same as services being furnished by an incumbent contractor whose contract the proposed contract will succeed.
        - The services will be performed in the same locality.
        - The incumbent prime contractor or subcontractor is furnishing such services through the use of service employees whose wages and fringe benefits are the subject of one or more collective bargaining agreements.

  The requirement above does not apply if:

        - The incumbent contractor enters into a collective bargaining agreement for the first time and the agreement does not become

effective until after the expiration of the incumbent's contract.
- The incumbent contractor enters into a new or revised collective bargaining agreement during the incumbent's period of performance on the current contract, the terms of the new or revised agreement shall not be effective for the purposes of the Act when:
- Either of the following is true:
- In sealed bidding, the contracting agency receives notice of the terms of the collective bargaining agreement less than 10 days before bid opening and finds that there is not reasonable time still available to notify bidders; or
- For contractual actions other than sealed bidding, the contracting agency receives notice of the terms of the collective bargaining agreement after award, provided that the start of performance is within 30 days of award; and
- The contracting officer has given both the incumbent contractor and its employees' collective bargaining agent timely written notification of the applicable acquisition dates.
- The Secretary of Labor determines:
  - After a hearing, that the wages and fringe benefits in the predecessor contractor's collective bargaining agreement are substantially at variance with those which prevail for services of a similar character in the locality, or
  - That the wages and fringe benefits in the predecessor contractor's collective bargaining agreement are not the result of arm's length negotiations.

Davis-Bacon Act Requirements (FAR 22.401 and 22.403-1). As you analyze labor rate reasonableness, consider the following questions related to the Davis-Bacon Act:

- ***Does the Davis-Bacon Act apply to this type of labor?***

The Davis-Bacon Act applies to laborers or mechanics at the site of work for any Government or District of Columbia

contract in excess of $2,000 for construction, alteration, or repair (including painting and decorating) of public buildings or public works within the United States.

- The term "laborers or mechanics," includes:
- Those workers, utilized by a contractor or subcontractor at any tier, whose duties are manual or physical in nature (including those workers who use tools or who are performing the work of a trade), as distinguished from mental or managerial;
- Apprentices, trainees, helpers, and, in the case of contracts subject to the Contract Work Hours and Safety Standards Act, watchmen and guards.
- Working foremen who devote more than 20 percent of their time during a workweek performing duties of a laborer or mechanic, but do not meet the requirements for bona fide executive, administrative, or professional status; and
- Every person performing laborer or mechanic duties, regardless of any contractual relationship alleged to exist between the contractor and those individuals.
- The term "laborers or mechanics," does not include workers whose duties are primarily executive, supervisory (except the working foreman described above), administrative, or clerical, rather than manual. Persons employed in a bona fide executive, administrative, or professional capacity are not laborers or mechanics.
- The "site of the work" is the physical place or places where the construction called for in the contract will remain when work is completed, and nearby property.
- Except as provided in the next paragraph, the term includes fabrication plants, mobile factories, batch plants, borrow pits, job headquarters, and tool yards, provided these locations are dedicated exclusively, or nearly so, to performance of the contract or project, and are so located in proximity to the actual construction location that it is reasonable to include them.
- The term does not include permanent home offices, branch plant establishments, fabrication plants, or tool yards of a contractor or subcontractor

whose locations and continuance in operation are determined wholly without regard to a particular Government contract or project. In addition, fabrication plants, batch plants, borrow pits, job headquarters, yards, etc., of a commercial supplier or materialman which are established by a supplier of materials for the project before opening of bids and not on the project site, are not include.

- ***Do the proposed labor rate and related fringe benefits meet the minimum requirements established by any applicable Department of Labor wage determination (for the applicable rate schedule) attached to the solicitation/contract (FAR 22.404)?***

A contractor must pay the wages and fringe benefits required by the wage determinations incorporated in the solicitation/ contract. The Department of Labor is responsible for issuing wage determinations reflecting prevailing wages, including fringe benefits. Those wage determinations apply only to those laborers and mechanics employed by a contractor upon the site of the work including drivers who transport to or from the site materials and equipment used in the course of contract operations. Determinations are issued for different types of construction, such as building, heavy, highway, and residential (referred to as rate schedules), and apply only to the types of construction designated in the determination.

  - A general wage determination is used in contracts performed within a specified geographical area. It contains prevailing wage rates for the types of construction designated in the determination. There is no expiration date determinations remain valid until modified, superseded, or canceled by a notice in the Federal Register by the Department of Labor. Once incorporated in a contract, a general wage determination normally remains effective for the life of the contract.
  - A project wage determination is issued at the specific request of a contracting agency. It is used only when no general wage determination applies, and is effective for 180 calendar days from the date of the determination. However, if a determination expires before contract award, it may be possible to obtain an extension to the

180-day life of the determination. Once incorporated in a contract, a project wage determination normally remains effective for the life of the contract.

- You cannot require an offeror to comply with a wage determination when none is provided to the offeror. However, you may issue a solicitation before obtaining the appropriate rate schedule.
- In sealed bidding, you must not open bids until a reasonable time after you have furnished the wage determination to all bidders.
- In negotiated acquisitions, you may open proposals and conduct negotiations before obtaining the wage determination, but you must incorporate the wage determination before submission of final proposal revisions.

- ***If the labor rate exceeds the appropriate Department of Labor wage determination, is the difference reasonable?***

The wage determination only sets the minimum wage that can be paid for a particular class of labor. The offeror may pay more than the minimum. However, remember that these wage determinations are based on the prevailing wage in the locality.

Walsh-Healey Public Contract Act (FAR 22.602, 22.603, and 22.604). As you analyze labor rate reasonableness, consider the following questions related to the Walsh-Healey Public Contract Act:

- ***Does the Walsh-Healey Public Contract Act apply to this type of labor?***

The Walsh-Healey Public Contract Act applies to contracts (including, indefinite-delivery contracts, basic ordering agreements, and blanket purchase agreements) and subcontracts under Section 8(a) of the Small Business Act, for the manufacture or furnishing of supplies that are to be performed within the United States, Puerto Rico, or the Virgin Islands, and which exceed or may exceed $10,000, unless exempted.

- Statutory exemptions include contracts for any of the following:

- Any item acquired in a situation where you are authorized by the express language of a statute to purchase "in the open market" generally (e.g., commercial items); or where a specific purchase is made under a public exigency.
- Perishables, including dairy, livestock, and nursery products.
- Agricultural or farm products processed for first sale by the original producers.
- Agricultural commodities or the products thereof purchased under contract by the Secretary of Agriculture.
- Regulatory exemptions include the following:
- Contracts for the following requirements are fully exempt from the Act:
  - Public utility services;
  - Supplies manufactured outside the United States, Puerto Rico, or the Virgin Islands;
  - Purchases against the account of a defaulting contractor where the stipulations of the Act were not included in the defaulted contract; and
  - Newspapers, magazines, or periodicals, contracted for with sales agents or publisher representatives, which are to be delivered by the publishers thereof.
- The following are partially exempt from the Act:
  - Contracts with certain coal dealers;
  - Certain commodity exchange contracts;
  - Contracts with certain export merchants;
  - Contracts with small business defense production pools, and small business research and development pools;
  - Contracts with public utilities for the acquisition of certain uranium products.
- Upon the request of the agency head, the Secretary of Labor may exempt specific contracts or classes of contracts from the inclusion or application of one or more of the Act's stipulations; provided, that the request includes a finding by the agency head stating the reasons why the conduct of Government business will be seriously impaired unless the exemption is granted.

- ***Does the proposed labor rate meet the minimum requirements the Act?***

The offeror/contractor must pay the minimum wage rates specified by the Act.

As you analyze labor rate reasonableness, consider the following questions related to the Office of Federal Procurement Policy (OFPP) issued Policy Letter No. 78-2, Preventing "Wage Busting" for Professionals, dated March 29, 1978:

- ***Does OFPP Policy Letter No. 78-2 apply to this type of labor?***

The Service Contract Act of 1965 was enacted to ensure that Government contractors compensate their blue-collar service workers and some white-collar service workers fairly, but it does not cover bona fide executive, administrative, or professional employees. The Office of Federal Procurement Policy issued Policy Letter No. 78-2 to provide policies and procedures for use in negotiated service contracts exceeding $500,000 that involve meaningful numbers of professional employees.

  - The term "professional employee" includes members of those professions having a recognized status based upon acquiring professional knowledge through prolonged study. Examples of these professions include accountancy, actuarial computation, architecture, dentistry, engineering, law, medicine, nursing, pharmacy, the sciences (such as biology, chemistry, and physics, and teaching) (FAR 22.11).
  - To be a professional employee, a person must not only be a professional but must be involved essentially in discharging professional duties.

- ***Does the proposed labor rate meet the minimum requirements of OFPP Policy Letter No. 78-2?***

The offeror must propose labor rates and related compensation that compensates professional employees fairly and properly.

  - Use the Evaluation of Compensation for Professional Employees provision in requests for proposals to require offerors to submit a total compensation plan for evaluation. The plan should set forth proposed salaries and fringe benefits

for professional employees working on the contract.

- Supporting information will include data (e.g., recognized national and regional compensation surveys and studies of professional, public and private organizations) used in establishing the total compensation structure.
- Evaluate the plan to assure that it reflects a sound management approach and understanding of contract requirements. Assess the offeror's ability to provide uninterrupted high-quality work. Evaluate the proposed professional compensation in terms of its impact upon recruiting and retention, its realism, and its consistency with a total plan for compensation. Proposed compensation levels should:
- Reflect a clear understanding of the work required under the contract.
- Indicate the capability of the proposed compensation structure to obtain and keep suitably qualified people to meet mission objectives.
- Take into account differences in skills, the complexity of various disciplines, and professional job difficulty.
- Evaluate proposals envisioning compensation levels lower than those of predecessor contractor for the same work considering the effect on program continuity, uninterrupted high-quality work, and availability of required competent professional service employees.

7.3.2 Considering The Skill Mix Of Labor Effort

Skill Mix. The labor rate for a top scientist is usually more than the labor rate for a technician. You would not accept a cost estimate that proposes only top scientists for routine equipment repair. At the same time, you would not accept a cost estimate that proposes only technicians for a complex research effort to advance the state of the art in nuclear physics.

Part of your task in evaluating proposed labor rates is to evaluate the labor mix. You will likely need technical support to develop a pricing position that represents an

effective and efficient mix of skills for contract performance.

- ***Is the proposed skill mix reasonable for the work required?***

Most contracts require a mix of skills. For example, top scientists would obviously play a key role in a contract to advance the state of the art in nuclear physics, but technicians would likely be more efficient and more effective at performing many tasks. Top scientists would cost more per hour and likely require more hours. Technicians may be able to do many of the tasks traditionally assigned to top scientists, but require much longer to complete them.

- ***Is the proposed skill mix reasonable based on the mix used in performing similar contracts?***

Comparisons are particularly important for follow-on contracts for similar products or services. Normally, higher level skills should not be employed on a follow-on contract unless there were identified labor problems or more complex work is required. Lower level skills may be appropriate as complex problems are solved and contract effort becomes more routine.

Calculating a Weighted-Average Labor-Rate. When pricing proposals, offerors usually find it impractical, if not impossible, to identify the exact labor rate for each individual projected to work on the contract. They likely do not know exactly who will work on which contract and how many hours they will work.

- ***Did the offeror use a weighted-average labor rate?***

The offeror may estimate labor rates by position class (e.g., senior engineer or principle analyst) or by department. Eitherway, they will likely use some form of weighted-average labor rate. A weighted average rate takes into account the rate and the number of workers working at that rate.

- ***Did the offeror calculate the weighted-average labor rate correctly?***

The following table demonstrates the weighted-average labor rate calculation for Engineering Department A. The department work force includes three engineering position classes: senior engineer, intermediate engineer, and entry-level engineer.

Calculating a Weighted-Average Labor Rate for Engineering Department A			
Engineering Labor Category	**Engineers Employed**	**Labor-rate per Hour**	**Weighted Data Column**
Senior	100	$37.50	$3,750.00
Intermediate	200	$31.02	$6,204.00
Entry-Level	300	$29.90	$8,970.00
Totals	Engineers Employed	**Weighted Data**	
Total From Dept. A	600	$18,924.00	
Total From Dept. B	725	$26,462.50	
Combined Total			
Combined weighted-average labor rate = $45,386.50 ÷ 1,325 = $34.25			

- The offeror plans to divide this new department into two teams -- Competitive Production Contracts Team and Non-competitive Production Contracts. Everyone will be doing the same work as before the two departments were combined.
- By combining these two departments with dissimilar work forces, the offeror can shift cost from the competitive production work to the non-competitive work.
- Under the combined structure the workers on the non-competitive contracts in the old Department A would have a rate of $34.25 an hour instead of $31.54, even though the workers are the same.
- Under the combined structure the workers on the competitive contracts in the old Department B would have a rate of $34.25 an hour instead of $36.50, even though the workers are the same.

Contract vs. Plant-Wide Averages. Many contracting officers question the use of plant-wide labor rates for contract pricing. They feel that the contract direct labor rate should reflect only the work required under the contract.

- ***Does the Government consistently accept the plant-wide labor rate for other contracts?***

Normally, you should use a plant-wide labor rate if the Government accepts the plant-wide rate for all other proposals. In other words, both you and the offeror must be consistent! Neither party should "cherry pick" rates by using the specific contract rate or the plant-wide average, depending on the relative pricing advantage involved. The offeror's estimating procedures should clearly spell out how labor rates will be applied.

- ***Is a plant-wide labor rate reasonable for the proposed contract?***

If the offeror estimates using plant-wide average rates but the work performed on your contract is substantially different than the other work performed by the offeror, the skill mix required on your contract may be substantially different. If the proposed contract effort is different than other work performed by the offeror, you may need to encourage the offeror to change the method used in labor-rate estimating. Contact the cognizant ACO or the cognizant Government contract auditor for assistance.

7.3.3 Considering The Time Period Of Labor Effort

Need to Evaluate Estimates of Time of Performance. Unless the proposed contract is going to be completed within a few weeks of contract award, the time period or periods when work will be performed becomes very important. Labor rates are not constant. To develop a realistic estimate of direct labor costs, the estimate must match the labor-hour estimate with a reasonable labor rate for the period when the work will take place. Remember, the objective of your analysis is to develop a pricing position that, as closely as possible, estimates what actual labor costs will be.

Labor-Loading Schedules (FAR Table 15-2). The offeror's proposal should include labor-loading schedule -- a time-phased (e.g., monthly or quarterly) breakdown of labor hours, rates, and costs by labor category.

- ***Does the labor-loading schedule provide a reasonable match of the labor hours required to complete the***

contract with the time period when the labor effort is projected to occur?

The proposal should include supporting rationale for the assignment of labor hours to future time periods and the pattern of labor-hour estimates in the schedule should match the pattern of work expected for contract performance. For a contract that will extend over many months, you should not expect that all work will be completed in the first month or the last. You should expect labor effort throughout the period, and the pattern should be reasonable (e.g., product design should be scheduled before product assembly).

For example: The two tables below present two different contract labor estimates from a company that revises labor-rate estimates annually. Work begins in August 19X1 and will continue at a relatively constant level of effort through April 19X2. Note that Labor Estimate 1 appears more reasonable, because the labor-hours are more logically identified with the period when they are projected to occur.

Labor Estimate 1			
Rate Period	**Estimated Hours**	**Hourly Rate**	**Labor Estimate**
19X1	5,000	$10.38	$51,900.00
19X2	5,000	$10.99	$54,950.00
TOTALS	10,000		$106,850.00

Labor Estimate 2			
Rate Period	**Estimated Hours**	**Hourly Rate**	**Labor Estimate**
19X2	10,000	$10.99	$109,900.00

- ***Does the labor-rate proposal conform to the offeror's accounting and estimating practices?***

The offeror may estimate rates for each month, quarter, year, or some other period. Whatever estimating periods the offeror uses to estimate labor rates, the estimate should use the same periods.

Using Industry and Company Data to Estimate Future Rates. The offeror's labor rates must be reasonable for the work required and the time period when the work will be performed.

- ***Are future rate estimates reasonable considering the current rate and projected industry rate increases?***

There are two U.S. Bureau of Labor Statistics indexes that you may find useful as you analyze projected labor rate changes.

  - The Employment Cost Index provides information on compensation changes over time with data presented by occupation, occupation within industry, regions, bargaining unit status, and metropolitan area status.
  - The Consumer Price Index provides information on changes in consumer prices over time. While this index does not relate directly to labor rates, changes for many labor rates are tied to changes in the index.

The indexes above are historical indexes. You can use the data to estimate trends, but the indexes do not provide forecasts. However, there are commercial forecasting services (e.g., DRI/ McGraw-Hill) do provide such forecasts.

- ***Are future rate estimates reasonable considering the current rate and historical rate increases provided by the firm?***

Company labor-rate increases usually follow a trend over time. If you have three years of labor-rate data and you note that wages are increasing at a rate of five percent per year, you can use that information coupled with other data to estimate future rates.

However, remember that historical data reflect what happened in the past. You can use a quantitative technique (e.g., regression analysis) to project the trend, but such analysis will not be able to predict changes in the economy and other factors that will affect labor rates.

Labor-Management Agreement (FAR 22.101-2 and 31.205-6(c)). Rates must be reasonable considering any existing labor-

management agreement. However, you should question any rates that appear unwarranted or discriminatory.

- ***Do the proposed labor rates conform to any labor-management agreement on wages or salaries?***

Proposed labor rates should normally conform to any labor-management agreement on wages or salaries. However, contractor labor policies and compensation practices, whether or not included in labor-management agreements, are not acceptable bases for analyzing proposed labor rates if those policies and practices result in unreasonable costs to the Government.

- ***If there is a labor-management agreement on wages or salaries, should you use it as a basis for estimating future labor rates?***

You should consider costs of compensation established under "arm's length" negotiated labor-management agreements reasonable, if you do not determine that they are unwarranted by the character and circumstances of the work or discriminatory against the Government.

  - A labor rate is unwarranted when the offeror applies the agreement provisions that were designed to apply to a given set of circumstances and conditions of employment (e.g., work involving extremely hazardous activities) to a Government contract involving significantly different circumstances and conditions of employment (e.g., work involving less hazardous activities).
  - A labor rate is discriminatory against the Government if it results in employee compensation (in whatever form or name) in excess of that being paid for similar non-Government work under comparable circumstances.

7.3.4 Considering Company-Unique Factors

Differences Between Companies. There can be vast differences in the compensation policies and procedures of different firms -- even when the firms are in the same

industry and region. You must consider these differences as you perform your direct labor-rate analysis.

Uncompensated Overtime. (DCAM 6-410, FAR 31.201-4, 37.115, 52.237-10, App B, 9904.401, and App B, 9904.418).

The term "uncompensated overtime" relates to any unpaid hours worked in excess of an average 40 hours per week by an employee who is exempt from requirements of the Fair Labor Standards Act (FLSA). Over the past few years, uncompensated has become a substantial concern in labor-rate analysis, particularly in service contracting. Increasingly, firms are encouraging or even requiring FLSA-exempt employees to work a 45 to 80 hour week - while paying them a salary based on 40 hours.

- ***How does the firm account for uncompensated overtime?***

All firms do not all treat uncompensated hours in the same way.

  - Some firms only account for eight hours of work each day no matter how may hours are actually worked. This is known as "40-hour accounting." Of these firms, some distribute labor costs only to cost objectives worked during the first eight hours of the work day. Others permit employees to select the cost objectives to be charged for excess hours. These accounting methods provide opportunities for the firm to manipulate the allocation of direct labor costs and related indirect costs.
  - Other firms require their employees to charge for every hour worked - compensated or not. This is known as "total time accounting". The Defense Contract Audit Agency (DCAA) and others contend that total time accounting is required for compliance with FAR and CAS requirements.

- ***How does the offeror's method of accounting for uncompensated overtime affect labor rates and product quality?***

Differences in accounting for uncompensated overtime can affect proposal evaluation. It can be a particular problem for technical or professional services contracts where the requirement is defined by the number of hours to be provided rather than by the task to be performed. For

example, Firm A may be able to offer a lower rate per hour than Firm B, because Firm A requires its employees to accept uncompensated overtime and Firm B does not.

- Insert the FAR Identification of Uncompensated overtime provision in any solicitation valued above the simplified acquisition threshold for professional or technical services to be acquired on the basis of the number of hours to be provided.
- When evaluating the realism of the proposed price for a professional or technical service contract where the requirement is defined on the basis of the number of hours to be provided, consider the probable effects of compensated overtime on contract performance. For example, one employee working 80 hours per week may not be able to contribute as much to contract performance as two employees who are both working 40 hours per week.

Paid Overtime and Shift Premiums (FAR 22.103).

- ***Does the proposal include paid overtime or shift premiums?***

Whenever possible, ascertain the extent that offers are based on payment of overtime or shift premiums.

- ***Is the paid overtime or shift premium reasonable?***

Do not negotiate prices that include overtime or shift premiums unless they are necessary for timely contract completion.

- Simply stated, the Government requirement must necessitate the need for premium charges.
- If the offeror is proposing overtime to compensate for poor scheduling, Government recognition of the overtime costs is clearly not reasonable.
- Approval of overtime use may be granted by an agency approving official after determining in writing that overtime is necessary to:
- Meet essential delivery or performance schedules;
- Make up for delays beyond the control and without the fault or negligence of the contractor; or

- Eliminate foreseeable extended production bottlenecks that cannot be eliminated in any other way.

Changes in Labor Demographics. Changing demographics can have a substantial affect on labor rates.

- ***Are labor rates affected by demographic changes related to business volume?***

Business volume changes can have a substantial affect on labor demographics, including: major personnel hiring, layoffs, recalls, and early retirement options.

- Layoffs are typically accomplished considering seniority. New lower-paid employees are usually the first to go with the more senior higher paid employees staying on. The result is an increase in average labor rates.
- Recalls and new hiring typically introduce additional employees at relatively lower pay levels. The result is a decrease in average labor rates.
- Early retirements typically allow higher paid senior employees to leave the company. Labor rates drop, but retirement expenses (indirect costs) may increase.

- ***Are labor rates affected by demographic changes related to production methods?***

Production method changes can have a disruptive effect on labor rates by shifting the number of employees in different skill levels and by eliminating or adding whole job categories. For example a shift from manual production to automated production may cause the firm to replace skilled craftsmen with lower-skilled machine operators.

Compensation Trade-Offs (FAR 31.205-6(b)). In most firms, wage rates are only part of a complex compensation package. Differences in these packages can significantly affect comparisons between firms.

- ***Do differences in other elements of compensation affect labor-rate comparisons?***

Your comparison of the labor rate of one firm with the rates of other firms may be affected by related

compensation package differences (e.g., lower labor rates but higher pension benefits). Only consider offsets between the allowable elements of an employee's (or a job class of employees') compensation package or between the compensation packages of employees in jobs within the same job grade or level.

- ***Do trade-offs between labor rates and other compensation elements appear to result in a compensation package that is reasonable overall?***

Consider measurable trade-offs between any of the following compensation elements:

  - Wages and salaries;
  - Incentive bonuses;
  - Deferred compensation;
  - Pension and savings plan benefits;
  - Health insurance benefits;
  - Life insurance benefits; and
  - Compensated personal absence benefits.

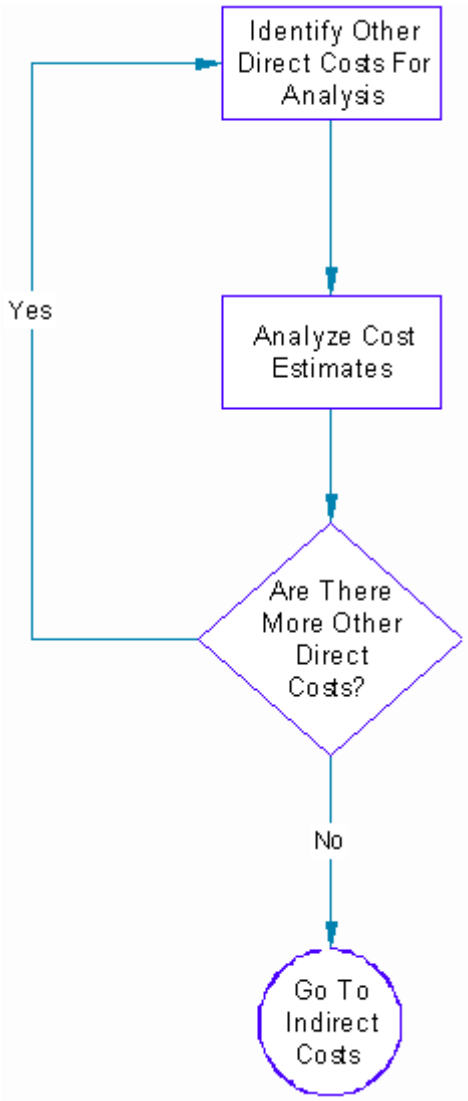
Ch 8 - Analyzing Other Direct Costs

8.0 Chapter Introduction

This chapter identifies points to consider as you develop your prenegotiation position on other direct costs.

Analysis Responsibility (FAR 15.402(a) and 15.404-2(a)). The contracting officer has the ultimate responsibility for determining price reasonableness, but the contracting officer should request any necessary support from other members of the Government Acquisition Team. Any request for support should be tailored to the proposal under analysis. Requesting unnecessary assistance can waste important Government resources.

Flowchart of Other Direct Cost Analysis. The following flowchart depicts the key events completed as part of a typical other direct cost analysis:



8.1 Identifying Other Direct Costs For Analysis

Identifying Other Direct Costs (FAR Table 15-2). FAR describes other direct costs as costs not previously identified as a direct material cost, direct labor cost, or indirect cost. In other words, an other direct cost is a cost that can be identified specifically with a final cost objective that the offeror does not treat as a direct material cost or a direct labor cost. Examples of the types of cost that are commonly proposed as other direct costs include:

- Special tooling and test equipment:
- Computer services;

- Consultant services;
- Travel;
- Federal excise taxes;
- Royalties;
- Preservation, packaging, and packing costs; and
- Preproduction costs.

Reasons for Other Direct Cost Identification and Treatment. Costs are identified and treated as other direct costs to assure proper allocation and treatment.

- **Cost allocation.** An other direct cost is often the type of cost that the firm would normally charge as an indirect cost, but the proposed contract requires a large, unusual, or one-time expenditure (e.g., special tooling) that will benefit only the proposed contract. It would be unreasonable to expect the rest of the firm's products to share these unique costs.
- **Cost treatment.** Costs may be treated as other direct costs to assure that they will receive proper treatment. For example, special tooling bought to complete a specific Government contract will normally become Government property. That property may then be furnished to that firm or other firms for similar contracts.

Points to Consider. As you plan for other direct cost analysis, look for indicators of uneconomical or inefficient practices. Consider the results of any technical or audit analyses. If an element of proposed other direct cost appears suspicious, concentrate more analysis effort on that element than on a less suspicious cost element of similar dollar value. As you plan:

- Identify any proposed other direct cost that apparently should be classified as an indirect cost.
- Identify any proposed other direct cost that appears to duplicate another proposed direct cost.
- Identify any proposed other direct cost that does not appear reasonable.
- Identify any proposed other direct cost that merits special attention because of high value or other reasons.
- Assure that concerns about other direct cost estimates are well documented.

Identify Any Proposed Other Direct Cost That Apparently Should Be Classified As an Indirect Cost.

Because many other direct costs might be classified as indirect costs under different circumstances, it is particularly important to assure that the proposed treatment is proper. To identify any proposed other direct cost that apparently should be classified as an indirect cost, ask questions such as the following:

- ***Will the proposed cost benefit both the proposed contract and other work?***

If the cost will benefit the proposed contract and other contracts, it should not be treated as an other direct cost. Instead it should be treated as an indirect cost.

- ***Does the offeror customarily treat similar costs as indirect costs under similar circumstances?***

If the offeror customarily treats similar costs as indirect costs under similar circumstances, the proposed cost should also be treated as an indirect cost.

- ***Can the accounting system segregate proposed other direct costs from similar indirect costs?***

If the accounting system cannot differentiate between the proposed cost and similar indirect costs, the proposed cost should also be treated as an indirect cost

Identify Any Other Direct Cost That Appears To Duplicate Another Direct Cost. To identify any proposed other direct cost that appears to duplicate another proposed direct cost, ask questions such as the following:

- ***Does the proposed other direct cost effort duplicate tasks already proposed as part of direct material cost or direct labor cost?***

An estimator preparing an estimate of direct labor cost or direct material cost may not know that the same task is being estimated as part of other direct cost. It can be particularly easy for a firm to propose in-house labor and consultant labor to complete the same task.

- ***Does a cost estimating relationship used to estimate direct material cost or direct labor cost include costs to perform tasks also proposed as an other direct cost?***

Costs may normally be proposed using a cost estimating relationship. For example, computer support may be estimated based on the number of engineering hours. However, the unique nature of the proposed contract may require vastly more and different types of engineering computer support. Accordingly, the firm has proposed to purchase outside computer services as an other direct cost. Since the other direct cost will replace the in-house support, the in-house support should not be included in the cost estimate.

Identify any Cost That Does Not Appear Reasonable. To identify any proposed other direct cost that does not appear reasonable, ask questions such as the following:

- ***Is the proposed other direct cost consistent with the offeror's estimating assumptions?***

If any part of the estimate is not consistent with stated estimating assumptions, question the costs involved.

- ***Is the proposed other direct cost necessary to complete the contract?***

Require the offeror to support the need for any other direct cost that does not appear needed to complete contract tasks.

- ***Has the offeror identified all the other direct costs reasonably required to complete the contract?***

If the offeror appears to need additional other direct cost support to complete the contract, question why the cost for that support was not included in the cost proposal.

Identify Costs Which Merit Special Attention. To identify any proposed other direct cost that merits special attention because of high proposed cost or other reasons, ask questions such as the following:

- ***Is any single other direct cost a large portion of the total cost estimate?***

Occasionally, a single estimate will be a large part of the entire estimate. That estimate will normally merit special attention because of the dollars involved.

- ***Is any other direct cost critical to contract performance?***

The offeror's ability to obtain the resources treated as other direct costs may be critical to contract performance. Critical elements merit special consideration to assure that the offeror fully understands contract requirements.

Document Concerns About Other Direct Cost Estimates. To assure that concerns about other direct cost estimates are well documented, ask questions such as the following:

- ***Have you identified concerns about other direct cost estimates?***

If the answer is "yes" document the areas of concern for reference as you perform more in-depth analysis.

- ***Has the offeror had an opportunity to answer your concerns?***

Consider raising these concerns in fact-finding conversations with the offeror. If the problem is an error in the proposal, bring the error to the offeror's attention so that it can be corrected prior to formal discussions.

8.2 Analyzing Cost Estimates

This section identifies points to consider as you analyze other direct cost estimates.

- 8.2.8 - Analyzing Preproduction Costs

Special Points to Consider in Analysis. Your analysis of other direct costs should parallel your analysis of any direct cost. However, you should concentrate your analysis on the following points:

- Determine if other direct costs are properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract.
- Determine if the proposed other direct cost is reasonable, considering any points identified for special emphasis.

Develop and Document Your Prenegotiation Position. As you develop and document your prenegotiation position on other direct costs:

- If you accept the offeror's proposed other direct cost, document that acceptance.
- If you do not accept the proposed other direct cost, document your concerns with the proposal and develop your own prenegotiation position for costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate analysis of direct labor-hours, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

8.2.1 Analyzing Special Tooling And Test Equipment Costs

Special Tooling (FAR 45.101). Special tooling includes jigs, dies, fixtures, molds, patterns, taps, gauges, other equipment and manufacturing aids, all components of these items, and replacements for these items which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or the performance of particular services. It does not include material, special test equipment, facilities (except foundations and similar improvements necessary for special tooling installation), general or special machine tools, or similar capital items.

Special Test Equipment (FAR 45.101). Special test equipment includes single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in performing a contract. It consists of items or assemblies of equipment including standard or general purpose items of components the are interconnected and interdependent so as to become a new functional entity for special testing purposes. It does not include material, special tooling, facilities (except foundations and similar improvements necessary for special test equipment), and plant equipment items used for general plant testing purposes.

Determine If the Cost Is Properly Proposed. To determine if the cost of special tooling and test equipment is properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Is the proposed tooling or test equipment only usable on the proposed contract or is it general purpose (usable for other products/contracts)?***
  - If the tooling or test equipment is usable only for the proposed contract, consider the proposed other direct cost.
  - If the equipment is general purpose and can be used elsewhere, it should be capitalized and depreciated through the appropriate indirect cost account. Through the application of indirect cost rates, each contract will receive its fair share of the depreciation expense. You should not accept any estimate as other direct cost.
- ***Can the necessary task be performed at a lower total cost (equipment plus labor) with general purpose tooling or test equipment?***

Do not accept special tooling or test equipment as an other direct cost, when general purpose equipment can do the same job at lower total cost. If general purpose equipment will not do the job at a lower total cost, further consider the cost of the special tooling and test equipment.

Determine If the Proposed Cost Is Reasonable. As you determine if the proposed special tooling or test equipment cost is reasonable, ask questions such as the following:

- ***Is the proposed special tooling or test equipment appropriate for the required period of use?***

This question really deals with the total period that the special tooling or test equipment will be required. If there are projected follow-on requirements, you may need to look beyond the immediate proposal to determine the total Government need. You will probably need technical assistance in making your analysis.

- ***Does the proposal include appropriate quantities of special tooling and test equipment?***

This question deals with capacity. If the contract calls for a production rate of 100 units per month, and a single tool can only produce 50 per month, then additional capacity is needed. If the contract calls for production of 50 units a month and a single tool will produce 100, the expenditure may be excessive. Support from Government technical personnel can be invaluable in reviewing the capacity of proposed tooling, suggesting different tooling or approaches that can meet the contract requirements, or identifying existing tooling that could augment the proposed tooling and meet contractual requirements at reduced costs.

- ***Is there Government owned tooling or test equipment available that can be used on a rent-free noninterference basis?***
    - If appropriate Government owned tooling or test equipment already exists, consider providing the tooling for contractor use on the proposed contract rather than paying the contractor to acquire new tooling or test equipment. If the Government owned tooling or test equipment is being used by the offeror on other Government contracts, it can be used on the proposed contract provided that use does not interfere with use of the tooling or test equipment by the "owning" contract. Rent-free use on a noninterference basis between Government contracts is a normal and customary practice.
    - If the required tooling or test equipment is not already available within Government resources, further consider the cost of proposed special tooling or test equipment.

- ***Is the proposed cost reasonable for the special tooling or test equipment required?***

Proposed special tooling and test equipment costs may include a variety of direct and indirect costs. Analyze the proposed cost just as you would analyze the proposed cost for any separately price line item of the contract.

8.2.2 Analyzing Computer Service Costs

Computer Service Center (FAR 31.205-26). Firms often collect in-house computer costs under a service center and charge users for using the computer services. In-house users of the computer services may be completing tasks in direct support of a specific contract requirement or in indirect cost support of company operations. Accordingly, the service center costs may be charged as direct or indirect costs, depending how the services are used.

Determine If the Cost Is Properly Proposed. To determine if computer service cost is properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, you must understand how the offeror collects and allocates computer-related costs. The cognizant Government auditor can be helpful in establishing the appropriateness of the charges as other direct costs.

Determine If the Proposed Cost Is Reasonable. To determine whether the proposed computer service cost is reasonable for contract task requirements, ask questions such as the following:

- ***Is the amount of the proposed computer effort reasonable for the contract?***

If direct computerized effort is not required, you should not accept any part of the proposed other direct cost. If a lower effort is required, the Government pricing position should reflect that adjustment.

- ***Are the proposed costs based on the computer resources that will actually be used to complete the required tasks?***

Many times offeror personnel will have multiple computer resources available to provide the same type of support. Available resources might include: a central computer service center, a local area network, stand-alone personal computers, and contract computer services. If the work will be completed in stand-alone personal computers, any other direct computer center charge would be unreasonable.

- ***Does the selected source offer the best value to the offeror and the Government?***

The required computer services may be available from an in-house service center and several outside sources. Each source will likely have different costs and benefits to the offeror and the Government.

- ***If the offeror proposes to obtain the required service as an interorganizational transfer, has the firm met the associated pricing requirements?***

The Government prefers interorganizational transfers at cost, however, a transfer at price may be acceptable when required FAR conditions are met.

8.2.3 Analyzing Professional And Consultant Service Costs

Professional And Consultant Services (FAR 31.205-33(a)). Professional and consultant services are services rendered by persons who are members of a particular profession or possess a special skill and who are not officers or employees of the contractor. They are generally acquired to obtain information, advice, opinions, alternatives, conclusions, recommendations, training, or direct assistance, such as studies, analyses, evaluations, liaison with Government officials, or other forms of representation.

Determine If the Cost Is Properly Proposed. To determine if professional and consultant services are properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Does the task defined for completion by consultants duplicate a task defined for in-house completion?***

An estimator preparing an estimate of direct labor cost may not know that the same task is being estimated for performance by consultants.

- ***Does a cost estimating relationship used to estimate direct labor cost include costs to perform tasks also proposed for performance by consultants?***

A task previously performed by in-house personnel may now be designated for performance by consultants. Without specific adjustment, any direct labor cost estimating relationship developed using cost data that include the cost of performing that task will include that task in direct labor estimates for future contracts.

Determine If the Proposed Cost Is Reasonable (FAR 31.205-33). As you determine whether the proposed costs are reasonable for the required professional or consultant services, ask questions such as the following:

- ***Is the proposed cost reasonable in relation to the service required?***

Generally, offerors obtain consultant labor from firms that specialize in providing related services. These firms hire or contract with individuals to work for them and then contract out to firms requiring their services. When there is competition to meet these needs, the offeror can often support the reasonableness of contract labor costs by citing price competition.

- ***Is the proposed cost necessary and reasonable considering the offeror's capability in a particular area?***

If full-time employees are available and capable of performing the required work at a lower cost, question the need for consultants. If consultants are needed, you should still examine any increased cost related to using consultants instead of in-house labor. What was the basis for deciding which type of labor would be used where?

- ***What was the past pattern of acquiring such services and what was the cost?***

Changes from past practices should be questioned if costs increased as a result of the change.

- ***Is the service of a type identified as unallowable under Government contracts?***

Professional consultant costs for the following are unallowable:

  - Services to improperly obtain, distribute, or use information of data protected by law or regulation.
  - Services to improperly influence the contents of solicitations, evaluation or proposals or quotations, or the selection of sources for contract award.
  - Services resulting in violation of any law statute or regulation prohibiting improper business practices of conflicts of interest.
  - Services performed which are not consistent with the purpose and scope of the services contract or agreement.

8.2.4 Analyzing Travel Costs

Travel Cost (FAR 31.205-46(a)). Travel costs include the costs for transportation, lodging, meals, and incidental expenses incurred by contractor personnel on official company business.

Dollar for dollar, travel cost estimates attract more attention than any other element of most cost proposals. Interest continues to increase in this age when travel costs are rapidly increasing and alternative means of communication (e.g., teleconferencing) are becoming more commonplace.

Determine If the Cost Is Properly Proposed (FAR 31.205-46). To determine if travel cost is properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Will the traveler charge labor effort to a direct or indirect labor account during travel?***

Normally, if the traveler's wages during travel are charged to an indirect labor account, the traveler's travel expenses are also charged as an indirect cost. If the traveler's wages during travel are charged direct to a contract, then the traveler's expenses for travel in connection with the contract are generally charged as a direct cost.

- ***What is the purpose of the travel?***

If an employee who normally charges direct to contracts attends a stress management course, the travel expenses will normally be charged against an indirect training account. If an employee who normally charges time to an indirect cost account travels to a Government office to present a contractually-required demonstration, the travel costs will normally be charged to the contract requiring the demonstration.

Determine If the Proposed Cost Is Reasonable. Costs for travel transportation may be based on mileage rates, actual costs incurred, or on a combination thereof, provided the method used results in a reasonable charge. Costs for lodging, meals, and incidental expenses may be based on per diem, actual expenses, or a combination thereof, provided the method used results in a reasonable charge. To determine if the proposed costs are reasonable based on contract requirements, ask questions such as the following:

- ***Is the proposed travel really necessary?***

Sometimes, travel is proposed to meet a contractual requirement on the assumption that the contractor will send someone from the contracting location to the specified location. If the offeror appears to have on-site field representatives who can fulfill the contractual requirement, question whether the travel cost is necessary.

If the contract requires a temporary field office, the proposal may include costs for personnel to travel to the field location and return to the home location at the end of the contract. Sometimes, you will find that the field representative has been at the remote location for several years and has no intention of leaving! Don't accept the argument that the travel moneys are really additional compensation "to keep the reps happy." If the contractor

wants to pay them additional money, the funds should be classified as compensation, not travel.

- ***Can fewer longer trips replace the proposed travel schedule?***

A few long trips generally cost less than the equivalent number of days in travel spread over a larger number of short trips.

- ***Can multiple tasks be accomplished on the same trip?***

Often contractor personnel can accomplish several tasks in one trip. If there is a separate travel estimate for each task, determine:

    - Whether the estimate is predicated on taking a separate trip for each task; and
    - Whether the traveling personnel will likely be able to accomplish several tasks during the same trip.
- ***Is the proposed number of travelers reasonable?***

Many trips involve teams of travelers. The offeror must support the need for each traveler, as well as the need for the trip.

- ***Is the proposed mode of transportation the most likely actual mode of transportation?***

This point is best explained with an example. A travel proposal is based on four employees flying to a nearby city using a commercial airline. In reality, the company usually sends employee groups to nearby cities in a single rental car. While the rental car may be an appropriate means of travel, the cost of travel will not be the same as airline travel.

- ***Do the proposed transportation, lodging, meal rates comply with FAR travel cost restrictions?***

Due to the high visibility of contractor travel on Government business, the FAR restricts travel expenses to the same levels that would pertain to Government employees if they were to make the same trip. Remember, the cost principle sets a maximum limit on these expenses. The cost principle does not set a floor below which the contractor

cannot go. If travel rates are available to the contractor below those set in the Government travel regulations, you should use those rates as the most fair and reasonable available.

8.2.5 Analyzing Federal Excise Tax Costs

Common Federal Excise Taxes (FAR 29.201(a)). Federal excise taxes are levied on the sale or use of particular supplies and services. The most common excise taxes are:

- Manufacturer's excise taxes imposed on certain motor-vehicle articles, tires, and inner tubes, gasoline, lubricating oils, coal, fishing equipment, firearms, shells, and cartridges sold by manufacturers, producers or importers
- Special-fuels excise taxes imposed at the retail level on diesel fuel and special motor fuels.

Determine If the Cost Is Properly Proposed (FAR 31.205-41). To determine if Federal excise tax costs are properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***What items are being assessed a Federal excise tax?***

The other direct cost proposal should identify what items are being taxed.

- ***What type of Federal excise tax is being proposed?***

The other direct cost proposal should also identify the Federal excise tax rate that is being used in the estimate and the reason for using that rate.

Determine If the Proposed Cost Is Reasonable (FAR 29.201(c), 29.202, and 29.203). As you determine whether the proposed Federal excise tax costs are reasonable based on contract requirements, ask questions such as the following:

- ***Is there a Federal excise tax exemption that is applicable to the current acquisition situation?***

Offerors can often obtain a Federal excise tax exemption certificate for products delivered under Government contracts. For example:

- No special-fuels excise taxes are imposed under many contracting situations.
- No communications excise taxes are imposed when the supplies and services are for the exclusive use of the Government.
- No highway vehicle use tax will be imposed when vehicles are owned or leased by the Government.

- ***Should you attempt to take advantage of an available Federal excise tax exemption?***

FAR requires you to take maximum advantage of available Federal excise tax exceptions. If you believe that costs related to pursuing the exemption outweigh the corresponding benefits to the Government, contact the cognizant Government legal counsel for advice before accepting any proposed Federal excise tax expense.

- ***Did the offeror use the proper Federal excise tax rate in estimating other direct cost?***

If necessary, contact the cognizant Government legal counsel for advice.

- ***Did the offeror use the proper base for calculating Federal excise taxes?***

Assure that the rate is applied to the proper cost or price base for tax calculation.

8.2.6 Analyzing Royalty Costs

Royalties (FAR 52.227-9(b)). Royalties are fees paid by the user to the owner of a right, such as a patented design or process. In Government contracting, the term includes any costs or charges in the nature of royalties, license fees, patent or license amortization costs, or the like for the use of or for rights in patents and patent applications in connection with performing a contract or subcontract.

Determine If the Cost Is Properly Proposed (FAR 52.227-6). To determine if royalty cost is properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Does the proposal include information required to identify the royalties included in the proposal?***

If a proposal includes royalties totaling more than $250, the proposal should identify the name and address of the licensor, date of license agreement, patent numbers or patent application serial numbers, description of the patented item or process, and related pricing information.

- ***Has the offeror provided license agreements to support specific claims in connection with the proposed contract?***

A copy of the license agreement will normally be necessary to determine proper pricing and Government rights under the agreement.

- ***Is the proposed royalty specifically identified with the proposed contract?***

Do cognizant Government technical, audit, and patent personnel confirm that the proposed costs are directly related to one or more items of the contract. If the costs are indirectly related to a number of the firm's products, the related costs should be proposed as indirect costs. If the contract items do not benefit from the identified patents, question whether the contract should bear any related expense.

Determine If the Proposed Cost Is Reasonable (FAR 27.206, 31.205-37, and 52.227-9). As you determine whether the proposed royalty cost is reasonable, ask questions such as the following:

- ***Do Government technical personnel confirm that the patented design or process is required to complete the proposed contract?***

You will normally need technical assistance to determine if the identified process or design is necessary to complete the contract.

- ***Does the Government possesses a license or right to free use of the patent?***

If the patented design or process resulted from work on a Government contract, the Government should hold a royalty-free license to use the patent. Consult the Government office with cognizance over patent matters for assistance.

- ***Has the patent expired or been found to be invalid or unenforceable?***

Consult the Government office with cognizance over patent maters for assistance.

- ***Is there a Government license rate for the required patent?***

There may already Government license rate established for the required patent Consult the Government office with cognizance over patent maters for assistance.

- ***Is the proposed rate otherwise fair and reasonable?***

Compare the proposed fee with any royalties that the offeror pays for similar commercial production. Consider the related cost of any possible alternatives. Consult the Government office with cognizance over patent matters for assistance.

- ***Does the contract require the contractor to reimburse the Government the amount of questionable warranties if they are not paid by the contractor?***

If the contract is fixed-price and it is questionable whether the contractor or subcontractor will make substantial royalty payments as a result of the contract, insert the FAR clause Refund of Royalties in the contract.

8.2.7 Analyzing Preservation, Packaging, And Packing Costs

Preservation, Packaging, and Packing (FAR 14.201-2(d) and 15.204-2(d)). Each solicitation and contract must describe any necessary preservation, packaging, and packing requirements. These requirements must be adequate to

prevent deterioration of supplies and damage due to the hazards of shipping, handling, and storage.

Determine If the Cost Is Properly Proposed. To determine if preservation, packaging, and packing costs are properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Does the offeror normally treat the costs of preservation, packaging, and packing as indirect costs under similar circumstances?***

If the offeror normally treats preservation, packaging, and packing costs as indirect costs under similar circumstances, the offeror should offer the same treatment for the proposed contract.

- ***Are the contract preservation, packaging, and packing requirements of the proposed contract unique?***

If the preservation, packaging, and packing requirements are different than other contracts with the offeror, the related costs should probably be other direct costs.

Determine If the Proposed Cost Is Reasonable. As you determine whether the proposed preservation, packaging, or packing costs are reasonable, ask questions such as the following:

- ***Does the proposal include adequate information for analysis of preservation, packaging, and packing costs?***

The other direct cost proposal should include a description of proposed preservation, packaging, and packing procedures and materials, as well as the per unit/item cost involved.

- ***Does the proposed cost appear reasonable when compared with costs incurred for similar packaging?***

Government transportation specialists should be able to provide substantial support for your analysis.

8.2.8 Analyzing Preproduction Costs

Preproduction Costs. Preproduction costs, also known as start-up or non-recurring costs, can be characterized as out of the ordinary costs associated with the initiation of production under a particular contract or program. Examples of preproduction costs include:

- Preproduction engineering;
- Special tooling;
- Special plant rearrangement;
- Training programs;
- Initial rework or spoilage; and
- Pilot production runs.

Solicitation Requirement. When these costs may be a significant cost factor in an acquisition, consider requiring in the solicitation that the offeror provide:

- An estimate of total preproduction and startup costs;
- The extent to which these costs are included in the proposed price; and
- The intent to absorb, or plan for recovery of, any remaining costs.

Determine If the Cost Is Properly Proposed. To determine if preproduction costs are properly proposed in accordance with the offeror's estimating and accounting practices, as well as accounting standards applicable to the contract, ask questions such as the following:

- ***Is there a mutual understanding between the offeror and the Government concerning what costs should be proposed as preproduction costs?***

This should be clearly described in the solicitation. Note that preproduction costs may include other direct costs examined earlier in this chapter (e.g., special tooling) Assure that the same other direct cost is not included in the proposal more than once.

- ***Is this cost proposed as an other direct cost in accordance with the contractor's accounting practices?***

The proposal must conform with applicable Cost Accounting Standards (CAS) and Generally Accepted Accounting Practices (GAAP).

- ***Do other estimates of direct and indirect cost, specifically exclude all costs proposed as a preproduction cost?***

If this type of cost is not specifically excluded from other categories of direct or indirect cost, the offeror may propose the same cost more than once.

Determine If the Proposed Cost Is Reasonable. As you determine whether the proposed preproduction costs are reasonable, ask questions such as the following:

- ***Are proposed costs reasonable for the required preproduction effort?***

In most cases, preproduction costs will include a combination of material and labor. The techniques of analysis are the same as those described in previous sections for direct material and direct labor.

- ***If appropriate, is there an agreement to defer preproduction costs in whole or in part to subsequent contracts?***

Since preproduction costs are nonrecurring costs, the contractor may agree to spread the costs across the total projected Government requirement.

- ***If a successful offeror has indicated an intent to absorb any portion of these costs, does the contract expressly provide that such costs will not be charged to the Government in any future noncompetitive pricing action?***

If a successful offeror has indicated an intent to absorb any portion of these costs, assure that the contract expressly provides that such portion will not be charged to the Government in any future noncompetitive pricing action.

Ch 9 - Analyzing Indirect Costs

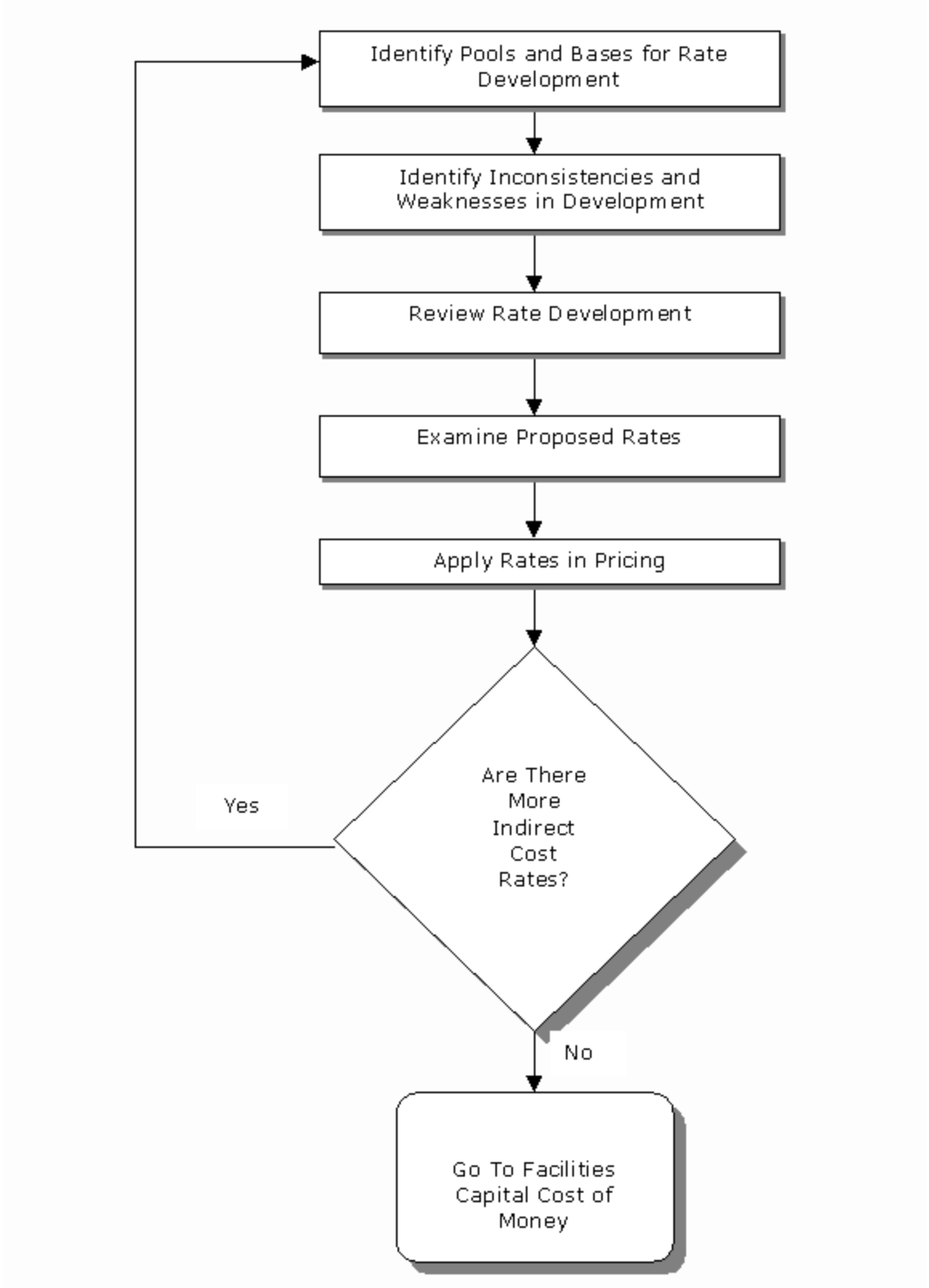
9.0 Chapter Introduction

This chapter identifies points that you should consider as you evaluate the rates used to allocate indirect costs to various cost objectives.

Analysis Responsibility (FAR 15.402(a) and 15.404-2(a)). While indirect costs cannot be directly identified with the production or sale of a particular product, they are necessary costs of doing business. Some portion of indirect cost is properly allocable to each contract that benefits from that cost.

Because indirect costs affect a number of contracts, support from the cognizant auditor and administrative contracting officer (when one is assigned) can be particularly important to your analysis. However, remember that the contracting officer still has the ultimate responsibility for determining contract price reasonableness.

Flowchart of Indirect Cost Analysis. The following flowchart depicts the key events that must be completed as part of a typical indirect cost analysis:


Identify Pools and Bases for Rate Development
Identify Inconsistencies and Weaknesses in Development
Review Rate Development
Examine Proposed Rates
Apply Rates in Pricing
Are There More Indirect Cost Rates?
Yes
No
Go To Facilities Capital Cost of Money

Indirect Cost (FAR 31.202(b) and 31.203). Two types of costs are typically allocated as indirect costs:

- Costs that cannot practically be assigned directly to the production or sale of a particular product. In accounting terms, such costs are not directly identifiable with a specific cost objective.

For example: The firm rents the plant where hundreds of different products are produced. The rent for that plant cannot not be traced to any single product, but none of the products could be made efficiently without the plant. The cost accountants who maintain the general accounting ledgers of the firm support every operation of the firm, but their efforts cannot be traced directly to any single product or contract.

- Direct costs of minor dollar amount may be treated as indirect costs if the accounting treatment is consistently applied and it produces substantially the same results as treating the cost as a direct cost.

For example: There is usually no net benefit to the contractor or the Government in trying to track every single washer or rivet to a single cost objective. The cost of such items, is commonly treated as an indirect cost.

Indirect Cost Importance in Cost Analysis. While indirect costs are an important consideration in the analysis of every cost proposal, the share of cost that they represent will vary from firm to firm and industry to industry. For example, expect indirect costs to represent a larger share of a cost proposal for heavy equipment manufacture than one for contract services. Manufacturing operations typically require substantial investment in plant and equipment --the very type of spending that generally cannot be directly charged to any one product. Services generally do not require a similar level of investment in plant and equipment.

Composition of Indirect Costs. The term "indirect costs" covers a wide variety of cost categories and the costs involved are not all incurred for the same reasons. The number of indirect cost accounts in a single firm can range from one to hundreds. In general, indirect cost accounts fall into two broad categories:

- **Overhead.** These are indirect costs related to support of specific operations. Examples include:
  - Material Overhead;
  - Manufacturing Overhead;
  - Engineering Overhead;
  - Field Service Overhead; and
  - Site Overhead.
- **General and Administrative (G&A) Expenses.** Theses are management, financial, and other expenses related to the general management and administration of the business unit as a whole. To be considered a G&A Expense of a business unit, the expenditure must be incurred by, or allocated to, the general business unit. Examples of G&A Expense include:
  - Salary and other costs of the executive staff of the corporate or home office.
  - Salary and other costs of such staff services as legal, accounting, public relations, and financial offices
  - Selling and marketing expenses

Obtain Necessary Audit and ACO Analysis Support (FAR 15.404-2(c) and 15.407-3). In most cases, the Government auditor and the administrative contracting officer (ACO) are the two Government Acquisition Team members who have the most in-depth knowledge of a firm's indirect costs and indirect cost allocation procedures. The auditor is the only Government Acquisition Team member with general access to the offeror's accounting records. The ACO is responsible for negotiating Forward Pricing Rate Agreements (FPRAs), including indirect cost rate agreements.

9.1 Identifying Pools And Bases For Rate Development

This section identifies points that you should consider as you identify the bases and pools needed to calculate the rates used to allocate indirect costs to various cost objectives.

Indirect Cost Allocation Rates. Since indirect costs are not directly related to a single cost objective, how do we know when they should be charged to a particular product?

We use indirect cost rates. As a larger share of a contractor's direct effort (e.g., manufacturing) is required to produce a particular product, use of an indirect cost rate will assure that a larger share of the indirect costs that the contractor incurs in support of that direct effort (e.g., costs such as supervision, utilities, and maintenance) is charged to the contract.

Indirect Cost Rate Formula. Indirect cost rates are expressed in terms such as dollars per hour or percentage of cost. Indirect cost rates are calculated for each accounting period by dividing a pool of indirect cost for the period by the allocation base (e.g. direct labor hours or direct labor cost) for the same period.

$$\text{Indirect Cost Rate} = \frac{\text{Indirect Cost Pool}}{\text{Indirect Cost Allocation Base}}$$

Once a rate is established, you can use it to determine the amount of indirect cost that should be allocated to the contract. Simply multiply the rate by the estimated or actual amount of the allocation base in the contract for that period. Contracts with a greater share of the allocation base (e.g., direct labor dollars) will be charged a greater share of the related indirect cost pool (e.g., manufacturing overhead). Contracts with a smaller share of the base will be charged a smaller share of the related indirect cost pool.

9.1.1 Identifying Indirect Cost Pools

Indirect Cost Pool Definition (FAR 31.203(b)). For each indirect cost rate, identify the ***INDIRECT COST POOL.***

$$\text{Indirect Cost Rate} = \frac{\textbf{\textit{INDIRECT COST POOL}}}{\text{Indirect Cost Allocation Base}}$$

An indirect cost pool is a logical grouping of indirect costs with a similar relationship to the cost objectives. For example, engineering overhead pools include indirect costs that are associated with engineering effort. Likewise, manufacturing overhead pools include indirect costs associated with manufacturing effort.

A properly developed indirect cost pool, should permit allocation of the included indirect costs in a manner similar to the allocation that would occur if the firm allocated each indirect cost separately.

For example: The firm could allocate the labor for maintenance of the building housing the firm's engineers and the electricity for the same building using two different indirect cost rates. Logically, both would be allocated based on the use of engineering services. Since both would use the same or similar allocation base, combining them into a pool (along with other engineering-related indirect costs) simplifies and clarifies the allocation process.

Primary Indirect Cost PoolsI. The indirect cost pools used to make the final allocation of indirect costs to cost objectives are known as primary pools. The table on the next page lists some of the more common primary pools and types of costs often found in each pool. A typical cost identified in the table with a particular pool (e.g., inbound transportation is identified with material overhead) could be:

- Combined with the related indirect costs into a single indirect cost pool (e.g., a single material overhead pool);
- Combined with some of the related indirect costs into one of several related indirect cost pools (e.g., indirect labor could be combined with one or two related expenses into a single pool).
- Allocated individually.

Remember, every firm's accounting system is different. The examples in the table are only typical; do not regard them as the only correct way to group costs.

Common Primary Cost Pools and Typical Costs Found in Each	
Common Pools	**Typical Costs Found in the Pool**
Material Overhead	• Acquisition (Purchasing) • Inbound transportation • Indirect labor • Employee related expenses (shift & overtime premiums, employee taxes,

	fringe benefits) • Receiving and inspection • Material handling and storage • Vendor quality assurance • Scrap sales credits • Inventory adjustments
Operations Overhead (e.g., Manufacturing, Engineering, Field Service, and Site Operations)	• Indirect labor and supervision • Perishable tooling (primarily in manufacturing overhead) • Employees related expenses (shift & overtime premiums, employee taxes, fringe benefits) • Indirect material & supplies (small tools, grinding wheels, lubricating oils) • Fixed charges (e.g., depreciation, insurance, rent, property taxes) • Downtime of direct employees (training, vacation pay, regular pay) when not working on a specific contract/job
General & Administrative Expense	• General & executive office • Staff services (legal, accounting, public relations, financial) • Selling and marketing • Corporate or home office • Independent research and development (IR&D) • Bid and proposal (B&P) • Other miscellaneous activities related to overall business operation

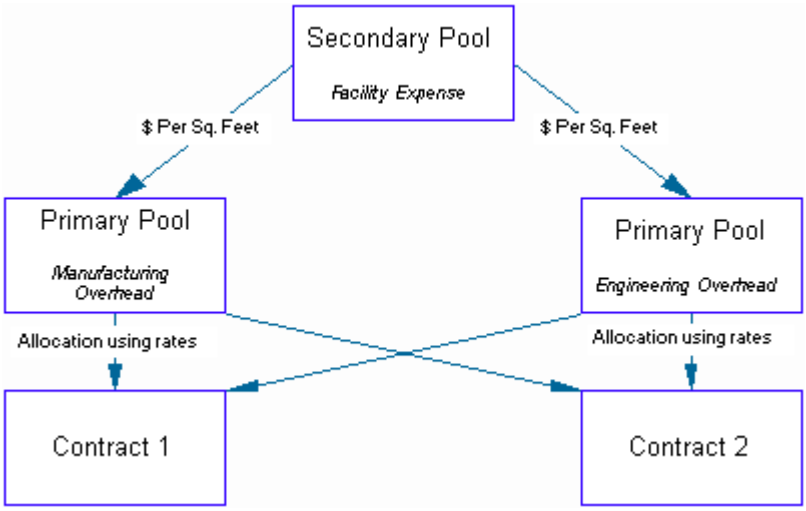
Secondary Indirect Cost Pools. A secondary pool is an intermediate pool that is used to allocate costs to primary pools.

Some indirect costs obviously belong to one specific primary pool. For example, the salary of a manufacturing manager would logically be charged as part of a manufacturing overhead pool. The company president's salary would be part of the general and administrative cost pool. These costs therefore would appear only in the appropriate primary pool.

The proper account for other indirect costs may not be so obvious. For example, a building is shared by manufacturing and engineering. Should facility expenses (e.g., building depreciation, utilities, and maintenance) be charged to engineering or manufacturing? The answer is that both should share the cost based on a causal or beneficial relationship with the cost involved. For example, facilities expenses could be allocated based on the share of available floor space occupied.

A reasonable share of each cost could be separately allocated to the appropriate primary pool, or the related costs could be grouped and allocated together. If the costs are grouped for allocation, the cost grouping is known as a secondary pool.

The figure below depicts the allocation of the expenses related to a shared facility based on the number of square feet occupied by each occupant. If engineering occupies 60 percent of the building, 60 percent of the facility-related expenses will be allocated to the engineering overhead pool. Forty percent will be allocated to the manufacturing overhead pool.



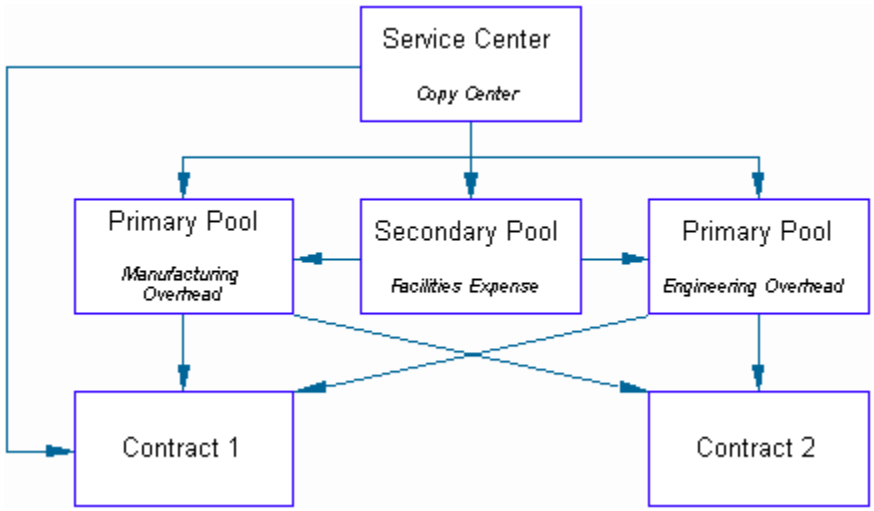
Service Centers. Service centers are unique in that they include costs that can be allocated as a direct cost or an indirect cost depending on the particular circumstances. Primary allocation concerns include identification of:

- The user of the service and

- The purpose of that use.

For example: The cost of a copy center are allocated based on the number of copies reproduced.

- A copy of a manufacturing drawing might be charged to manufacturing overhead.
- A copy of an engineering report might be charged to engineering overhead.
- A copy of the facility manager's weekly calendar might be charged to the facilities secondary pool.
- A deliverable copy of a research report prepared for the Government might be charged as a direct cost.



Remember that the firm must clearly define how service center costs will be allocated. Definition of the circumstances related to each different type of accounting treatment is particularly important. Clear definition will help avoid erroneous double charges that occur when the firm charges a service center cost as a direct cost while charging the same or similar cost as an indirect cost.

Service Center Examples	
• Copy center • Business data processing • Photographic services • Reproduction services • Art services	• Communication services • Facility services • Motor pool services • Company aircraft services • Wind tunnels

• Technical data processing services	• Scientific computer operations

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9.1.2 Identifying Indirect Cost Allocation Bases

Indirect Cost Allocation Base Definition (FAR 31.203(b)). For each indirect cost rate, identify the ***INDIRECT COST ALLOCATION BASE.***

$$\text{Indirect Cost Rate} = \frac{\text{Indirect Cost Pool}}{\textbf{\textit{INDIRECT COST ALLOCATION BASE}}}$$

An indirect cost allocation base is some measure of direct contractor effort that can be used to allocate pool costs based on benefits accrued by the several cost objectives. Examples of typical bases:

- Direct labor hours;
- Direct labor dollars;
- Number of units produced; and
- Number of machine hours.

The type of base determines whether the indirect cost rate will take the form of a percentage or a dollar rate per unit of measure. The following are some common bases that could be used in manufacturing indirect cost allocation:

$$\text{Dollars per Direct Labor Hour} = \frac{\text{Pool Dollars}}{\text{Direct Labor Hours}}$$

$$\text{Percent of Direct Labor Dollars} = \frac{\text{Pool Dollars}}{\text{Direct Labor Hours}} \times 100$$

$$\text{Dollars per Unit of Production} = \frac{\text{Pool Dollars}}{\text{\# of Production Units}}$$

$$\text{Dollars per Machine Hour} = \frac{\text{Pool Dollars}}{\text{Machine Hours}}$$

Whatever the allocation base, the larger a contract's share of the allocation base for the accounting period, the larger the contract's share of the related indirect cost.

Selecting a Base. When selecting an allocation base for the indirect cost pool, firms consider the type of indirect costs in the pool and whether the base will provide a reasonable representation of the relative consumption of pooled indirect costs by direct cost activities. Each allocation base should be representative of the breadth of activities supported by the pooled indirect costs.

For example: If the firm's manufacturing operation is labor intensive and the pool is predominantly labor related (e.g., supervisory labor and fringe benefit costs) the contractor will probably select a base related to labor effort for allocating manufacturing overhead costs. If the manufacturing operation is automated with little labor effort, the contractor will probably select a base related to the machinery use (e.g., machine hours).

Common Allocation Bases. The following table represents some of the more common bases and the type of pools that they are typically used to allocate:

	Types of Indirect Cost Pools					
Allocation Bases	**Manufacturing**	**Engineering**	**Field Service**	**Material**	**General & Administrative**	**Secondary Pools**
Total Cost Input [1]					·	
Cost of Value-Added [2]					·	
Direct Labor Dollars	·	·	·		·	
Direct Labor Hours	·	·	·		·	
Machine Hours	·					
Units of Product [3]	·					
# of Purchase Orders				·		
Direct Material Cost				·		

Total Payroll Dollars						.
Head Count						.
Square Footage						.

[1] Also referred to as the "Cost of Goods Manufactured" or "Production Cost" during the accounting period. It typically includes all costs except general and administrative expense.

[2] Also referred to as "Conversion Cost." It is the sum of direct labor costs, other direct costs, and associated indirect costs.

[3] Units of Product refers to units of final product produced. It is only an acceptable base when final products are relatively homogeneous and represent a reasonable measure of benefit from the appropriate pool.

9.2 Identifying Rate Inconsistencies Over The Allocation Cycle

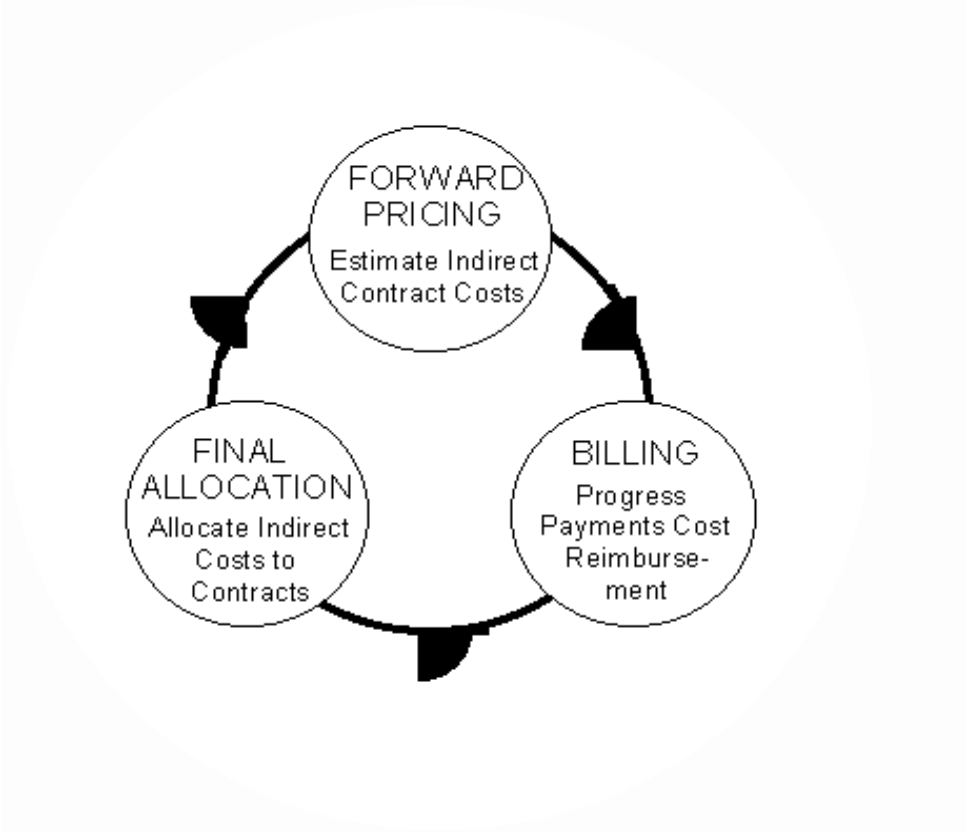
Importance of Accurate Indirect Cost Rate Estimates. Accurate indirect cost rate estimates are essential for effective cost analysis, because actual indirect cost rates will not be known until after the end of the accounting period. By that time, part or all of the contract effort will be complete.

Rate estimates are used for forward pricing, as well as progress payments or cost-reimbursement. You and the contractor may even agree to use estimated quick-closeout indirect cost rates for final pricing of flexibly-priced contracts, before actual rates are known for certain.

Points to Consider. As you review the estimating process used by the contractor in indirect cost rate development:

- Identify apparent rate inconsistencies over the indirect cost allocation cycle.
- Assure that concerns about the inconsistencies are well documented.

Indirect Cost Allocation Cycle (FAR 15.407-3, 42.701, 42.704, and 42.705). Indirect cost allocation typically follows the cycle depicted in the following figure:



- **Forward Pricing.** During this phase, the contractor proposes forward pricing rates and uses those rates in contract proposal pricing. Initial estimates are often developed several years before the accounting period even begins. However, estimates should be updated as more accurate cost data become available. As part of your cost analysis, you must assure that all forward pricing rates used in contract pricing are reasonable.
- **Contract Billing.** When a contract involves progress payments or cost reimbursement, Government personnel must monitor contract billing rates to assure that payments or reimbursements based on those rates are reasonable. During each cost accounting period, rates should become more accurate as more actual cost data become available. The contracting officer or auditor responsible for determining final indirect cost rates is also responsible for determining contract the billing rates.
- **Final Pricing.** After the cost accounting period is completed, contractors can calculate actual indirect cost rates to determine actual contract cost.
    - For contracts that require final pricing (e.g., fixed-price incentive and cost-reimbursement

contracts), the responsible contracting officer or auditor must determine final overhead rates for the contract. This determination will be based on the Government's evaluation of the final overhead rate proposal submitted by the contractor.

- Unfortunately, months or years may be required to complete this process. Under certain conditions set forth in the FAR, you and the contractor may agree to use estimated quick-closeout indirect cost rates for final pricing of flexibly-priced contracts, before actual rates are known for certain (FAR 42.708(a)).

Rates are Part of a Continuing Allocation Cycle. Remember that that forward-pricing rates, billing rates, and final rates are all part of a continuing indirect cost allocation cycle.

- Forward pricing rates will affect budget decisions and the rates used in contract billing.
- Billing rate estimates will affect the need for cost adjustment during final contract pricing.
- Final rates can be used to measure the actual allocation of direct cost to a particular cost objective. In addition, the data used to support final rates will become part of the data available for estimating forward pricing and billing rates for subsequent accounting periods.

Identifying Inconsistencies in Cost Allocation Cycle Information. As you review the estimating process used in rate development, identify any inconsistencies regarding the relationship between the proposed rates and related rates in the indirect cost allocation cycle. Ask questions such as the following:

- ***How does the proposed rate compare with other rates in the indirect cost allocation cycle?***

For example, proposed forward pricing rates and billing rates for the same accounting period should be identical or very similar.

- ***Has rate accuracy consistently improved throughout the allocation cycle?***

The relationship between past forward pricing rates and actual rates should provide information on the firm's past estimating accuracy. Billing rates near the end of the accounting period should be close the actual rates experienced for the period. Quick closeout rates should be comparable to actual rates.

- ***Does the contractor update rate estimates as more information becomes available?***

Indirect cost rates for each accounting period are estimates until actual costs are determined after the end of the period. However, the rates should be updated as more information becomes available.

9.3 Reviewing The Rate Development Process

Points to Consider. As you continue to review the estimating process used by the contractor in indirect cost rate development:

- Identify apparent weaknesses in the indirect cost rate estimating process.
- Assure that concerns about the estimating process are well documented.

Review Information on the Steps Used to Estimate Indirect Cost Rates. Initial indirect cost rate estimates for a particular accounting period are generally developed before the period begins. In fact, contractors pricing long-term contracts are frequently required to forecast rates three to five years into the future. Rate estimates should be updated as more information becomes available, both before and during the accounting period to which the rate applies.

Review information submitted by the offeror regarding the steps used to estimate indirect cost rates for each accounting period. While the exact process will vary from firm to firm, the general process should follow four steps:

- **Estimate Sales Volume for the Period** -- the total goods and services that the firm expects to sell to ALL customers during each forecast period (e.g., fiscal year of the firm).

- **Estimate Indirect Cost Allocation Bases for the Period** -- the measures of direct contractor activity that will be used to allocate pool costs based on the benefits accrued by the several cost objectives. Measures can take the form of dollars, hours, or any other appropriate measure.
- **Estimate Indirect Cost Pools for the Period** -- logical groupings of indirect costs with a similar relationship to the cost objectives.
- **Estimate Indirect Cost Rates for the Period** -- divide each indirect cost pool by the appropriate allocation base.

Review Information on Estimated Sales Volume for the Period. The starting point for any indirect cost rate estimate should be a sales forecast for the accounting period. An accurate estimate of volume is essential to estimating indirect cost rates, because indirect cost pools are typically composed primarily of fixed and semivariable costs. As fixed costs and the fixed component of semivariable costs are spread over more and more direct effort, indirect cost rates will decline. As a result, lower sales volume estimates will result in higher rates, and higher volume estimates will result in lower rates. Logically, contractors normally prefer to conservatively estimate business volume, so as not to under estimate cost. However if the contractor is too conservative, the result may be unreasonably high indirect cost rates.

For a manufacturer, estimators will consider the production and sales for each product line. For services, estimators will consider the number of contracts that the firm expects to be awarded and the effort required to complete each contract. Separate forecasts are developed for each accounting period (normally one year).

As you review the offeror's sales estimate, ask questions such as the following:

- ***Is the sales forecast used for estimating indirect cost rates based on the best information available?***

Estimates made prior to the beginning of the accounting period may be based on relatively speculative data. However, estimates should become firmer as more detailed plans are formulated for the period. Estimates should

become firmer still as actual sales data for the period become available.

- ***Does the sales forecast consider all work likely to benefit from the indirect cost pool?***

To produce accurate rates, forecasts **must** include **all** work projected to benefit from the indirect cost pool during the accounting period. Estimates should include all work that is on contract, options that may be exercised, proposals with a high probability of success, solicitations in hand, and other anticipated customer requirements.

Review Information on Estimated Indirect Cost Allocation Bases for the Period (FAR Table 15-2 and DFARS 215.407-5-70).

Next, the firm should translate the sales volume forecast into production or contract performance schedules. Given the projected schedules, the estimator can forecast total direct effort associated with operations during each forecast period. Estimates of the direct effort will include estimates of the direct labor and material requirements for the period and the allocation base for each indirect cost rate.

For cost or pricing data submissions, FAR Table 15-2 requires that the proposal state how the offeror computed and applied indirect costs, including cost breakdowns, and showing trends and budget data, to provide a basis for evaluating the reasonableness of proposed rates.

That information should include:

- An estimate of the size of the allocation base.
- An explanation of how the allocation base was estimated.
- The date that the allocation base estimate was developed.
- Data on the historical trends in the allocation base.
- An explanation of any significant differences between the historical, proposed, and budgeted dollar values of the allocation base.

As you review the contractor's indirect cost allocation base estimate, ask questions such as the following:

- ***What is the relationship between the estimated indirect cost allocation base and the estimated sales volume?***

Make sure that you understand the relationship as described by the contractor. Document any unexplained differences between the relationship described by the contractor and observed historical relationships for further analysis.

- ***Are there any differences between the proposed indirect cost allocation base and related budget estimates?***

Many times the estimated indirect cost allocation base is different than the internal budget for the same category of cost. The firm may state that it wants to challenge managers and hold the difference in reserve. Make sure that you understand the contractor's rationale, as well as the realism of any differences between current estimates and historical trends.

- ***Have past differences between allocation base estimates and actual allocation bases for the same period been adequately explained?***

Look for patterns such as consistent underestimation of the allocation base.

- ***Are the data used to develop the allocation base estimates accurate, complete, and current?***

By law, all cost or pricing data must be accurate, complete, and current. Information other than cost or pricing data should also be up to date. In particular, you should carefully review any allocation base involved in any allegations of defective pricing.

- ***Did the cognizant auditor or administrative contracting officer question any of the indirect cost allocation base estimates prepared by the contractor?***

Because indirect cost pools apply across a broad spectrum of contracts, the cognizant auditor and administrative contracting officer (when one is assigned) are normally most familiar with the factors affecting estimates.

Review Information on Estimated Indirect Cost Pools for the Period. Given the estimated volume of work to be performed, the firm should next estimate the likely size of each indirect cost pool. As described above, indirect cost pools are typically composed primarily of fixed and semivariable costs. As volume increases, variable indirect costs will increase. However, the indirect cost rate will normally decrease because the fixed portion of the pool will be spread over a larger volume.

As with the allocation base, the offeror must provide adequate supporting documentation. That documentation should include the following information:

- The estimated dollar value of the pool.
- An explanation of how the pool was estimated.
- The date that the pool estimate was developed.
- Data on historical trends in the pool.
- An explanation of any significant differences between the historical, proposed, and budgeted dollar values of the pool.

As you review the contractor's indirect cost pool estimate, ask questions such as the following:

- ***What is the relationship between the estimated indirect cost pool and the estimated sales volume?***

Make sure that you understand the relationship as described by the contractor. Document any unexplained differences between the relationship described by the contractor and observed historical relationships for further analysis.

- ***What is the relationship between the estimated indirect cost pool and the estimated allocation base?***

Make sure that you understand the historical trends in the relationship between the indirect cost allocation base and the indirect cost pool. You can use this relationship to identify significant changes in the estimated rate structure. Document any unexplained differences between the historical relationship and the proposed rates for further analysis.

- ***Are there any differences between the proposed indirect cost pool and related budget estimates?***

Make sure that you understand the contractor's rationale, as well as the realism of any differences between current estimates and historical trends.

- ***Have past differences between indirect cost pool estimates and actual pools for the same period been adequately explained?***

Look for patterns such as consistent overestimation of the pool. Document any unexplained differences for further analysis.

- ***Are the data used to develop the indirect cost pool estimates accurate, complete, and current?***

By law, all cost or pricing data must be accurate, complete, and current. Information other than cost or pricing data should also be up to date. In particular, you should carefully review any allocation base involved in any allegations of defective pricing.

- ***Did the cognizant auditor or administrative contracting officer question any of the indirect cost pool estimates prepared by the contractor?***

Because indirect cost pools apply across a broad spectrum of contracts, the cognizant auditor and administrative contracting officer (when one is assigned) are normally most familiar with the factors affecting estimates.

Review Information on Indirect Cost Rate Estimates for the Period. When the indirect cost allocation base and the indirect cost pool estimates have been completed, the only task remaining is to divide the estimated pool by the estimated allocation base to establish the indirect cost rate.

The table below presents rate forecasts for the next three years. Note that the base and pool estimates for material, engineering, and manufacturing, become the estimate of total cost input, the base for the G&A expense rate.

3-Year Indirect Cost Rate Estimates			
Estimate	**19X7**	**19X8**	**19X9**
Sales Estimate	1,000 Units	1,500 Units	1,300 Units

Direct Material	$14,145,921	$17,857,300	$14,762,049
Material Overhead	$1,361,000	$1,562,358	$1,564,992
Engineering Direct Labor	$1,582,300	$1,596,105	$1,669,141
Engineering Overhead	$1,023,500	$1,002,525	$1,060,045
Manufacturing Direct Labor	$1,467,200	$1,910,450	$1,811,992
Manufacturing Overhead	$3,679,850	$4,250,150	$4,292,500
Total Cost Input	$23,259,771	$28,178,888	$25,160,719
G&A Expense	$4,426,381	$4,875,614	$4,566,581
Total Cost	$27,686,152	$33,054,502	$29,727,300
Material Overhead Rate (With Direct Material Cost Base)	9.6%	8.7%	10.6 %
Engineering Overhead Rate (With Engineering Direct Labor Cost Base)	64.7%	62.8%	63.5%
Manufacturing Overhead Rate (With Manufacturing Direct Labor Cost Base)	250.8%	222.5%	236.9%
G&A Expense Rate (With Total Cost Input Base)	19.0%	17.3%	18.1%

Normally, you should expect more detail in support of rate calculations. Consider the requirements of FAR Table 15-2 whenever you establish requirements for cost or pricing data or information other than cost or pricing data to support indirect cost rates.

Note that the 19X7 Manufacturing Overhead and G&A Expense examples on the following pages provide a breakdown of both the indirect cost allocation base and the indirect cost pool, including historical data to facilitate trend analysis. Any contractor should be able to provide you with this level of data along with detailed rationale for rate projections. Most contractors will provide you with substantially more detailed data. Assure that any data submitted meets solicitation/contract requirements.

As you review the contractor's rate calculation and the overall data submission, ask questions such as the following:

- ***Has the contractor's estimating system been disapproved by the Government?***

An inadequate estimating system increases the risk that the system will not provide an adequate cost estimate.

- ***Does the overall data submission comply with the requirements of FAR and the solicitation?***

Any data submission that does not meet FAR or solicitation/contract requirements deserves special attention during cost analysis.

Manufacturing Overhead Rate History and Projection					
	Account Title	**Actual 19X4**	**Actual 19X5**	**Actual 19X6**	**Projected 19X7**
Pool	Salaries & Wages				
	Indirect Labor	$1,338,330	$1,236,259	$1,395,245	$1,443,095
	Additional Compensation	$80,302	$75,490	$83,950	$88,000
	Overtime Premium	$13,214	$15,744	$11,296	$14,500
	Sick Leave	$65,575	$64,717	$67,742	$72,130
	Holidays	$79,164	$82,041	$83,006	$86,080
	Suggestion Awards	$310	$450	$423	$500
	Vacations	$140,272	$130,223	$147,891	$153,300
	Personnel Expenses				
	Compensation	$25,545	$24,544	$26,304	$28,500

	Insurance				
	SUTA/FUTA[1]	50,135	$46,762	$52,692	$51,500
	FICA/Medicare	$70,493	$65,990	$73,907	$77,850
	Group Insurance	$153,755	$143,670	$161,401	$169,130
	Travel Expense	$11,393	$9,636	$12,725	$13,900
	Dues & Subscriptions	$175	$175	$175	$175
	Recruiting & Hiring	$897	$431	$574	$250
	Employee Relocation	$4,290	$3,891	$3,562	$4,400
	Employee Pension Fund Salaried Hourly	 $25,174 $62,321	 $25,062 $58,132	$26,350 $65,497	$28,500 $68,700
	Training, Conferences, & Technical Meetings	$418	$407	$539	$457
	Educational Loans & Scholarships	$400	$400	$400	$400
	Supplies & Services				
	General Operating	$495,059	$475,564	$509,839	$525,000
	Maintenance: Building	$9,102	$8,640	$12,318	$15,700
	Stationary, Printing, & Office Supplies	$23,052	$21,530	$24,125	$25,500
	Material O/H on Supplies	$56,566	$49,305	$62,071	$62,500
	Maintenance: Office Equipment	$9,063	6,673	$10,875	$12,000
	Rearranging	$418	$2,128	$3,523	$3,600
	Other	$3,314	$3,198	$2,635	$2,500
	Heat, Light, & Power	$470,946	$446,971	$489,123	$507,200

	Telephone	$32,382	$30,414	$33,874	$35,000
	Fixed Charges				
	Depreciation	$187,118	$178,625	$175,641	$181,850
	Equipment Rental	$7,633	$7,633	$7,633	$7,633
	Total Pool	$3,416,816	$3,214,705	$3,545,336	$3,679,850
Base	Manufacturing Direct Labor Cost				
	Assembly Labor	$934,444	$898,780	$950,432	$999,700
	Fabrication Labor	$233,071	$225,950	$253,999	$258,100
	Inspection Labor	$173,372	$180,928	$203,500	$209,400
	Total Base	$1,340,887	$1,305,658	$1,407,931	$1,467,200
Rate	Manufacturing Overhead Rate	254.8%	246.2%	251.8%	250.8%

[1] SUTA is State Unemployment Tax Allowance. FUTA is Federal Unemployment Tax Allowance.

9.3 Reviewing The Rate Development Process (cont)

General & Administrative Expense Rate History and Projection					
	Account Title	**Actual 19X4**	**Actual 19X5**	**Actual 19X6**	**Projected 19X7**
Pool	Salaries & Wages				
	Indirect Labor	$1,407,100	$1,426,042	$1,458,724	$1,460,500
	Additional Compensation	$125,431	$120,410	$152,691	$155,000
	Overtime Premium	$4,883	-0-	$5,069	$5,000
	Sick Leave	$34,875	$33,262	$32,937	$32,500
	Holidays	$49,962	$49,260	$50,013	$49,500
	Suggestion Awards	$240	$402	$225	$250
	Vacations	$80,637	$79,260	$81,398	$82,525
	Personnel Expenses				
	Compensation Insurance	$1,025	$902	$1,103	$1,200
	SUTA/FUTA	$22,465	$21,526	$23,591	$23,600
	FICA	$31,419	$28,620	$31,519	$32,000
	Group Insurance	$29,008	$28,942	$29,226	$29,300
	Travel	$62,513	$70,001	$64,987	$67,000

	Expense				
	Dues & Subscriptions	$2,375	$2,210	$2,119	$2,500
	Recruiting	$1,378	$902	$1,075	$1,250
	Employee Relocation	$566	$2,125	$1,974	$1,500
	Employee Pension Fund: Salaried Hourly	$33,097 $17,632	 $31,625 $15,260	 $34,123 $17,956	 $35,000 $18,500
	Training, Conferences, & Technical Meetings	$7,003	$8,102	$7,536	$7,500
	Courtesy Meal Expense	$6,238	$6,124	$5,436	$7,000
	Educational Loans & Scholarships	$1,392	$624	$1,525	$1,500
	Supplies				
	Operating	$2,010	$1,862	$1,724	$2,000
	Maintenance - Building	$411	$4,262	$856	$750
	Stationary, Printing, & Office Supplies	$32,515	$27,640	$33,209	$33,500
	Postage	$1,651	$2,316	$2,056	$2,100
	Material O/H on Supplies	$1,732	$1,710	$1,634	$1,980
	Maintenance - Equipment	$938	$950	$983	$1,000
	Other	$15,829	$18,216	$16,982	$17,500
	Public Utilities				
	Telephone	$59,105	$63,142	$61,372	$65,000
	Heat, Light, & Power	$237,512	$211,403	$241,298	$245,000
	Miscellaneous Income & Expense				
	Legal & Auditing	$16,714	$18,260	$10,945	$15,000
	Professional Services	$21,197	$24,000	$23,791	$22,500
	Patent Expense	$18,466	$17,620	$9,084	$10,000
	Public Relations	$12,155	$14,670	$14,172	$15,000
	Interdivisional Transfers				
	At Cost	($48,243)	-0-	-0-	-0-
	Corporate Expense				

	Headquarters	$1,556,956	$1,467,024	$1,673,824	$1,700,000
	Fixed Charges				
	Insurance Property	$9,820	$9,926	$10,930	$11,000
	Insurance Inventories	$4,024	$4,862	$4,543	$4,500
	Franchise Tax	$268,495	$260,126	$246,624	$265,000
	Rent - Equip	$1,426	$1,426	$1,426	$1,426
	Total Pool	$4,131,952	$4,075,014	$4,358,680	$4,426,381
Base	Total Cost Input				
	Engineering Ovhd Expense	$1,025,345	$952,614	$1,153,612	$1,023,500
	Engineering Direct Labor	$1,385,765	$1,446,420	$1,579,595	$1,582,300
	Manufacturing Ovhd Expense	$3,416,816	$3,214,705	$3,545,336	$3,679,850
	Manufacturing Direct Labor	$1,340,887	$1,305,658	$1,407,931	$1,467,200
	Materials Ovhd Expense	$1,234,456	$1,205,621	$1,296,179	$1,361,000
	Direct Materials	$13,056,987	$13,042,160	$13,484,836	$14,145,921
	Total Base	$21,460,256	$21,167,178	$22,467,489	$23,259,771
Rate	G&A Rate	19.3%	19.3%	19.4%	19.0%

9.4 Analyzing Proposed Rates

Caution for Indirect Cost Rate Analysis. When you analyze indirect cost rates, do not fall into the trap of looking at a rate and immediately determining that it is too high or too low without analysis of the indirect cost allocation base and indirect cost pool. A rate of 400 percent can be reasonable and a rate of 10 percent can be unreasonable depending on the type of allocation base, reasonableness of allocation base estimates, types of costs in the pool, reasonableness of the pool cost estimates, and the overall effect on total cost. Also avoid the trap of assuming that a rate for one firm is necessarily a good yardstick for evaluating the rates of other firms in the same industry and/or of the same size.

Steps for Indirect Cost Rate Analysis. There are six general steps that you should follow as you analyze indirect cost rate estimates:

- Develop an analysis plan.

- Identify unallowable costs.
- Analyze the indirect cost allocation base estimate.
- Convert the indirect cost allocation base and the indirect cost pool to constant-year dollars.
- Analyze the base/pool relationship.
- Develop and document your pricing position.

Develop an Analysis Plan (FAR 15.404-2(c)). Develop a plan that tailors your in-depth indirect cost analysis efforts to areas that demonstrate the greatest cost risk to the Government. Unless required by agency or local procedures, the plan need not be in writing, but it should consider the risk to Government in terms of dollars involved and probability that the rates developed by the contractor are reasonable estimates of actual indirect cost rates.

As you prepare your plan, your analysis of risk to the Government should include questions such as the following:

- ***Is there an existing Forward Pricing Rate Agreement (FPRA) or Forward Pricing Rate Recommendation (FPRR)?***

When an administrative contracting officer (ACO) is assigned to the offeror, contact the ACO to determine if there is an FPRA or FPRR in place. If there is, the need for further rate analysis will be greatly reduced (See Section 9.5).

- ***Can you obtain information from a recent indirect cost rate audit?***

Audit information can greatly simplify the process of rate analysis when there is no FPRA or FPRR. However, an audit recommendation does not relieve the contracting officer from the responsibility to evaluate indirect cost rates. Contact the cognizant auditor to obtain information on any indirect cost rate audit performed within the last 12 months. When an audit is available, do not request a new indirect cost rate audit unless the contracting officer considers the previous audit inadequate for pricing the current contract. Reasons for requesting a new audit include:

  - Substantial changes in the offeror's rate structure;
  - Audit-identified weaknesses in the offeror's rate development and tracking procedures;

- Recent changes in the offeror's business volume; or
- Recent changes in the offeror's productions methods.

- ***Did your review of the indirect cost allocation cycle identify any inconsistencies in the relationship between related rates?***

Inconsistencies in the relationship between the proposed rates and related rates in the indirect cost allocation cycle may indicate that the offeror is not properly updating and reevaluating rates throughout the cycle.

- ***Did your review of the indirect cost rate estimating process identify any apparent weaknesses?***

Any apparent weaknesses in the estimating process increases the cost risk to the Government. Normally, you should increase your analysis efforts in any areas with identified weaknesses.

- ***Have the offeror's estimates been accurate in the past?***

Any contractor can incorrectly estimate an indirect cost rate. However, if past rates have been poor estimates of actual indirect costs, the risk to the Government is greater than it is in situations where past estimates have been quite accurate. As you plan, consider both the size and the consistency of the overestimates.

For example: The following table examines the accuracy of historical rate estimates made in the year prior to the rate period:

Year Rate Projection Made	Rate Projected For	Projected Rate	Actual Rate	Subtract Actual Rate From the Projected Rate
19X5	19X6	259.1%	254.8%	4.3%
19X4	19X5	256.3%	251.8%	4.5%
19X3	19X4	260.0%	254.8%	5.2%

Note that the company overestimated this indirect cost rate in every year. The average overestimate was 1.8 percent, calculated as follows:

$$\frac{4.3 + 4.5 + 5.2}{254.8 + 251.8 + 254.8} = \frac{14.0}{761.4} = .018 \text{ (or } 1.8 \text{ percent)}$$

If all company contracts during those three years were priced using the company estimated rate, customers would have been charged an average of $101.80 for every $100 in actual costs.

- ***How many dollars are at risk?***

Consider the cost of analysis and potential cost savings from the analysis. For example, it would make little sense to invest $30,000 in the analysis of a $20,000 indirect cost estimate.

- ***Does the indirect cost pool include a substantial amount of fixed cost?***

As the percentage of fixed indirect costs increases, the risk associated with inaccurate allocation base estimates also increases. When a relatively high percentage of indirect costs are fixed, the indirect cost rate can change dramatically with any change in the allocation base. When most indirect costs are variable, changes in the allocation base will have a less dramatic affect on

Identify Unallowable Costs (FAR 31.201-6). Costs that are expressly unallowable or mutually agreed to be unallowable must be identified and excluded from any proposal, billing, or claim related to a Government contract. When an unallowable cost is incurred, any cost related to its incidence is also unallowable.

Contractors must identify unallowable indirect costs whenever indirect cost rates are proposed, established, revised, or adjusted. The detail and depth of records required as rate support must be adequate to establish and maintain visibility of the indirect cost.

Proper identification of unallowable indirect costs is essential to assure proper treatment in indirect cost rate analysis:

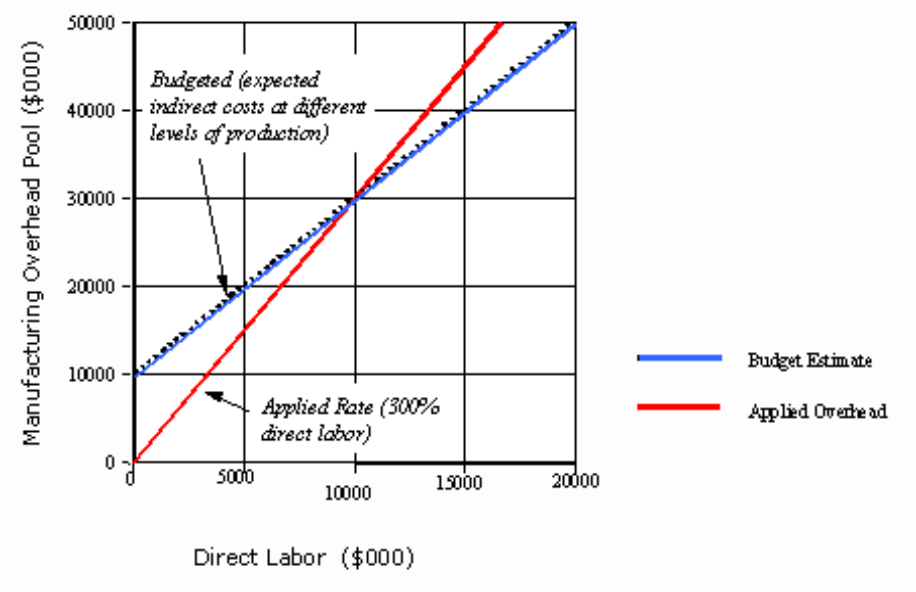
- Unallowable costs must be removed from any indirect cost pool estimate, because Government contracts cannot include unallowable costs.
- When allocation base estimates include unallowable costs, the unallowable costs must be considered in Government rate projections to assure proper allocation of costs across all cost objectives.

Consider the following tests for cost allowability identified in the following table as you perform your analysis (FAR 31.201-2):

Points to Consider When Analyzing Indirect Cost Allowability	
If:	**Then:**
The proposed indirect cost pool dollar amount is not reasonable	Reduce the dollar amount of the indirect cost pool to reflect a more reasonable dollar value for that item.
The proposed cost should have been treated as a direct cost (either against the proposed contract or another contract)	Subtract that cost from the total dollar value of the indirect cost pool, and ensure the cost is directly charged to the proper contract.
The cost belongs in a different indirect cost pool.	Subtract that cost from the proposed indirect cost pool and add it to the dollar value of the correct pool.
The same cost is also represented in another indirect pool, as a direct cost, or as part of an estimating factor (e.g., a packaging or obsolescence factor)	Develop your pricing position recognizing the proposed cost in the area where the cost should be recognized and deleting it in the area where it should not be included in the proposal.
The proposed cost is not properly	Reallocate the cost

allocable, in part or in whole, to the pool under CAS or GAAP	in a manner that is consistent with appropriate CAS or GAAP requirements.
The proposed cost is not allowable, in part or in whole, under the FAR cost principles	Reduce the dollar amount of the indirect cost pool commensurably.
The proposed cost is not allowable, in whole or in part, under the terms and conditions of the contract	

Analyze the Allocation Base Estimate (FAR 31.203(b)). The rate allocation base should be selected so as to permit allocation of the indirect cost pool to the various cost objectives on the basis of benefits accruing to each cost objective. The size of the estimate is important because most indirect cost pools include fixed costs. As the size of the base increases, the rate will decrease because the fixed expenses are being spread over a larger base. As the size of the base decreases, the rate will increase because the fixed expenses are being spread over a smaller base. The result of an inaccurate estimate can be demonstrated through the use of the following figure:



The Applied Overhead line represents the negotiated indirect cost forward pricing rate (300% of direct labor dollars). The Budget Estimate line represents the firm's

forecast of the pool at different levels of production. Note the following characteristics of the two lines:

- The Applied Overhead line passes through the origin, because indirect costs can only be charged if product is produced and sold. (300% of nothing equals nothing.)
- The Budget Estimate line has a positive intercept at $10 million. In other words, Manufacturing Overhead includes $10 million in fixed costs.
- The two lines intersect at the direct labor estimate of $10,000,000 for the year-the point at which a 300% rate would recover the budgeted $30,000,000 in indirect costs.

However, if the base is anything other than $10 million, use of the 300 percent rate will not equal the budgeted indirect cost.

If the base were actually $5 million at the end of the period, the actual indirect cost should be $20 million (according to budget estimates). If indirect costs for all contracts had been estimated using the 300 percent rate, only $15 million would be applied (charged) to the contracts. Indirect cost would be **under-applied** by $5 million ($20 million - $15 million). If the contracts were all firm fixed-price, that $5 million would come out of the contractor's profits.

If the base were actually $15 million at the end of the period, the actual indirect cost should be $40 million (according to budget estimates). If indirect costs for all contracts had been estimated using the 300 percent rate, $45 million would be applied to the contracts. Indirect cost would be **over-applied** by $5 million ($45 million - $40 million). If the contracts were all firm fixed-price, the result would be $5 million in additional profit.

When a contract is performed over several accounting periods, analyze the indirect cost allocation base for each rate for each accounting period covered by the contract. Consider questions such as the following as you conduct your analysis (FAR 31.203(e) and App B, 9904.406-40):

- ***Did the offeror use the correct base period (e.g., one year)?***

The base period for allocating indirect costs is the cost accounting period during which such costs are incurred and accumulated for distribution to work performed during that period. Generally the base period is the contractor's fiscal year. A shorter period may be appropriate:

  - For contracts in which performance involves only a minor portion of the fiscal year,
  - When it is general practice in the industry to use a shorter period, or
  - During a transitional cost accounting period as part of a change in fiscal year.

- ***Does the indirect cost allocation base include all costs associated with that base during the accounting period, whether allowable or not?***

Remember that unallowable costs must be excluded from any proposed indirect cost pool. However, all costs must be included in the base -- even the unallowable costs. For example, unallowable costs must be excluded from a manufacturing overhead pool. However, if manufacturing overhead is part of the allocation base for another indirect cost account (e.g., G&A expense) the unallowable costs must be added back into the base.

- ***Will the base result in a fair allocation of the costs in the indirect cost pool?***

Indirect costs must be accumulated by logical cost groupings with due consideration of the reasons for incurring such costs. The base should be selected so as to permit allocation of the grouping on the basis of benefits accruing to the several cost objectives. For example, if the pool is largely labor related (such as fringe benefits), the base should be a measure of labor effort, such as direct labor hours or dollars. If the pool is largely machinery related (such as depreciation and maintenance), the base should relate to machinery use, such as direct machine hours.

- ***When was the base estimate made?***

If the offeror is estimating a base for the fiscal year, an estimate made mid-way through the fiscal year is likely to be more accurate than an estimate made at the beginning of the year. Likewise, an estimate made for the next fiscal

year should normally be more reliable than an estimate for a period three years in the future.

- ***Does the sales volume used to estimate the allocation base appear reasonable?***

The offeror does not have perfect knowledge of what is going to happen in the future.

  - Estimators must consider more than known sales volume for the period in estimate development. Typically, the offeror will consider the following business forecast elements:
  - Contracts in hand;
  - Options that may be exercised;
  - Proposals with a high probability of success (e.g., final proposal revisions);
  - Solicitations in hand; and
  - Sales forecasts of future customer requirements;
  - Each element of the sales volume forecast should be assigned a probability of actual sale. Contracts in hand would be 100 percent. Other estimates would be assigned a lower "win" probability, based on an analysis of the probability of actually making the sale.
  - If the firm's sales consist of only a few large Government contracts, place less faith in contractor statistical estimates, and more faith on the best expressions of Government plans. When the total business activity of the firm includes a large number of relatively small orders, give greater credence to statistical projections that appear reasonable, given the available data.

- ***Does the allocation base estimate appear reasonable for the projected sales volume?***

Using historical data and other available information, determine if the proposed allocation base appears reasonable for the estimated sales volume. If you have any questions, seek information from the cognizant auditor or ACO.

- ***How stable has the allocation base been over time?***

Particularly with respect to small businesses that are heavily dependent on a few contracts, the base may be quite

unstable. If such a firm loses only one contract, indirect rates on its remaining contracts might skyrocket. That would be particularly significant for proposed cost-reimbursement contracts. You may need to consider contract terms to protect the Government from the risk of unexpected, substantial changes in burden rates.

Convert the Base and Pool to Constant-Year Dollars. To analyze the historical relationship between the indirect cost allocation base and the indirect cost pool, you need to consider the changing value of the dollar. Unfortunately, it may be impossible for you to adjust for inflation when you are performing a summary level analysis, because there is rarely a single price index that you can use to adjust an entire indirect cost pool for inflation/deflation. There are typically too many different types of cost and cost behaviors included in indirect cost pools. For example, during a period of general inflation, depreciation will decline unless the contractor acquires new depreciable assets. The price of gasoline for company cars may rise rapidly as the cost of office supplies is declining.

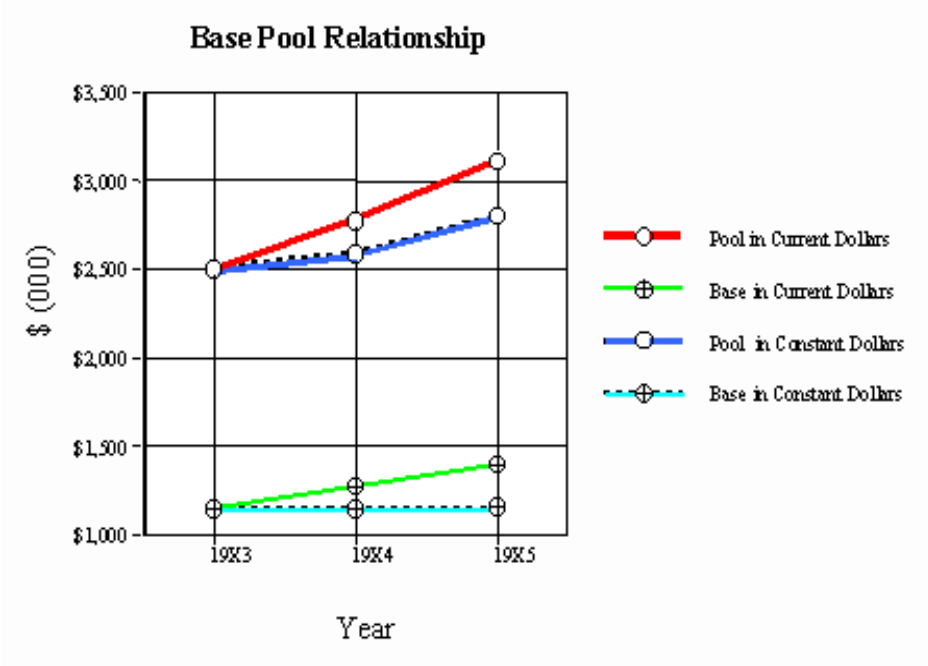
On the other hand, if you are performing a detailed analysis of individual elements of an indirect cost account, you should be able to identify one or more indexes to use in adjusting for the changing value of the dollar. If the contractor has adjusted costs for inflation and the contractor's index number selection is reasonable, use it. If you have any concerns about the contractor's adjustments for inflation, deal with them before proceeding with further analysis.

For example: The following actual costs for 19X3, 19X4, and 19X5 along with projected costs for 19X6 were taken from a contractor's proposal for an indirect pool:

		19X3 (Actual)	19X4 (Actual)	19X5 (Actual)	19X6 (Projected)
Current-Year Dollars	**Pool**	$2,502,490	$2,768,851	$3,110,004	$3,510,141
	Base	$1,154,650	$1,270,115	$1,397,115	$1,536,839
	Rate	216.7%	218.0%	222.6%	228.4%
Constant - Year Dollars (Adjusted	**Pool**	$2,502,490	$2,590,650	$2,799,804	$2,996,000
	Base	$1,154,650	$1,153,900	$1,156,500	$1,155,000
	Rate	216.7%	224.5%	242.1%	259.4%

For Inflation)					

The following graph depicts the data presented in the above table. The solid lines depict independently the base and pool in current-year (unadjusted for inflation) dollars. The dotted lines depict the same information in constant-year (19X3) dollars.

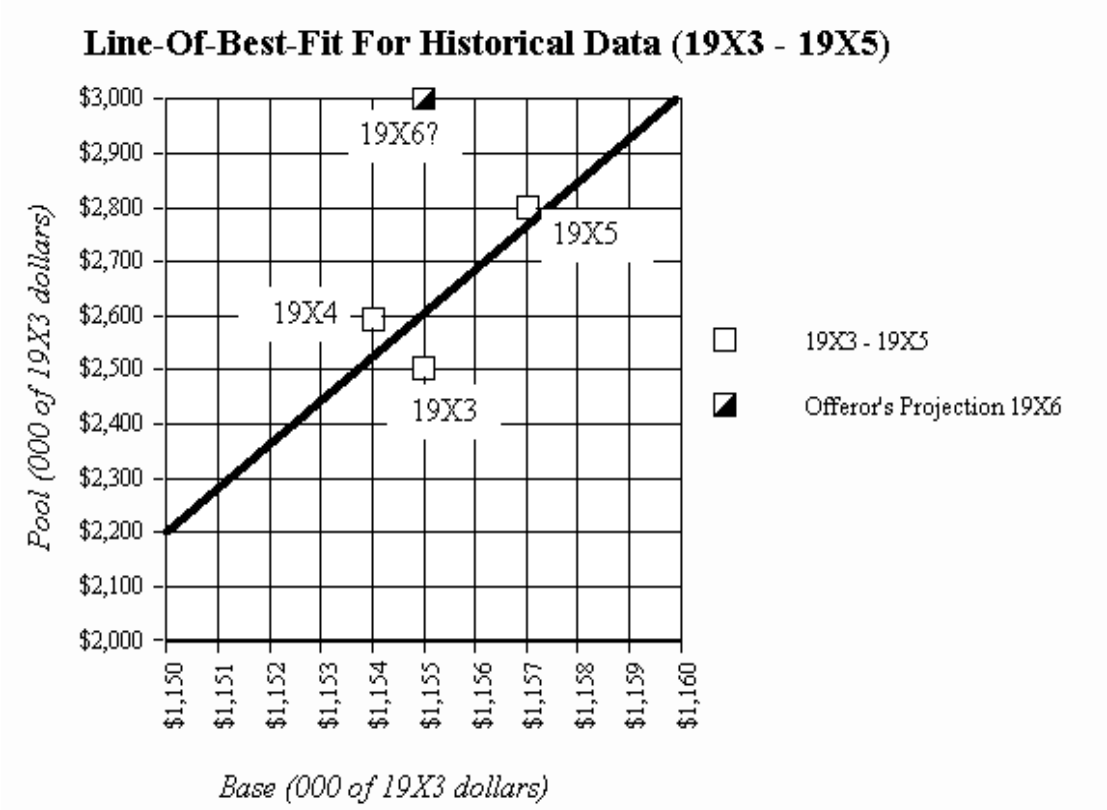


Both the table and the graph show fluctuating base and pool dollars. However, inflation-adjusted data indicate that the inflation-adjusted indirect cost pool is increasing, while the inflation-adjusted allocation base is remaining relatively constant. Based on this analysis, it appears that inflation is masking real substantial growth in the rate.

Analyze the Pool/Base Relationship. Both the allocation base and indirect costs will normally change with increases or decreases in business activity. If you can determine the historic relationship between the allocation base and indirect costs, you can predict what the rate will be at various levels of the allocation base.

If you can use regression analysis to quantify the relationship, you will be able to easily predict the indirect cost pool for any allocation base value.

You can analyze the overall relationship between the allocation base and the indirect cost pool, or examine the relationship between individual indirect cost accounts (e.g., office supplies) and the indirect cost allocation base. The following graph demonstrates application of this technique to the data on constant year dollars from the example on the previous page.



As you review the above graph, note that the proposed rate for 19X6 falls well above the value that you would project based on the historical base/pool relationship. When the contractor's estimate is substantially above or below the line, you should challenge the estimate. If the contractor refuses to change its rate but cannot explain the reasons for the difference, consider performing a more in-depth analysis.

As you examine the base/pool relationship, ask questions such as the following:

- ***Has the composition of the pool or base changed over time?***

Be alert to any changes in the composition of either the base or pool. The offeror may have automated. Automation would increase depreciation expense in the indirect cost pool while decreasing any base related to direct labor. Indirect cost rates could increase while combined direct and indirect costs decline.

- ***Has the indirect cost rate structure changed from the structure used for past contracts?***

A change in rate structure could result in costs being moved from one indirect cost pool to another. If your analysis indicates that changes have taken place ask the offeror for more information on the changes.

- ***Are changes in the rate consistent with the mix of fixed and variable costs in the indirect cost pool?***

If the indirect cost pool is primarily composed of variable costs, the rate should be relatively insensitive to changes in the allocation base that result from changes in sales volume. If the indirect cost pool is primarily composed of fixed costs, the rate should be more sensitive to such changes.

Develop and Document Your Pricing Position. Develop and document your prenegotiation position, using the results of your analysis:

- If you accept the offeror's indirect cost rate estimate, document that acceptance.
- If you do not accept the indirect cost rate estimate, document your concerns with the estimate and develop your own prenegotiation position for costs covered by the estimate.
- If you can identify information that would permit you to perform a more accurate analysis of indirect cost rates, use the available information. Your analysis is not bound by the estimating methods used by the offeror.

9.5 Applying Forward Pricing Rates

Indirect Cost Rates and Forward Pricing. One important use for indirect cost rate estimates is contract forward

pricing. Contract pricing estimates of indirect costs for specific contracts and contract line items are developed by applying the estimated rate to appropriate contract-related base. The indirect cost estimate will depend on both the rate and the size of the base related to contract performance.

Forward Pricing Rates (FAR 15.404-1(c), 15.404-2(a), and FAR 15.404-2(d)). An indirect cost forward pricing rate is a rate that is used in prospective contract pricing. Actually you may encounter several different forward pricing rates as you develop your pricing position.

- **Proposed Forward Pricing Rates.** These are the indirect cost pricing rates proposed by the contractor. Depending on the contractor's participation in negotiated Government contracts, the firm may prepare a separate rate proposal or include all data supporting the proposed rate as part of the contract pricing proposal. These rates are the starting point for indirect cost rate analysis and contract pricing.

- **Audit Recommended Rates.** These are rates developed by Government audit personnel as a result of their review of the contractor's indirect cost rate proposal. The recommendation may result from the audit of the current contract proposal, a recent (within the last 12 months) contract proposal, or a separate indirect cost rate proposal. These are important recommendations, because auditors are the only members of the Government Acquisition Team that have general access to the contractor's accounting records. However, they are recommendations. The contracting officer is still responsible for evaluating contract price reasonableness.

- **Forward Pricing Rate Recommendations.** Forward Pricing Rate Recommendations (FPRRs) are formal rate recommendations developed by the cognizant ACO for all Government buying activities. FPRRs are generally developed with assistance from the cognizant Government auditor.

When a contractor has a high volume of Government pricing actions, ACOs should consider establishing an FPRR:

    - When the contractor refuses to submit a forward pricing rate agreement (FPRA) proposal or enter into and FPRA;
    - During the period between cancellation of one FPRA and the establishment of a replacement FPRA; or
    - During the period between agreement on an FPRA by Government/contractor negotiators and formal execution of the agreement.

Although FPRRs are only recommendations, you should not develop an independent position without first contacting the contract administration office that issued the FPRR. The contract administration office should be able to supply information supporting the reasonableness of the recommended rate. Consider inviting the ACO that issued the FPRR and cognizant auditor to attend negotiations concerning indirect cost rates.

- **Forward Pricing Rate Agreements (FAR 15.407-3).** Negotiating indirect rates tends to be time consuming and contentious. At contractor locations with significant Government business, the cognizant administrative contracting officer (ACO) should attempt to negotiate an FPRA.
    - An FPRA is a formal bilateral agreement that binds the contractor to propose the negotiated rates and the Government to accept them in pricing individual contracts. Each agreement includes provisions for canceling all or a portion of the agreement if circumstances change and the rate(s) are no longer valid representations of future costs.
    - Whenever an offeror is required to submit cost or pricing data, the offeror's proposal must:
    - Describe any FPRA rates used in the proposal; and
    - Identify the latest cost or pricing data already submitted in accordance with the agreement.
    - The ACO is responsible for monitoring the contractor's rates. Therefore, you should direct any questions on FPRA status and acceptability to the ACO. Further, if you believe that the FPRA rates are unreasonable or that work to be performed on the proposed contract will significantly affect the rates, you should notify the ACO immediately and request a rate review.

Rate Application. Once you have determined the rate(s) that you will use in contract pricing, you must apply that rate as part of your cost analysis. Using the contractor proposed rates from Section 9.3, the following table presents a contract cost estimate for 19X7:

Contract Cost Estimate	
Cost Element	**Proposed Cost**
Material Dollars	$200,000
Material Overhead @ 9.6%	$19,200
Engineering Direct Labor	$5,000
Engineering Overhead @ 64.7%	$3,235
Manufacturing Direct Labor	$75,000
Manufacturing Overhead @ 250.8%	$188,100
Total Input Cost	$490,535
G&A Expense @ 19.0%	$93,202
Total Cost	$583,737

The following process was used to develop the contract cost estimate presented above using the proposed 19X7 indirect cost rates:

- Estimate direct material and direct labor costs to perform the proposed contract, using appropriate estimating techniques.
- Multiply the proposed Material Dollar base by the Material Overhead Rate (9.6%), resulting in a contract Material Overhead estimate of $19,200.
- Multiply the proposed Engineering Labor Dollar base by the Engineering Overhead Rate (64.7%), resulting in a contract Manufacturing Overhead estimate of $3,235.
- Multiply the proposed Manufacturing Labor Dollar base by the Manufacturing Overhead Rate (250.8%), resulting in a contract Manufacturing Overhead estimate of $188,100.
- Total the proposed production input costs ($490,535).
- Multiply Total Cost Input by the proposed G&A Expense rate (19.0%), resulting in a contract G&A Expense estimate of $93,202.
- Add the estimated G&A Expense dollars to the Total Cost Input, resulting in a total proposed cost of $583,737.

Caution -- Assure that the Indirect Cost Rate Is Applied to the Appropriate Base

Apply each indirect cost rate to the appropriate allocation base. For example, if the direct labor costs from three departments-machining, fabricating, and assembly - are the base for the manufacturing overhead rate, you must multiply the sum total of **all** machining, fabricating, and assembly direct labor costs by the manufacturing overhead rate to estimate manufacturing overhead dollars.

On the other hand, do not apply the manufacturing overhead rate to cost categories not included in the base. You would not apply manufacturing overhead to field service labor cost if field service labor costs were not part of the allocation base used in developing the rate. **Only apply overhead rates to those elements included in the appropriate indirect cost allocation base.**

Sources of Estimate Differences. Differences between the contractor's estimate of indirect costs and your estimate can come from two sources - rate differences and proposed contract allocation base differences. You need to be aware of the sources of cost differences as you prepare for contract negotiations. Remember that even if you accept the contractor's proposed rate, your indirect cost objective will be lower than the costs proposed, if the base you are using is lower than the contractor's proposed base.

Ch 10 - Analyzing Facilities Capital Cost of Money

10.0 Chapter Introduction

This chapter identifies points to consider as you develop your prenegotiation position on facilities capital cost of money.

10.1 Recognizing Elements Affecting Facilities Capital Cost Of Money

Facilities Capital Cost of Money (FAR 31.205-10(a), App B, 9904.414-30, and App B, 9904.417-50).

Facilities capital cost of money is an imputed cost related to the cost of contractor capital committed to facilities. CAS 414, Cost of Money as an Element of the Cost of Facilities Capital, provides detailed guidance on calculating the amount of facilities capital cost of money due under a specific contract. Under CAS 414, a business-unit's facilities capital cost of money is calculated by multiplying the net book value of the business-unit's facilities investment by a cost of money rate based on the interest rates specified semi-annually by the Secretary of the Treasury under Public Law 92-41. The business-unit's facilities capital cost of money is then broken down by overhead pool and allocated to specific contracts using the same allocation base used to allocate the indirect costs in the overhead pool.

Facilities capital cost of money is determined without regard to whether the source is owner's equity or borrowed capital. It is not a form of interest on borrowing by the firm.

Facilities capital cost of money allowed under CAS 414 does not duplicate or replace costs allowed under CAS 417, Cost of Money as an Element of the Cost of Capital Assets Under Construction. CAS 417 establishes criteria for the measurement of the cost of money attributable to capital assets under construction, fabrication, or development as an element of the cost of those assets. CAS 417 costs are only accumulated while assets are under construction, the costs are charged as part of contract depreciation over the depreciable life of the asset. As a result, analysis of CAS 417 costs becomes a part of the complex process of asset valuation and depreciation. If you have questions regarding CAS 417 costs, contact the cognizant Government auditor.

Purpose of Facilities Capital Cost of Money (FAR App B, 9904.414-20). As contractor management considers investment opportunities, they must consider the cost of capital required to make each investment and the potential return from that investment. To attract investment, the prospective return on investment generally must be higher than the cost of capital required to make the investment. Thus, the cost of capital is a real cost that effects investment decisions. Unfortunately, the cost of capital is not the same for all sources (e.g., owner's equity and long-term loans), all firms, or all periods of time.

The purpose of facilities capital cost of money criteria is to improve contractor cost measurement by providing for allocation of the cost of contractor investment in facilities to negotiated contracts. To assure uniform consideration, the criteria require use of the current Treasury-determined cost of money rate for all firms and all facility investments.

Facilities Capital Cost of Money Allowability (FAR 31.205-10(a) and 31.205-52). Whether or not the contract is otherwise subject to Cost Accounting Standards, facilities capital cost of money is allowable when all of the following requirements are met:

- The contractor's capital investment is measured, allocated to contracts, and costed in accordance with CAS 414.
- The contractor maintains adequate records to demonstrate compliance with the requirements of CAS 414.

- The estimated facilities capital cost of money is specifically identified or proposed in cost proposals relating to the contract under which the cost is to be claimed.
- The requirements in FAR 31.205-52, Asset Valuations Resulting from Business Combinations, are not exceeded.

Contractor Waiver of Facilities Capital Cost of Money (FAR 15.404-4(c)(3), 15.408(i), and 52.215-17).

If the prospective contractor fails to identify or propose facilities capital cost of money in a proposal for a contract that will be subject to the FAR cost principles for contracts with commercial organizations, facilities capital cost of money will not be an allowable cost in any resulting contract. Under those circumstances, the contract must include the FAR clause, Waiver of Facilities Capital Cost of Money.

Facilities Capital Cost of Money Cannot Be Used as a Profit Base (FAR 15.404-4(c)(3) and DFARS 215.404-71-4).

FAR requires that you use your prenegotiation cost objective as the basis for calculating the prenegotiation objective for profit or fee. However, FAR also requires that you exclude any facilities cost of capital included in cost objectives before applying profit or fee factors.

Even though FAR excludes facilities capital cost of money from the basis for calculating profit or fee objectives, your agency may provide for using the facilities capital cost of money to estimate the contractor facilities capital employed on the contract. The profit or fee objective may then consider the estimated facilities capital employed.

10.2 Identifying And Applying Facilities Capital Cost Of Money Factors

This section presents procedures for calculating and applying facilities capital cost of money factors and for using the DD Form 1861 (available in Adobe Acrobat (PDF) format.

10.2.1 Calculating Contract Facilities Capital Cost Of Money

Developing Facilities Capital Cost of Money Rates (FAR App B, 9904.414-60). The contractor is responsible for proposing facilities capital cost of money factors using the Form CASB-CMF. Accordingly, any review or analysis of cost of money factor development should examine the procedures used by the contractor in each step involved in completing the Form CASB-CMF.

FORM CASB-CMF		FACILITIES CAPITAL COST OF MONEY FACTORS COMPUTATION						
CONTRACTOR: BUSINESS UNIT:				ADDRESS:				
COST ACCOUNTING PERIOD:	1. APPLICABLE COST OF MONEY RATE __8__%	2. ACCUMULATION & DIRECT DISTRIBUTION OF N.B.V.	3. ALLOCATION OF UNDISTRIBUTED	4. TOTAL NET BOOK VALUE	5. COST OF MONEY FOR THE COST ACCOUNTING PERIOD	6. ALLOCATION BASE FOR THE PERIOD	7. FACILITIES CAPITAL COST OF MONEY FACTORS	
BUSINESS UNIT FACILITIES CAPITAL	RECORDED	$1,052,500	BASIS OF ALLOCATION	COLUMNS 2+3	COLUMNS 1x4	IN UNIT(S) OF MEASURE	COLUMNS 5/6	
	LEASED PROPERTY	$90,000						
	CORPORATE OR GROUP	$62,000						
	TOTAL	$1,204,500						
	UNDISTRIBUTED	$1,052,000						
	DISTRIBUTED	$152,500						
OVERHEAD POOLS	MATERIAL	$20,000	$40,000	$60,000	$4,800	$960,000	0.00500	
	ENGINEERING	$20,000	$100,000	$120,000	$9,600	$640,000	0.01500	
	MANUFACTURING	$112,500	$850,000	$962,500	$77,000	$700,000	0.11000	

G&A EXPENSE POOLS							
	G&A EXPENSE	- $0 -	$62,000	$62,000	$4,960	$4,000,000	0.00124
TOTAL		$152,500	$1,052,000	$1,204,500	$96,360		

For each accounting period, the factor-development process follows a 7-step procedure:

1. **Determine the appropriate cost of money rate.** The contractor must use the current cost of money rate as determined by the Secretary of the Treasury, under P.L. 92-40. The rate is published twice a year in the Federal Register. (Column 1)
2. **Accumulate net book value of business-unit facilities capital.** For each accounting period, this accumulation must include the net book value of facilities owned by the business unit, the capitalized value of facilities capital-lease items, and the business-unit's allocated share of corporate or group facilities. This figure will normally change from period to period. (Business Unit Facilities Capital -- Column 2)
3. **Allocate facilities capital net book value to indirect cost pools.** Business-unit facilities capital is assigned to accounts for allocation to contracts. These accounts will be related to the contractor's overhead pools. If depreciation for a building is part of the engineering overhead pool, the facilities capital would be assigned to a facilities capital pool identified as engineering overhead. (Column 2 and Column 3)
4. **Sum facilities capital net book value for each pool.** The facilities capital net book values assigned to each pool must be summed to determine the total pool value. (Column 2 + Column 3 = Column 4)
5. **Calculate the facilities capital cost of money for each pool.** To calculate the facilities capital cost of money for each pool, multiply each facilities capital pool by the current cost of money rate. (Column 4 x Column 1 = Column 5)
6. **Identify the appropriate allocation base for each facilities capital cost of money pool.** The allocation base used to allocate a facilities capital cost of money pool will be the same as the base used to allocate the related indirect cost pool. Depending on

the method used to estimate costs, the base estimate will normally change from period to period. (Column 6)

7. **Calculate facility cost of money factors.** Divide each facilities capital cost of money pool by the appropriate allocation base. CAS 414 requires that the calculation be taken to five decimal places. (Column 5/Column 6 = Column 7)

Government Facilities Cost of Capital Factor Analysis (FAR 15.402(a), 15.404-2(a), and DFARS 230.7004-1).

Because facilities capital cost of money factors affect contracts across the business unit, support from the cognizant auditor and administrative contracting officer (when one is assigned) can be particularly important to your analysis. When indirect cost rates are audited by cognizant Government auditors, facilities capital cost of money factors are typically audited at the same time. ACOs may negotiate forward pricing facilities capital cost of money factors at the same time that they negotiate forward pricing indirect cost rates. However, remember that the contracting officer still has ultimate responsibility for determining contract price reasonableness.

Applying Factors to Appropriate Bases. To be considered for facilities capital cost of money, the offeror must include it in the firm's cost proposal. The calculations are normally found at the end of the proposed cost breakdown, after profit. The table below demonstrates how facilities capital cost of money would be calculated for work performed during each contract accounting period. Note that each facilities capital cost of money factor is applied to the same base (cost element names in bold font) as the related indirect cost rate.

Contract Price Position Including Facilities Capital Cost of Money		
Cost Element	**Rate/Factor and Base**	**Cost**
Direct Material		$90,000
Material Overhead	5.0% of Direct Material Cost	$4,500
Direct Engineering Labor		$74,000
Engineering Overhead	50.0% of Direct Engineering Labor Cost	$37,000

Direct Manufacturing Labor		$150,000
Manufacturing Overhead	215.0% of Direct Manufacturing Labor Cost	$322,500
Other Direct Cost		$22,000
Total Manufacturing Cost		$700,000
G&A Expense	6.0% of Total Manufacturing Cost	$42,000
Total Cost Less Cost of Money		$742,000
Profit	20.0% of Total Manufacturing Cost	$140,000
Total Price Less Cost of Money		$882,000
Facilities Capital Cost of Money		
Material	.00500 x **Direct Material Cost**	$450
Engineering	.01500 x **Direct Engineering Labor Cost**	$1,110
Manufacturing	.11000 x **Direct Manufacturing Labor Cost**	$16,500
G&A	.00124 x **Total Manufacturing Cost**	$868
Total		$18,928
Total Price		$900,928

10.2.2 Using The DD Form 1861

DD Form 1861 Uses (DFARS 230.7001-1). The DoD has created the DD Form 1861, Contract Facilities Capital Cost of Money, to provide a uniform format for calculating and documenting the contract facilities capital cost of money and the contractor facilities capital employed on a contract. In the DoD, the contractor's facilities capital employed is used to measure contractor facilities investment for consideration in profit/fee analysis.

Calculating Contract Facilities Capital Cost of Money (DFARS 230.7001-2 and NFS 1830.7001-1).

If you are assigned to a DoD organization, use the DD Form 1861 (or an electronic version of the form) to calculate the contract facilities capital cost of money. If you are assigned to another agency, your agency may permit or direct you to use of the DD Form 1861.

The following figure demonstrates the use of a DD Form 1861 to document the facilities capital cost of money calculations from the example in the previous section.

CONTRACT FACILITIES CAPITAL COST OF MONEY	Form Approved OMB No. 0704-0267 Expires Mar 31, 1998

Public reporting burden for this collection of information is estimated to average 10 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0267), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES.

RETURN COMPLETED FORM TO YOUR CONTRACTING OFFICIAL

1. CONTRACTOR NAME	2. CONTRACTOR ADDRESS
3. BUSINESS UNIT	
4. RFP/CONTRACT PIIN NUMBER	5. PERFORMANCE PERIOD

6. DISTRIBUTION OF FACILITIES CAPITAL COST OF MONEY

POOL	ALLOCATION BASE	FACILITIES CAPITAL COST OF MONEY c.	
a.	b.	FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110

Manufacturing	$150,000	.11000	$16,500
G&A	$700,000	.00124	$868
d. TOTAL			$18,928
e. TREASURY RATE			%
f. FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			
7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED			
		PERCENTAGE a.	AMOUNT b.
LAND		%	
BUILDINGS		%	
EQUIPMENT		%	
FACILITIES CAPITAL EMPLOYED		100%	
DD Form 1861, APR 95 PREVIOUS EDITIONS MAY BE USED			

As you look at the form, note that Section 6 of the form is divided into four columns: pool, allocation base, factor, and amount. The four columns correspond to information that you will need to calculate your cost of money objective.

- **Pool.** The pool column is used to identify the name of each pool. Identifying the pool by name facilitates calculations by assuring that all appropriate pools are considered and the appropriate factor is used in making each calculation.
- **Allocation Base.** The allocation base is the base value for the accounting period from your pricing position. If you have more than one negotiation position - such as a minimum, a maximum, and an objective - you would have a different form for each position and each accounting period.
- **Factor.** In this column, use the Government objective for the appropriate cost of money factor for the accounting period. If there is a forward pricing rate agreement, use the agreed-to rate. If there is disagreement over the appropriate rate, use a reasonable rate based on the available information.
- **Amount.** The amount is the cost of money for each pool computed by multiplying the amount in the allocation base column by the amount in the factor column.

After all factors are applied to the appropriate bases, the amounts are totaled to determine the total facilities capital cost of money applicable to that accounting period.

Calculating Contract Facilities Capital Employed. In the DoD, the DD Form 1861 is also used to calculate facilities capital employed. This serves as an estimate of the contractor facility investment required to complete the contract effort performed during the accounting period .

Remember that the total business-unit facilities capital cost of money for each pool is calculated by multiplying the net book value of facilities capital by the current Treasury-determined cost of money rate.

To calculate the facilities capital employed on the contract during each accounting period, you reverse the process -- divide the contract facilities cost of capital for the accounting period by the current cost of money rate.

The figure below demonstrates the facilities capital employed calculation using the facilities capital cost of money calculations from the figure above and an 8.0 percent cost of money rate:

CONTRACT FACILITIES CAPITAL COST OF MONEY	Form Approved OMB No. 0704-0267 Expires Mar 31, 1998
Public reporting burden for this collection of information is estimated to average 10 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0267), Washington, DC 20503.	

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES.			
RETURN COMPLETED FORM TO YOUR CONTRACTING OFFICIAL			
1. CONTRACTOR NAME		2. CONTRACTOR ADDRESS	
3. BUSINESS UNIT			
4. RFP/CONTRACT PIIN NUMBER		5. PERFORMANCE PERIOD	
6. DISTRIBUTION OF FACILITIES CAPITAL COST OF MONEY			
POOL	ALLOCATION BASE	FACILITIES CAPITAL COST OF MONEY c.	
a.	b.	FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110
Manufacturing	$150,000	.11000	$16,500
G&A	$700,000	.00124	$868
d. TOTAL			$18,928
e. TREASURY RATE			8.0 %
f. FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			$236,600
7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED			
		PERCENTAGE a.	AMOUNT b.
LAND		%	
BUILDINGS		%	
EQUIPMENT		%	
FACILITIES CAPITAL EMPLOYED		100%	
DD Form 1861, APR 95 PREVIOUS EDITIONS MAY BE USED			

Distributing Facilities Capital Employed. To encourage contractor investment in productive facilities, the DoD weighted guidelines method of profit/fee analysis provides different profit weights for each different type of facility -- land, buildings, and equipment. To facilitate profit/fee calculations, one more series of calculations is required before the facilities capital employed can be used in DoD weighted guidelines.

Distributing Facilities Capital Employed (cont) DD Form 1861, Section 7 is used to estimate the amount of each type of facility employed on the contract. The percentage assigned to each type of facility in Section 7 is equal to the overall percentage of contractor net book value invested in that type of facility. Percentages are proposed by the contractor and subject to Government review. Of course, the sum of all percentages must equal 100 percent.

To estimate the value of each type of facility employed on the contract, multiply the total facilities capital employed by the appropriate percentage. The result is the estimated amount of that type of facility employed on the contract during the accounting period. The sum of all three amounts must equal the total facilities capital employed during the accounting period. Some adjustment may be required to compensate for rounding error in the various calculations.

The figure below demonstrates distribution of the facilities capital employed assuming that overall contractor facilities capital is 20 percent land, 50 percent buildings, and 30 percent equipment:

CONTRACT FACILITIES CAPITAL COST OF MONEY	Form Approved OMB No. 0704-0267 Expires Mar 31, 1998
Public reporting burden for this collection of information is estimated to average 10 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0267), Washington, DC 20503. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES.	

RETURN COMPLETED FORM TO YOUR CONTRACTING OFFICIAL			
1. CONTRACTOR NAME		2. CONTRACTOR ADDRESS	
3. BUSINESS UNIT			
4. RFP/CONTRACT PIIN NUMBER		5. PERFORMANCE PERIOD	
6. DISTRIBUTION OF FACILITIES CAPITAL COST OF MONEY			
POOL	ALLOCATION BASE	FACILITIES CAPITAL COST OF MONEY c.	
a.	b.	FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110
Manufacturing	$150,000	.11000	$16,500
G&A	$700,000	.00124	$868
d. TOTAL			$18,928
e. TREASURY RATE			8.0 %
f. FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			$236,600
7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED			
		PERCENTAGE a.	AMOUNT b.
LAND		20.0 %	$47,320
BUILDINGS		50.0 %	$118,300
EQUIPMENT		30.0 %	$70,980
FACILITIES CAPITAL EMPLOYED		100.0 %	$236,600
DD Form 1861, APR 95 PREVIOUS EDITIONS MAY BE USED			

Ch 11 - Analyzing Profit or Fee

11.0 Chapter Introduction

This chapter identifies points that you should consider as you analyze contract profit/fee.

Requirement for Profit/Fee Analysis (FAR 15.404-4(b)). Profit/fee is the dollar amount over and above allowable costs that is paid to the firm for contract performance.

Most contract prices include either profit or fee, but contract profit/fee analysis is not required unless cost analysis is required to determine contract price reasonableness. When cost or pricing data are required, you must use profit/fee analysis to determine the reasonableness of any profit/fee included in the contract price. When cost information other than cost or pricing data are required, you may need to use profit/fee analysis to determine the reasonableness of any profit/fee included in the contract price.

Actual Profit/Fee May Vary (FAR 15.404-4(a)(1)). As you perform your profit/fee analysis, remember that (just as actual costs may vary from estimated costs) the contractor's actual realized profit/fee may vary from negotiated profit/fee, because of such factors as:

- Contract performance efficiency;
- Incurrence of unallowable costs; and
- Contract type.

11.1 Factors Affecting Profit/Fee Analysis

This section presents the general factors that you must consider when analyzing profit/fee as part of a contract cost analysis.

11.1.1 Identifying The Need For An Agency Structured Approach

Each Agency Must Use a Structured Approach (FAR 15.404-4(b)). FAR only prescribes the factors that must be considered in establishing the profit/fee objective. It does not prescribe specific Government-wide procedures for profit/fee analysis.

Each agency making noncompetitive contract awards over $100,000 that total $50 million or more each year, must use a structured approach for determining the profit/fee prenegotiation objectives in those acquisitions that require cost analysis. An agency may develop its own structured approach, or use another agency's structured approach if that approach will meet its needs.

Exemptions May Be Authorized Where Approach Is Inappropriate (FAR 15.404-4(b) and 15.404-4(c)). Agencies may exempt certain types of contract actions from the application of the agency's structured approach to profit/fee analysis. However, even in situations exempted from application of your agency's structured approach, you must follow the general FAR requirements for profit/fee objective development.

Examine your agency's guidelines to determine what specific exemptions apply.

11.1.2 Considering Contractor Profit Motivation

Underlying Assumption (FAR 15.404-4(a)). The underlying assumption behind Government structured approaches to profit/fee analysis is the belief that contractors are motivated by profit/fee. Structured approaches provide a discipline for ensuring that all relevant factors are considered in developing Government profit/fee negotiation objectives.

Profit/Fee Analysis Goals (FAR 15.404-4(a)(2)). It is in the Government's best interest to offer contractor's opportunities for financial rewards sufficient to:

- Stimulate efficient contract performance;
- Attract the best capabilities of qualified large and small business concerns to Government contracts; and
- Maintain a viable industrial base to meet public needs.

Inconsistent Practices Regarding Profit/ Fee Reward (FAR 15.404-4(a)(3)). If the Government is to use profit/fee to motivate contractor performance and achieve the above goals, practices primarily intended to reduce profit/fee or diminish the impact of profit/fee analysis are not in the Government's best interest. The following are practices that are inconsistent with Government profit/fee goals:

- Negotiations aimed at reducing prices by reducing profit/fee without proper consideration of the profit function.
- Negotiation of extremely low profits/fees.
- Use of historical average profit/fee rates without regard to the unique circumstances of the immediate negotiation.
- Automatically applying predetermined profit/fee percentages without regard to the unique circumstances of the immediate negotiation.

Profit/Fee Ceiling (FAR 15.404-4(a)(3) and 15.404-4(c)(4)). Profit/fee calculations must consider the unique circumstances of the immediate negotiation. However, contract fee cannot exceed statutory limits that apply to cost-plus-fixed-fee contracts as identified in the following table:

Statutory Limits On Contract Fee	
Type of Contract	**Statutory Fee Limitation**

Experimental, developmental, or research work performed under a cost-plus-fixed-fee contract	15% of estimated contract cost
All other cost-plus-fixed-fee contracts	10% of estimated contract cost

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11.1.3 Identifying Factors To Consider

Factors That Must Be Considered (FAR 15.404-4(d)). While each agency is responsible for developing its own structured approach, the FAR stipulates factors that must be considered unless they are clearly inappropriate or not applicable.

Profit/Fee Factor	Provide greater profit/fee opportunity to contractors who:	As you develop your profit/fee objective consider:
Contractor Effort (i.e. complexity of the work and resources required for contract performance)	Undertake contracts requiring a high degree of professional and managerial skill and whose skills, facilities, and technical assets can be expected to lead to efficient contract performance.	**Material acquisition --** managerial and technical effort necessary to obtain materials, given the: • Complexity of items required; • Number of purchase orders/subcontracts awarded and administered; • Need for source development; and • Complexity of purchase orders/ subcontracts.
		Conversion Direct Labor contribution to contract performance, given the: • Diversity of labor

		types required; and • Amount and quality of supervision and coordination needed.
		Conversion-Related Indirect Cost contribution to contract performance: • Give indirect labor the same profit/fee consideration as direct labor. • Evaluate other indirect costs on complexity and contribution to contract performance.
		General Management composition and contribution to contract performance: • Give indirect labor the same profit/fee weight as comparable direct labor. • Evaluate management effort on complexity and involvement required. • Evaluate other cost elements on contribution to contract performance.
Cost Risk	Assume a proportionately	**Contractor cost responsibility** and

	greater degree of cost responsibility and associated risk.	associated risk as a result of: • Contract type; and • Reliability of the cost estimate in relation to the complexity and duration of the contract task.
Federal Socioeconomic Programs	Have displayed unusual initiative in support of socioeconomic programs.	**Contractor support of programs** for: • Small businesses; • Small businesses owned and controlled by socially and economically disadvantaged individuals; • Woman-owned small businesses; • Handicapped sheltered workshops; and • Energy conservation.
Capital Investments	Have made investments that will facilitate efficient and economical contract performance.	• Contractor investment amount; and • Effect of investment on efficient and economical contract performance.
Cost Control and Other Past Accomplishments	Have demonstrated an ability to perform similar tasks effectively and economically.	Contractor has: • Demonstrated ability to perform similar tasks effectively and economically;

		• Adopted measures to improve productivity; and • Other cost-reduction accomplishments that will benefit the Government in follow-on contracts.
Independent Development	Have undertaken relevant independent development without Government assistance.	• Independent development efforts relevant to the contract end item; and • Contractor's direct or indirect cost recovery from the Government.
Additional Factors	Actively support agency program objectives.	Any additional factors prescribed by your agency for this purpose.

Other Profit/Fee Considerations (FAR 15.404-4(c)). The factors identified above form the basis for agency structured approaches to profit/fee analysis. There are two other elements that you must consider when developing Government profit/fee objectives.

- **Eliminate Facilities Capital Cost of Money from the Profit/ Fee Base.** FAR requires that you base profit/fee prenegotiation objectives on the prenegotiation cost objectives. However, you must exclude any dollar amount for facilities cost of capital before applying profit/fee factors.
- **Consider Basic Contract Profit/Fee for Contract Modifications.** FAR requires that you consider profit/fee objectives based exclusively on the contract action being negotiated. The only exception is the negotiation of contract change or modification.
  - When you negotiate contract modifications, you may use the basic-contract profit/fee rate as

your negotiation objective rate if both of the following conditions are met:
    - The contract modification is for the **same type and mix of work** as the basic contract.
    - The modification is of **relatively small dollar value** compared to the total contract.
- If the contract modification does not meet both of the above conditions, perform a profit/fee analysis to establish the appropriate profit/fee objective.

11.2 Developing An Objective Using The DoD Weighted Guidelines

This section covers the DoD structured approach to profit/fee analysis -- the Weighted Guidelines.

11.2.1 Applying The DoD Weighted Guidelines

Different Approaches for Different Products (DFARS 215.404-4(b), 215.404-71-2(c), and 215.404-71-4(c)). DoD contracting officers must use the weighted guidelines method for profit/fee analysis unless use of the modified weighted guidelines method or an alternate structured method is appropriate. The weighted guidelines define a structure for profit/fee analysis that includes designated ranges for objective values as well as norm values that you may tailor to fit the circumstances of your specific acquisition.

Examining the Weighted Guidelines Form The DD Form 1547 (available in Adobe Acrobat (PDF) format), Record of Weighted Guidelines Application, depicted below, provides the structure for DoD profit/fee analysis and reporting.

RECORD OF WEIGHTED GUIDELINES APPLICATION		REPORT CONTROL SYMBOL DD-A&T(Q)1751	
1. REPORT	2. BASIC PROCUREMENT INSTRUMENT IDENTIFICATION NO.	3. SPIIN	4. DATE OF ACTION

NO.	a. PURCHASING OFFICE	b. FY	c. TYPE PROC INST CODE	d. PRISN		a. YEAR	b. MONTH

5. CONTRACTING OFFICE CODE		ITEM	COST CATEGORY	OBJECTIVE
6. NAME OF CONTRACTOR		13.	MATERIAL	
		14.	SUBCONTRACTS	
7. DUNS NUMBER	8. FEDERAL SUPPLY CODE	15.	DIRECT LABOR	
		16.	INDIRECT EXPENSES	
9. DOD CLAIMANT PROGRAM	10. CONTRACT TYPE CODE	17.	OTHER DIRECT CHARGES	
		18.	SUBTOTAL COSTS *(13 thru 17)*	
11. TYPE EFFORT	12. USE CODE	19.	GENERAL AND ADMINISTRATIVE	
		20.	TOTAL COSTS *(18+19)*	

WEIGHTED GUIDELINES PROFIT FACTORS

ITEM	CONTRACTOR RISK FACTORS	ASSIGNED WEIGHTING	ASSIGNED VALUE	BASE *(ITEM 20)*	PROFIT OBJECTIVE
21.	TECHNICAL	%			
22.	MANAGEMENT/COST CONTROL	%			
23.	PERFORMANCE RISK (COMPOSITE)				
24.	CONTRACT TYPE RISK				
25.	WORKING CAPITAL	Costs Financed	Length Factor	Interest Rate	
				%	
	CONTRACTOR FACILITIES CAPITAL EMPLOYED		ASSIGNED VALUE	AMOUNT EMPLOYED	
26.	LAND				
27.	BUILDINGS				
28.	EQUIPMENT				
29.	COST EFFICIENCY FACTOR		ASSIGNED VALUE	BASE (*Item 20*)	
30.	**TOTAL PROFIT OBJECTIVE**				

NEGOTIATED SUMMARY

		PROPOSED	OBJECTIVE	NEGOTIATED
31.	TOTAL COSTS			
32.	FACILITIES CAPITAL COST OF MONEY *(DD FORM 1861)*			

33.	PROFIT			
34.	TOTAL PRICE *(Line 31 + 32 + 33)*			
35.	MARKUP RATE *(Line 32 + 33 divided by 31)*	%	%	%

CONTRACTING OFFICER APPROVAL			
36. TYPED/PRINTED NAME OF CONTRACTING OFFICER *(Last, First, Middle Initial)*	37. SIGNATURE OF CONTRACTING OFFICER	38. TELEPHONE NO.	39. DATE SUBMITTED *(YYYYMMDD)*

OPTIONAL USE			
96.	97.	98.	99.

DD FORM 1547, JUL 2002 PREVIOUS EDITION IS OBSOLETE.

The DD Form 1547 provides an excellent guide for review of the DoD weighted guidelines approach to profit/fee analysis. For the review, we will divide the DD Form 1547 into the 10 parts identified in the table below:

Dividing the DD Form 1547 for Analysis		
Part	**Description**	**DD Form 1547 Item Numbers**
1	Acquisition Identification Information	1 - 12
2	Cost Objective by Cost Category	13 - 20
3	Performance Risk	21 - 23
4	Contract Type Risk	24
5	Working Capital Adjustment	25
6	Facilities Capital Employed	26 - 28
7	Cost Efficiency Factor	29
8	Total Profit/Fee Objective	30
9	Negotiation Summary	31 - 35
10	Contracting Officer Approval	36 - 39

Acquisition Identification Information. Items 1-12 of the form define DoD requirements for basic acquisition information related to the profit/fee analysis including information about: the contractor, the contracting office, and the contract itself. The form requirements in this area are not considered in this chapter.

Cost Objective by Cost Category. Items 13-20 of the form detail the Government's prenegotiation objectives (less any facilities capital cost of money) by cost category. This information serves as the base for several of the profit/fee calculations made during analysis.

- Be sure to exclude any facilities capital cost of money included in your cost objective from this portion of the DD Form 1547.
- Item 19 must include General and Administrative (G&A) expenses and all Independent Research and Development (IR&D)/Bid and Proposal (B&P) expenses.

The cost information in the table below is taken from the DD Form 1861 in Chapter 10.

Cost Objective Information by Cost Category		
DD Form 1547 Item Numbers	**Cost Category**	**Objective**
13	Material	$90,000
14	Subcontracts	-0-
15	Direct Labor	$224,000
16	Indirect Expenses	$364,000
17	Other Direct Charges	$22,000
18	Subtotal Costs (13 thru 17)	$700,000
19	General and Administrative	$42,000
20	Total Costs (18 + 19)	$742,000

Performance Risk Profit/Fee Analysis (DFARS 215.404-71-2). Items 21-23 of the form are designed to reward contractors who undertake contracts with more performance risk. To analyze performance risk, you must evaluate risk associated with fulfilling contract requirements. For profit/fee analysis, performance risk is subdivided into two types: technical and management/cost-control. The following table

outlines factors that you should consider as you analyze each type of risk.

Factors for Performance Risk Analysis	
Risk Type	**Examples of Factors To Be Considered**
Technical	• Technology being applied or developed by the contractor • Technical complexity • Program maturity • Performance specifications and tolerances • Delivery schedule • Extent of warranty or guarantee
Management/Cost Control	• Contractor's management and internal control systems • Management involvement expected under the contract • Resources applied and value added by the contractor • Contractor support for Federal socioeconomic programs • Expected reliability of cost estimates • Adequacy of management's approach to controlling cost and schedule • Other factors affecting contractor's ability to meet cost targets

- **Performance Risk Importance Weight.** In the "Assigned Weighting" column of the DD Form 1547, weight the two elements of performance risk, considering each element's relative importance to proposed contract performance. The total of the weights must always equal 100 percent.

Example 1: For a development contract, you might assign the following weights:

Technical	65 %
Management/Cost Control	35 %
	100 %

Example 2: For a production contract, you might assign the following weights:

Technical	20 %
Management/Cost Control	80 %
	100 %

Performance Risk Profit/Fee Value. The column marked "Assigned Value" permits you to assign a profit/fee value based on the level of risk associated with the elements of performance risk. The range of values that you can assign depends on the acquisition situation.

- **Standard Value Range:** The standard designated range applies to most contracts and is used for both technical risk and management/cost control risk. The designated value range is 3% to 7% with a normal value of 5%. Evaluation criteria for technical risk appear in Table 11-1 below. Evaluation criteria for management/cost control risk appear in Table 11-3 below.
- **Technology Incentive Range:** Contracting officers may apply this range **to the technical factor only** when an acquisition includes development, production, or application of innovative new technologies. This range may not be used for acquisitions restricted to studies, analyses, or demonstrations that have a technical report as their primary deliverable. Evaluation criteria for the technology incentive range appear in Table 11-2 below.

Table 11-1. Assigning a Profit/Fee Value for Technical

Risk	
Consider .	**When .**
Maximum Value	• Contract effort requires development or initial production of a new item, particularly if performance or quality specifications are tight; or • Contract effort requires a high degree of development or production concurrency.
Significantly Above Normal Value	• Contract effort involves extremely complex, vital efforts to overcome difficult technical obstacles which require personnel with exceptional abilities, experience, and professional credentials.
Above Normal Value	• The contractor is either developing or applying advanced technologies; • Items are being manufactured using specifications with stringent tolerance limits; • Contract effort requires highly skilled personnel or the use of state-of-the-art machinery; • Services and analytical efforts are extremely important to the Government and must be performed to exacting standards; • The contractor's independent development and investment has reduced the Government's risk or cost; • The contractor has accepted and accelerated delivery schedule to meet DoD requirements; or • The contractor has assumed additional risk through warranty provisions.
Below Normal Value	• Contract is for off-the-shelf items; • Requirements are relatively simple; • Technology is not complex; • Contract efforts do not require highly skilled personnel; • Contract efforts are routine; • Programs are mature; or • Contract is a follow-on effort or

	repetitive-type acquisition.
Significantly Below Normal Weight	• Contract is for routine services; • Contract is for production of simple items; • Contract is for rote entry of Government furnished information; or • Contract is for simple operations with GFP.

Table 11-2. Assigning a Profit/Fee Value for Technical Risk Using the Technology Incentive Range	
The contracting officer should use the technology incentive range only for the most innovative contract efforts.	
Innovation may be in the form of	• Development or application of new technology that fundamentally changes he characteristics of an existing product or system **and** that results in increased technical performance, improved reliability, or reduced costs; or • New products or systems that contain significant technological advances over the products or systems they are replacing.
After deciding that use of the technology incentive range is appropriate, the contracting officer should consider the relative value of the proposed innovation to the acquisition as a whole. Generally use the normal value of 9%. However	
Consider using values less than the norm when:	The innovation represents a minor benefit.
Consider using values above the norm when:	The innovation will have a major positive impact on the product or program.

Table 11-3. Assigning a Profit/Fee Value for Management/Cost Control Risk	
Consider .	**When .**
Maximum Weight	• Contract effort requires large scale integration of the most complex nature; • Contract effort involves major international activities with significant management coordination (e.g., offsets with foreign vendors); or • Contract effort has critically important milestones.
Above Normal Weight	• The contractor's value-added is both considerable and reasonably difficult; • Contract effort involves a high degree of integration or coordination; • The contractor has a good record of past performance; • The contractor has a substantial record of active participation in Federal socioeconomic programs; • The contractor provides fully documented and reliable cost estimates; • The contractor makes appropriate make-or-buy decisions; or • the contractor has a proven record of cost tracking and control.
Below Normal Weight	• The program is mature and many end item deliveries have been made; • The contractor adds minimum value to an item; • Contract effort is routine and requires minimal supervision; • The contractor provides poor quality, untimely proposals; • The contractor fails to provide an adequate analysis of subcontractor costs; or • The contractor does not cooperate in the evaluation and negotiation of the proposal; • The contractor's cost estimating

	system is marginal; • The contractor has made minimal effort to initiate cost reduction programs; • The contractor's cost proposal is inadequate; • The contractor has a record of cost overruns or other indication of unreliable cost estimates and lack of cost control; or • The contractor has a poor record of past performance.
Significantly Below Normal Weight	• Reviews performed by the field contract administration offices disclose unsatisfactory management and internal control systems (e.g., quality assurance, property control, safety, security); or • Contract effort requires an unusually low degree of management involvement.

- **Calculate Composite Performance Risk Value.** The "Performance Risk (Composite) Assigned Value" (Item 23), is the weighted average -- calculated using the weight assigned and the value assigned to the two types of performance risk. For example, the following calculations depict weighted value calculation:

	Weight Assigned	Value Assigned	Weighted Value
Technical	40%	4.5%	1.8%
Management/Cost Control	60%	4.0%	2.4%
Composite Value			4.2%

- **Identify Performance Risk Profit/Fee Base.** Enter the value from Item 20 as the "Performance Risk (Composite) Base," Item 23. Remember that the value in Item 20 is the total contract cost excluding facilities capital cost of money.
- **Calculate Performance Risk Profit/Fee Objective.** To calculate the "Performance Risk (Composite) Profit Objective," Item 23, multiply the "Performance Risk

(Composite) Assigned Value," by the "Performance Risk (Composite) Base" as shown in the example below:

Item	Contractor Risk Factors	Assigned Weighing	Assigned Value	Base (Item 20)	Profit Objective
21.	Technical	40%	4.5		
22.	Management/Cost Control	60%	4.0		
24.	Performance Risk (Composite)		4.2	$742,000	$31,164

Contract-Type Risk Profit/Fee Analysis (DFARS 215.404-71-3). Item 24 of the form focuses on the degree of cost risk accepted by the contractor under various types of contracts.

- **Select the Appropriate Profit/Fee Range.** The designated profit/fee ranges and the normal values for major contract types are described in the following table:

Profit/Fee Values for Contract-Type Risk			
Contract Type	**Notes**	**Normal Value**	**Designated Range**
Firm Fixed-Price			
No Financing	(1)	5.0%	4.0% to 6.0%
With Performance-Based Payments	(6)	4.0%	2.5% to 5.5%
With Progress Payments	(2)	3.0%	2.0% to 4.0%
Fixed-Price Incentive			
No Financing	(1)	3.0%	2.0% to 4.0%
With Performance-Based Payments	(6)	2.0%	0.5% to 3.5%
With Financing	(2)	1.0%	

			0.0% to 2.0%
Fixed-Price Redeterminable			
No Financing	(3)	2.5%	2.0% to 3.0%
With Financing	(3)	0.5%	0.0% to 1.0%
Cost-Plus-Incentive-Fee	(4)	1.0%	0.0% to 2.0%
Cost-Plus-Fixed-Fee	(4)	0.5%	0.0% to 1.0%
Time and Material	(5)	0.5%	0.0% to 1.0%
Labor-Hour	(5)	0.5%	0.0% to 1.0%
Firm fixed-price-level-of-effort-term	(5)	0.5%	0.0% to 1.0%

(1) "No Financing" means either that the contract does not provide progress payments or performance-based payments or provides them only on a limited basis (e.g., financing of first articles). Do not compute a working capital adjustment in Item 25.
(2) When the contract contains provisions for progress payments, compute a working capital adjustment in Item 25.
(3) For the purpose of assigning profit values, treat a fixed-price contract with redeterminable provisions as if it were a fixed-price-incentive contract with below normal conditions.
(4) Cost-reimbursement contracts shall not receive the working capital adjustment.
(5) These types of contracts are considered cost-plus-fixed-fee contracts for the purpose of assigning profit/fee values. They shall not receive the working capital adjustment in Item 25. However, they may receive higher than normal values within the designated range to the extent that portions of cost are fixed.
(6) When the contract contains provisions for performance-based payments, do not compute a working

capital adjustment.

Note that fixed-price contracts with financing have lower profit/fee ranges and normal values than fixed-price contracts with no financing. The lower values consider the fact that the contractor assumes less financial risk when the Government provides financing.

- **Assign Appropriate Profit/Fee Value.** Use the normal value for each contract type unless you can justify a higher or lower value.
  - The elements that you should consider include:
  - Length of contract,
  - Adequacy of cost data projections,
  - Economic environment,
  - Nature and extent of subcontracted activity,
  - Contractor protection under contract provisions (e.g., economic price adjustment clauses),
  - Ceilings and share lines contained in incentive provisions, and
  - Risks associated with contracts for foreign military sales (FMS) which are not funded by U.S. appropriations.
  - When the contract contains provisions for performance-based payments:
    - The frequency of payments,
    - The total amount of payments compared to the maximum allowable amount specified at FAR 32.1004(b)(2), and
    - The risk of the payment schedule to the contractor.
  - In determining the appropriate value to assign, **assess the extent to which costs have been incurred prior to definitization of the contract action.** Your assessment must consider any reduced contractor risk on both the contract before definitization and the remaining portion of the contract. When costs have been incurred prior to definitization, generally regard the contract type risk to be at the low end of the designated range. If a substantial portion of the costs have been incurred prior to definitization, you may assign a value as low as 0 percent, regardless of contract type.
  - Within the range prescribed for a particular contract type, the assigned profit/fee value

should be consistent with the value for performance risk. It would be incongruous to assign a high value for contract type risk and a low value for performance risk, or vice versa.

Assigning a Profit/Fee Value for Contract-Type Risk	
Consider .	**When .**
Above Normal Weight	• There is minimal cost history; • Long-term contracts without provisions protecting the contractor, particularly when there is considerable economic uncertainty; • Incentive provisions (e.g., cost and performance incentives) place a high degree of risk on the contractor; or • Contract is for FMS sales (other than those under DoD cooperative logistics support arrangement or those made from U.S. Government inventories or stocks) where the contractor can demonstrate that there are substantial risks above those normally present in DoD contracts for similar items. • An aggressive performance-based payment schedule that increases risk.
Below Normal Weight	• Contract is for a very mature product line with extensive cost history; • Contract is for a relatively short term; • Contractual provisions substantially reduce the contractor's risk; • Incentive provisions place a low degree of risk on the contractor; • Performance-based payments totaling the maximum allowable amount(s) specified at FAR 32.1004(b)(2); or • A performance-based payment schedule that is routine with minimal risk.

- **Contract-Type Risk Profit/Fee Base.** Enter the value from Item 20 as the "Contract Type Risk Base" (Item 24).
- **Calculate Cost Risk Profit/Fee Objective**. To calculate the "Contract Type Risk Profit Objective" (Item 24),

multiply the "Contract Type Risk Assigned Value," by the "Contract Type Risk Base" (Item 20) as shown in the example below:

For example: A firm fixed-price contract with normal progress payments, normal risk, and the cost structure presented in earlier in this chapter would require the following calculations.

Item	Contractor Risk Factor	Assigned Value	Base (Item 20)	Profit Objective
24.	Contract Type Risk	3.0%	$742,000	$22,260

Working Capital Profit/ Fee Adjustment (DFARS 215.404-71-3). Item 25 of the form recognizes contractor working capital investment, the money required to finance contract expenses until contract payment is received. It only applies to fixed-priced contracts with Government financing.

- **Calculate the Costs Financed.**
  - Identify contract "Total Costs Objective" (excluding facilities capital cost of money) in Item 20.
  - Reduce the "Total Costs Objective" as appropriate when:
    - The contractor has little cash investment (e.g. subcontractor progress payments liquidate late in the period of performance).
    - Some costs are covered by special financing provisions such as advance payments.
    - The contract is multi-year and there are special funding arrangements.
  - Calculate the portion of contract cost financed by the contractor. Normally that is 100% minus the customary progress payment rate. On contracts that provide flexible progress payments or progress payments to small business, **use the customary rate for large businesses.**
  - Calculate the "Working Capital Costs Financed" by multiplying "Total Costs Objective" by the percentage of costs financed by the contractor.
- **Select the Appropriate Contract Length Factor.** The "Length Factor" (Item 25) is related to the period of

time that the contractor will have a working capital investment in the contract.

- The period of substantive performance that you use to select the length factor:
  - Is based on the time necessary for the contractor to complete the substantive portion of the work.
  - Is not necessarily based on the entire period of time between contract award and final delivery (or final payment). It should exclude any periods of minimal contract performance.
  - Should not be based on periods of performance contained in option provisions
  - Should not, for multi-year contracts, include periods of performance beyond that required to complete the initial program year's requirements.
  - Should be based on a weighted average contract length when the contract has multiple deliveries.
  - May be estimated using sampling techniques provided the sampling techniques produce a representative result.
- After you determine the period of substantive performance use the following table to select the appropriate contract length factor.

Period of Substantive Performance	Length Factor
21 months or less	.40
22 to 27 months	.65
28 to 33 months	.90
34 to 39 months	1.15
40 to 45 months	1.40
46 to 51 months	1.65
52 to 57 months	1.90
58 to 63 months	2.15
64 to 69 months	2.40
70 to 75 months	2.65
76 months or more	2.90

- **Identify the Interest Rate.** Identify the "Interest Rate" determined semi-annually by the Secretary of the Treasury under Public Law 92-41. This rate is also known as: Renegotiation Board Interest Rate; Prompt

Payment Act Interest Rate; Contract Dispute Act Interest Rate; and Facilities Capital Cost of Money Rate. The rate can be found on the Bureau of the Public Debt's Prompt Payment Act Interest Rate webpage.

- **Calculate Working Capital Profit/Fee Objective**. To calculate the "Working Capital Profit Objective" (Item 25), multiply the "Costs Financed" by the "Length Factor" and then multiply the product from that calculation by the "Interest Rate" as shown in the example below. The adjustment must not exceed four percent of the "Total Costs" in Item 20 of the form.

For example: Using the above approach with a contract cost of $742,000, progress payments of 80 percent, substantive period of performance of 25 months, and an interest rate of 5.25 percent, the calculation would be:

Step 1. Calculate the Costs Financed:

Total Costs Objective x (1.00 - Progress Payment Rate)

$742,000 x (1.00 - .80)

$742,000 x .20

$148,400

Step 2. Select the Appropriate Contract Length Factor:

.65 is the length factor for a 25 month substantive period of performance.

Step 3. Identify the Interest Rate:

5.25 percent is the interest rate.

Step 4. Calculate Working Capital Profit/Fee Objective:

Costs Financed x Length Factor x Interest Rate

$148,400 x .65 x .0525

$5,064 (rounded down from $5064.15)

The figures in Item 25 of the form would appear as follows:

Item	Contractor Risk Factor	Costs Financed	Length Factor	Interest Rate	Profit Objective
25	Working Capital	$148,400	.65	5.25%	$5,064

Facilities Capital Employed Profit/ Fee Analysis (DFARS 215.404-71-4). This section recognizes contractor investment in equipment.

- **Determine the Facilities Capital Employed.** As you learned in Chapter 10, total facilities capital employed is calculated by dividing the facilities capital cost of money allowed on the contract by the cost of money rate using the DD Form 1861, Contract Facilities Capital Cost of Money. The total facilities capital employed is then distributed into three components, land, buildings, and equipment, using Section 7 of the DD Form 1861. The facilities capital employed dollar figure for each component is then transferred to the appropriate "Amount Employed" column of DD Form 1547 -- Item 26 for land, Item 27 for buildings, or Item 28 for equipment.
- **Select the Appropriate Profit/Fee Value Range.** After transferring the facilities capital employed to the DD Form 1547, assign a profit/fee value to equipment capital employed. Facilities investments in land and buildings are not rewarded in profit/fee analysis because the Government does not appreciably benefit from investments in land and buildings. The following table shows the designated ranges and normal values for each:

Profit/Fee Values for Facilities Capital Employed			
Application	**Asset Type**	**Designated Range**	**Normal Value**
Standard --used for most contracts.	Land	N/A	0%
	Buildings	N/A	0%
	Equipment	10% to 25%	17.5%

- **Assign Appropriate Profit/Fee Value.**
  - As you assign a profit/fee objective value to equipment employed:

        - Relate the usefulness of the equipment to the goods or services being acquired under the prospective contract.
        - Analyze the productivity improvements and other anticipated industrial base enhancing benefits resulting from the investment in equipment, including:
            - The economic value of the equipment, such as physical age, undepreciated value, idleness, and expected contribution to future defense needs; and
            - The contractor's level of investment in defense related equipment as compared with the portion of the contractor's total business which is derived from the DoD.
    - Consider any contractual provisions that reduce the contractor's risk of investment recovery (e.g., a termination protection clause, capital investment indemnification, and productivity saving rewards).
    - You should assign the normal value unless you can justify a higher or lower value. Consider the following table:

Assigning a Profit/Fee Value for Facilities Capital Employed	
Consider .	**When .**
Significantly Above Normal Weight	There are direct and measurable benefits in efficiency and significantly reduced acquisition costs on the effort being priced. Maximum values apply only to those cases where the benefits of the facilities capital investment are substantially above normal
Above Normal Weight	There are direct, identifiable, and exceptional benefits, such as: • New investments in state-of-the-art technology which reduce acquisition cost or yield other tangible benefits such as improved product quality or accelerated deliveries; • Investments in new equipment for research and development

	applications.
Below Normal Weight	The capital investment has little benefit to DoD, for example: • Allocations of capital apply predominately to commercial product lines; • Investments are for such things as furniture and fixtures, corporate aircraft, or gymnasiums; or • Facilities are old or extensively idle.
Significantly Below Normal Weight	A significant portion of defense manufacturing is done in an environment characterized by outdated, inefficient, and labor-intensive capital equipment

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- **Calculate the Facilities Employed Capital Profit/Fee Objective.** Using the above approach, normal assigned values, and facilities capital employed figures from Chapter 10, Section 6 could look like this:

Item	Contractor Facilities Capital Employed	Assigned Value	Amount Employed	Profit Objective
26	Land		$47,320	
27	Buildings		$118,300	
28	Equipment	17.5%	$70,980	$12,422

The Cost Efficiency Factor. (DFARS 215.404-71-5) This is a special factor that encourages contactors to reduce costs. Contracting officers may use this factor to increase the prenegotiation profit objective by an amount not to exceed 4% of total objective costs (Block 20 of the DD Form 1547). Contracting officers may use this factor only when the contractor can demonstrate cost reduction efforts that **benefit the pending contract.**

The contracting officer shall consider criteria such as the following in evaluating whether or not to use the cost efficiency factor:

- The contractor's participation in Single Process Initiative (SPI) improvements;
- Actual cost reductions achieved on prior contracts;
- Reduction or elimination of excess or idle facilities;
- The contractor's cost reduction initiatives (e.g., competition advocacy programs, technical insertion programs, obsolete parts control programs, spare parts pricing reform, value engineering, outsourcing of functions such as information technology). Metrics developed by the contractor such as fully loaded labor hours (i.e., cost per labor hour, including all direct and indirect costs) or other productivity measures may provide the basis for assessing the effectiveness of the contractor's cost reduction initiatives over time;
- The contractor's adoption of process improvements to reduce costs;
- Subcontractor cost reduction efforts;
- The contractor's effective incorporation of commercial items and processes; or
- The contractor's investment in new facilities when such investments contribute to better asset utilization or improved productivity.

When selecting the percentage to use for this special factor, the contracting officer has maximum flexibility in determining the best way to evaluate the benefit the contractor's cost reduction efforts will have on the pending contract. However, the contracting officer shall consider the impact that quantity differences, learning, changes in scope, and economic factors such as inflation and deflation will have on cost reduction.

Example: The contracting officer has evaluated the criteria listed above and decided that a cost efficiency factor of 1.5% is appropriate based on the contractor's adoption of process improvements and small cost reductions achieved on a prior contract. The entry on the DD Form 1547 would appear as follows:

		Assigned Value	**Base (Item 20)**	**Profit Objective**
29	Cost Efficiency Factor	1.5%	$742,000	$11,130

Total Profit/Fee Objective. The total profit/fee objective is the sum of all profit/fee objectives calculated in Parts

2 - 6 of the DD Form 1547. For the on-going example used throughout this section, the total profit/fee objective would be:

Item	Profit Factor	Profit Objective
23.	Performance Risk (Composite)	$31,164
24.	Contract Type Risk	$22,260
25.	Working Capital	$5,064
28.	Equipment Facilities Capital Employed	$12,422
29.	Cost Efficiency Factor	$11,130
30.	Total Profit/Fee Objective	$82,040

Negotiation Summary (DFARS 215.404-76). This part of the DD Form 1547 summarizes the proposed, objective, and negotiated cost and profit/fee positions. The section is primarily used for reporting to higher headquarters. Questions often arise regarding Line 35, "Markup Rate." The markup rate calculation includes both profit/fee and facilities capital cost of money as markup. As a result, offhand evaluations of the size of the markup can be misleading. The figures for on-going example would be:

NEGOTIATION SUMMARY					
Item	**Summary Elements**	**Proposed**	**Objective**	**Negotiated**	
31.	Total Costs		$742,000		
32.	Facilities Capital Cost of Money		$18,928		
33.	Profit		$82,040		
34.	Total Price (Line 31 + 32 + 33)		$842,968		
35.	Markup Rate (line 32 + 33 divided by 31)		13.6 %		

Contracting Officer Approval. After completion of the negotiation, the DD Form 1547 must be signed and dated by the contracting officer.

Completed Price/Fee Analysis The example below depicts a DD Form 1547, completed through Item 35 for the Government objective, using the figures from the on-going example used throughout this section.

RECORD OF WEIGHTED GUIDELINES APPLICATION					REPORT CONTROL SYMBOL DD-A&T(Q)1751		
1. REPORT NO.	2. BASIC PROCUREMENT INSTRUMENT IDENTIFICATION NO.				3. SPIIN	4. DATE OF ACTION	
	a. PURCHASING OFFICE	b. FY	c. TYPE PROC INST CODE	d. PRISN		a. YEAR	b. MONTH

5. CONTRACTING OFFICE CODE		ITEM	COST CATEGORY	OBJECTIVE
6. NAME OF CONTRACTOR		13.	MATERIAL	**$90,000**
		14.	SUBCONTRACTS	**0**
7. DUNS NUMBER	8. FEDERAL SUPPLY CODE	15.	DIRECT LABOR	**$224,000**
		16.	INDIRECT EXPENSES	**$364,000**
9. DOD CLAIMANT PROGRAM	10. CONTRACT TYPE CODE	17.	OTHER DIRECT CHARGES	**$22,000**
		18.	SUBTOTAL COSTS *(13 thru 17)*	**$700,000**
11. TYPE EFFORT	12. USE CODE	19.	GENERAL AND ADMINISTRATIVE	**$42,000**
		20.	TOTAL COSTS *(18+19)*	**$742,000**

		WEIGHTED GUIDELINES PROFIT FACTORS			
ITEM	CONTRACTOR RISK FACTORS	ASSIGNED WEIGHTING	ASSIGNED VALUE	BASE *(ITEM 20)*	PROFIT OBJECTIVE
21.	TECHNICAL	**40%**	**4.5%**		
22.	MANAGEMENT/COST CONTROL	**60%**	**4.0%**		
23.	PERFORMANCE RISK (COMPOSITE)		**4.2%**	**$742,000**	**$31,164**
24.	CONTRACT TYPE RISK		**3.0%**	**$742,000**	**$22,260**
25.	WORKING CAPITAL	Costs Financed	Length Factor	Interest Rate	
		$148,400	**.65**	**5.25%**	**$5,064**
	CONTRACTOR FACILITIES CAPITAL EMPLOYED		ASSIGNED VALUE	AMOUNT EMPLOYED	
26.	LAND			**$47,320**	

27.	BUILDINGS		**$118,300**	
28.	EQUIPMENT	**17.5%**	**$70,980**	**$12,422**
29.	COST EFFICIENCY FACTOR	ASSIGNED VALUE	BASE (*Item 20*)	
		1.5%	**$742,000**	**$11,130**
30.			**TOTAL PROFIT OBJECTIVE**	**$82,040**
		NEGOTIATED SUMMARY		
		PROPOSED	OBJECTIVE	NEGOTIATED
31.	TOTAL COSTS		**$742,000**	
32.	FACILITIES CAPITAL COST OF MONEY *(DD FORM 1861)*		**$18,928**	
33.	PROFIT		**$82,040**	
34.	TOTAL PRICE *(Line 31 + 32 + 33)*		**$842,968**	
35.	MARKUP RATE *(Line 32 + 33 divided by 31)*	%	**13.6%**	%

CONTRACTING OFFICER APPROVAL			
36. TYPED/PRINTED NAME OF CONTRACTING OFFICER *(Last, First, Middle Initial)*	37. SIGNATURE OF CONTRACTING OFFICER	38. TELEPHONE NO.	39. DATE SUBMITTED *(YYYYMMDD)*
OPTIONAL USE			
96.	97.	98.	99.

11.2.2 Identifying Exempted Contract Actions

Exemptions From Required Weighted Guidelines Use (DFARS 215.404-4(c)(2), 215.404-72, and DFARS 215.404-74).

In the DoD, you generally must use the weighted guidelines approach for profit/fee analysis when you perform cost analysis of cost or pricing data to determine price reasonableness. However, you:

- May use an alternate structured approach for the following:
  - Contract actions under $500,000;
  - Architect-engineering or construction contracts;
  - Contracts primarily requiring delivery of material from subcontractors;
  - Termination settlements; or
  - Contracts for which the weighted guidelines would not produce a reasonable overall profit/fee and

the head of the contracting activity approves use of an alternate approach in writing.

- Must use the modified weighted guidelines (described in DFARS 215.404-72) for contract actions with nonprofit organizations other than FFDRCs.
- Must not use weighted guidelines or an alternate approach for cost-plus-award-fee contracts. Instead follow the guidelines presented in DFARS 215.404-74.

Using an Alternate Structured Approach (DFARS 215.404-73). When using an alternate structured approach, you may design your profit/fee analysis to meet the requirements of the acquisition situation. However, the alternate approach must:

- Consider the three basic components of profit--performance risk, contract type risk (including working capital), and facilities capital employed.
- Include an offset for any facilities capital cost of money included in contract cost. To calculate the offset, reduce the overall prenegotiation profit objective by one percent of the total cost or the amount of facilities capital cost of money, whichever is less.

When you use an alternate approach, you must still complete a DD Form 1547, however, you are not required to complete Items 21 through 30. The profit amount in the negotiation summary of the DD Form 1547 must be the profit figure after the offset for facilities capital cost of money.

Ch 12 - Preparing For Negotiation

12.0 Chapter Introduction

Having analyzed the individual elements of contract cost and profit/fee, you must now meld the results of those analyses into a single prenegotiation position on contract pricing.

12.1 Evaluating Overall Price Reasonableness With Price Analysis

Price Analysis (FAR 15.404-1(b)(1)). Price analysis is the process of examining and evaluating a proposed price to determine if it is fair and reasonable, without evaluating its separate cost elements and proposed profit.

Cost Analysis Supplements Price Analysis (FAR 15.404-1(a)(3)). Cost analysis is not a substitute for effective price analysis. You should perform a price analysis whenever there is a valid base for analysis. Effective cost analysis provides insight into what it will cost the firm to complete the contract using the methods identified. However, cost analysis does not necessarily provide a picture of what the market is willing to pay for the product involved. For that you need price analysis.

Remember the Pontiac Trans Am example: Suppose that you wanted to procure a custom-made automobile identical to a Pontiac Trans Am. At your request, your neighborhood

mechanic agrees to build you such a car. In building the car, the mechanic gets competitive quotes on all the necessary parts and tooling, pays laborers only the minimum wage, and asks only a very small profit.

How do you think the final price will compare to a car off an assembly line? Probably at least ten times more expensive. Parts alone may be five times more expensive. The entire cost of tooling will be charged to one car. Labor, although cheaper per hour, will likely not be as efficient as assembly-line labor. Is the price reasonable? That decision can only be made through price analysis.

Bases for Price Analysis (FAR 15.404-1(b)(2)). Price analysis **always** involves some form of comparison with other prices. As the contracting officer, you are responsible for selecting the bases for comparison that you will use in determining if a price is fair and reasonable, such as:

- Proposed prices received in response to the solicitation;
- Commercial prices including competitive published price lists, published commodity market prices, similar indexes, and discount or rebate arrangements;
- Previously-proposed prices and contract prices for the same or similar end items, if you can establish both the validity of the comparison and the reasonableness of the proposed price;
- Parametric estimates or estimates developed using rough yardsticks;
- Independent Government Estimates; or
- Prices obtained through market research for the same or similar items.

The order in which the bases for price analysis are presented above represents the general order of base desirability for price analysis. However, the order is not set in concrete.

For example, comparisons with commercial prices can be just as desirable as comparisons with other proposed prices. After all, the prices of commercial products are defined by commercial market competition.

Independent Government estimates are normally considered to be one of the less desirable bases for price analysis. However, in cases (e.g., construction) where

estimates are based on extensive detailed analysis of requirements and the market, the Government estimate can be one of the best bases for price analysis.

Moreover, you should use all bases for which you have recent, reliable and valid data. For example, you would be well advised to consider the last price paid in addition to other proposed prices -- especially if the prior contract was awarded last month and at a reasonable price.

Price Reasonableness Decision. Price analysis is a subjective evaluation. For any given procurement, different bases for price analysis may give you a different view of price reasonableness. Even given the same information, different buyers/contracting officers might make different decisions about price reasonableness.

It is the contracting officer who must be satisfied that the price is fair and reasonable.

Resolving Differences Between Cost and Price Analysis (FAR 15.405(d)). If your price analysis does not support the findings of your cost analysis, you must reexamine your cost analysis result. Look for alternatives that will permit contract award at a reasonable price.

Consider alternative methods of contract completion and closely examine contract for possible changes in contract requirements.

If the results of cost analysis and price analysis cannot be reconciled by the close of negotiations, the contracting officer must refer the contract action to a level above the contracting officer. The problem and the resolution should be documented.

12.2 Recognizing Alternatives And Their Effect On Contract Price

Consider contracting alternatives and their affect on contract price as you complete your analysis. Common alternatives affecting contract pricing involve changes in contract cost or cost risk that are related to changes in contract schedule or other performance requirements.

- 12.2.1 - Identifying And Considering The Effect Of Cost Drivers
- 12.2.2 - Identifying And Ameliorating Sources Of Cost Risk

Focus on Contracting Alternatives. Most negotiators assume that contract schedule and other performance requirements cannot be changed under any circumstances. However, you can often negotiate a better deal for all contracting parties if you consider available alternatives.

Team Effort (FAR 1.102-3, 1.102-4, and 15.404-1(a)). Take a team approach the analysis or alternatives. Other members of the Acquisition Team (e.g., technical personnel, the auditor, the price analyst, and contractors) can provide invaluable insight into contract requirements and their affect on contract cost and cost risk.

For example: If you are considering alternatives related to a complex contract proposal, you will generally need support from technical personnel to evaluate the effect of any proposed alternative on contract cost or cost risk. You may also need analysis support from:

- Requiring activity personnel to determine the feasibility of proposed alternatives related to delivery timing, production or performance methods, and materials;
- Technical personnel to consider the effect of proposed alternatives on contract labor and material requirements; and
- The cognizant auditor to consider the effect of the proposed alternatives on labor rates, indirect cost rates, and material pricing.

However throughout any analysis of alternatives, remember that the contracting officer is ultimately responsible for acquiring required supplies and services from responsible sources at fair and reasonable prices.

Caution About Alternatives (FAR 15.206(d) and 15.306(e)). Before bringing a potential alternative (or any other change in terms and conditions) to the negotiation table, you must consider the:

- Costs to the Government affected by the proposed alternative;

- Terms and conditions affected by the proposed alternative (including legal and regulatory requirements); and
- The nature of the discussions.
    - In a non-competitive environment, you may directly negotiate changes in terms and conditions.
    - In competitive procurements, you may need to amend the RFP and notify other offerors as provided in the FAR. Also remember that you must not reveal one offeror's technical solution to another offeror, including:
    - Unique technology;
    - Innovative and unique uses of commercial items; or
    - Any information that would compromise an offeror's intellectual property.

12.2.1 Identifying And Considering The Effect Of Cost Drivers

Identifying Cost Drivers. Cost drivers are those aspects of proposal or contract requirements that if changed would have a major impact on contract price. Possible cost drivers include contract terms and conditions, delivery requirements, or technical requirements. For example:

- If the contract does not allow for use of existing Government property, then offered prices may include costs for the acquisition or fabrication of additional tooling or test equipment.
- If delivery is needed on an expedited basis, then premium charges may be incurred.
- If contract technical requirements call for an expensive process when another less expensive process would meet the needs of end users, then offered prices would be fair but unreasonably high through no fault of the offerors.

Considering the Cost Driver Effect on Contract Price. Work with other members of the Acquisition Team to identify the cost drivers that appear to be affecting contract price in the current acquisition environment. Having identified the factors that appear to be driving contract cost, you can begin reviewing the impact of alternatives. The following

scenarios are examples of how you might consider the effect of schedule changes on contract price:

Example 1. Normal delivery time for Item A is six months after receipt of an order at a unit price of $1,000. The requiring activity wants the part in three months at the same price. The offeror can get the part in three months, but only at a premium price of $1,250. In this case, schedule is a cost driver with a shorter delivery schedule resulting in a cost increase.

Example 2. The requiring agency has requested delivery of Item B twelve months from today. The offeror has quoted a unit price of $5,000 for the 12-month delivery. At the same time, the offeror has offered to add this Item B requirement to a projected production run. By combining the requirements, a second set-up charge can be avoided and the part can be purchased for $4,500, but delivery cannot be made in less than 15 months. If the requiring activity cannot accept the 15 month delivery, schedule will be a significant cost driver.

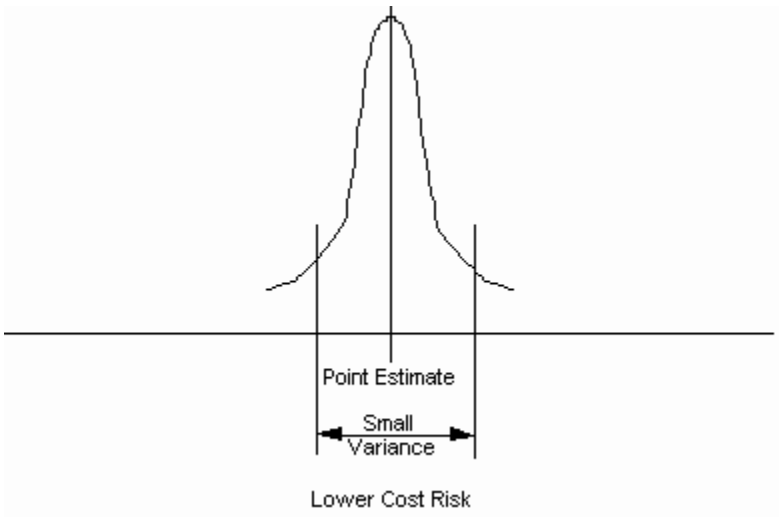
Example 3. The proposal calls for a delivery 36 months after receipt of an order. During the technical analysis, you determined that the offeror's shop loading schedule would allow for delivery in 24 months. The proposed part has been in continuous production for several years and is "well down the improvement curve." The earlier delivery year has significantly lower projected labor rates, and the additional volume would significantly reduce overhead rates. As a result, earlier delivery should actually reduce contract cost.

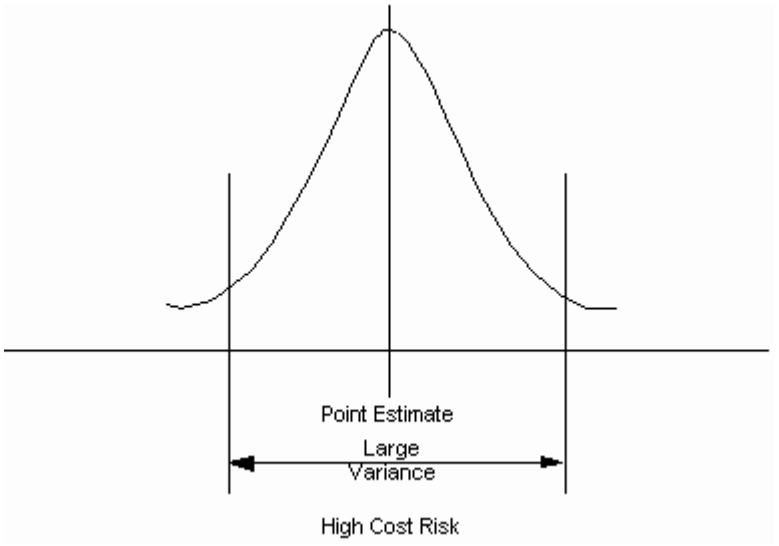
12.2.2 Identifying And Ameliorating Sources Of Cost Risk

Identify Sources of Cost Risk. Most cost estimates, whether they are the offeror's proposed or the Government's recommended, include a "point estimate" -- the point estimate is an estimate of what the estimator believes is most likely to happen. In most cases, the point estimate is one of a range of possible costs.

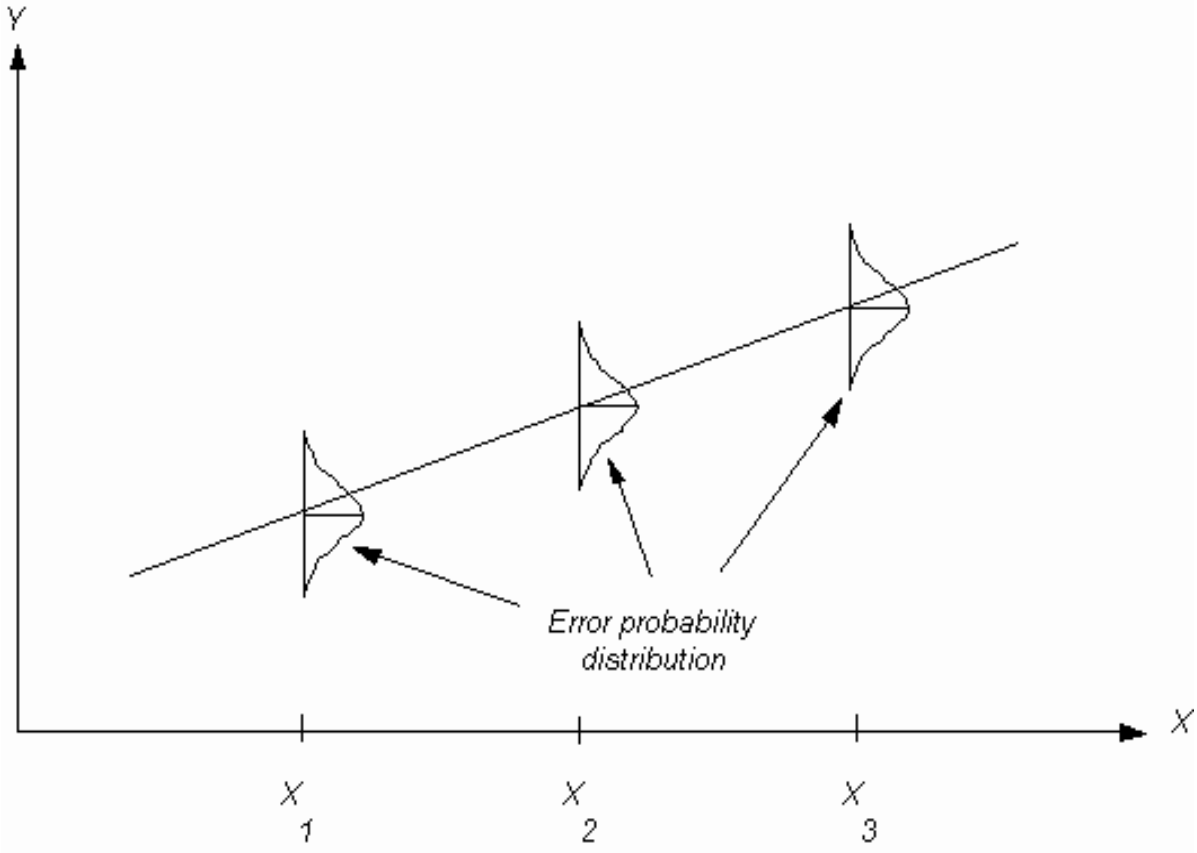
Since things rarely happen exactly as predicted, there are usually variances between projected and actual costs. Known to statisticians as an error probability

distribution, the greater the potential variability between the projected and actual cost, the greater the cost risk.





Even in the case of a line-of-best-fit trend analysis, you are dealing with a point estimate-a point on the best-fit line with a probability distribution surrounding it.



Typically, cost risk increases when market prices are volatile or you lack cost information on the market. For example, cost risk is typically quite high for contracts that require new and untested product technology.

Even when there is substantial cost risk, you can make a point estimate. However as contractor cost risk increases, contractors normally become more concerned about the upper limit of cost risk and less concerned about the point estimate. In such situations, you must find a way to ameliorate the risk involved.

Identify Means of Reducing or Controlling Contractor Cost Risk. Remember that there are a variety of methods that you should consider for reducing and controlling contract cost. Among the most important are the appropriate use of:

- An appropriate contract type;

- Clear technical requirements;
- Government furnished property; and
- Other contract terms and conditions.

12.3 Identifying Key Pricing Elements In Prenegotiation Objectives

Pricing Elements by Contract Type. In preparing your negotiation objective, you must establish a position on each of the key elements that will define the contract pricing arrangement. Depending on the contract type, you may be able to restrict negotiations to total price or you may be required to negotiate agreement on several elements needed to define the pricing arrangement.

Contract Elements by Contract Type	
Contract Type	**Pricing Elements Requiring Negotiation**
Firm fixed-price and firm fixed-price level of effort FAR 16.202 FAR 16.207	Total price
Fixed-price economic price adjustment FAR 16.203	Base price Contract amount subject to adjustment Basis for determining economic adjustment Limits on economic adjustment
Fixed-price incentive firm FAR 16.403-1	Target cost Target profit Cost sharing arrangement under target cost Cost sharing arrangement over target cost Ceiling price
Fixed-price incentive successive targets FAR 16.403-2	Initial target cost Initial target profit Initial cost sharing arrangement under target Initial cost sharing arrangement over target Ceiling for firm target profit Floor for firm target profit

	Point(s) where firm target cost and firm target profit will be negotiated Ceiling price
Fixed-price with prospective price redetermination FAR 16.205	Firm fixed-price for initial period Stated time(s) for prospective price redetermination
Fixed-price contract with retroactive price redetermination FAR 16.206	Fixed ceiling price Agreement to price redetermination after contract completion
Fixed-price award fee FAR 16.404	Fixed price (including normal profit) Award fee pool Plan for periodic evaluation
Cost-plus-incentive-fee FAR 16.405-1	Target cost Target fee Cost sharing arrangement under target cost Cost sharing arrangement over target cost Minimum fee Maximum fee
Cost-plus-award-fee FAR 16.405-2	Estimated cost Base fee Award fee
Cost-plus-fixed-fee FAR 16.306	Estimated cost Fixed fee
Time-and-materials FAR 16.601	Labor-hour rate(s) Material handling costs (indirect costs) or provision to charge material on a basis other than cost Ceiling price
Labor-hour FAR 16.602	Labor-hour rate(s) Ceiling price

Relationship Between Price and Contract Type (FAR 16.103(b)). As you prepare your negotiation objectives, remember that the contract type decision itself is subject to negotiation. Contract type and contract prices are closely related and should be negotiated together. The objective is to negotiate a contract type and price (or estimated cost and fee) that will result in reasonable

contractor risk and provide the contractor with the greatest incentive for efficient and economical contract performance.

12.4 Documenting Prenegotiation Positions

Prenegotiation Documentation (FAR 15.406-1(b) and FAR 15.406-3(a)). In many contracting activities, contracting officers must prepare written **prenegotiation memoranda** to document these prenegotiation objectives. Whether you work for such an activity or not, you should draft the following elements of the Price Negotiation Memorandum (PNM) **before** negotiations:

- Purpose of the negotiation (new contract, final pricing, etc.)
- Description of the acquisition, including appropriate identifying numbers (e.g., RFP number).
- The current status of any contractor systems (e.g., purchasing, estimating, accounting, and compensation) to the extent they were considered in developing the prenegotiation objective.
- If the offeror was not required to submit cost or pricing data to support any price negotiation over the cost or pricing data threshold, the exception used and the basis for using it.
- If the offeror was required to submit cost or pricing data, the extent to which the contracting officer:
  - Relied on the data submitted and used them in preparing negotiation objectives;
  - Recognized any submitted data as inaccurate, incomplete, or noncurrent and the action that the contracting officer has taken or will take regarding the data; or
  - Determined that an exception applies and will not require certification.
- A summary of the contractor's proposal, field pricing and internal analyses, and the Government prenegotiation objective. Carefully summarize the reasons for any pertinent variances in major cost elements.
- A summary of the most significant facts or considerations controlling the establishment of the prenegotiation price objective.

- A summary and quantification of any significant effect that direction from Congress, other agencies, or higher-level officials (i.e., officials who would not normally exercise authority during the contract award and review process) has had on the contract action.
- The basis for the profit/fee prenegotiation objective.

Additional DocumentationI. In preparing your prenegotiation documentation, you should also document any important aspects of the procurement situation that affected your prenegotiation objectives, such as:

- The items or services and quantities being purchased.
- The place of contract performance.
- The delivery schedule or period of performance.
- Any differences between the proposed delivery schedule and the objective schedule.
- Any previous buys of similar products and related information:
  - When.
  - How many were acquired.
  - Schedule/production rate.
  - Contract type.
  - Unit prices or total prices, including both target and final prices, if applicable.
- Any Government-furnished material which will be provided as a result of the contract and its estimated dollar value.
- Any unique aspects of the procurement action.
- Any outside influences or time pressures associated with the procurement (e.g., procurement priority and funding limitations).

Summarizing Prenegotiation Positions. As a minimum, your prenegotiation documentation should outline the offeror's estimating rationale, the Government's prenegotiation objective, and key differences between the two positions. Generally, this summary begins with a tabular presentation similar to the following:

Cost Element	Proposed	Objective	Difference	Reference
Engineering Direct Labor	$1,000,000	$900,000	$100,000	See Para A
Engineering	$2,500,000	$2,025,000	$475,000	See Para B

Overhead				
Subtotal	$3,500,000	$2,925,000	$575,000	
G&A Expense	$350,000	$292,500	$57,500	See Para C
Total Cost	$3,850,000	$3,217,500	$632,500	

Using this type of tabular cost element summary, you can identify the areas and degree of differences and provide a general format for more detailed analysis.

- In Paragraph A, describe the rationale used by the offeror in developing the proposal and by the Government in developing the Government objective. Focus on the differences between the two positions. Also reference any audit or technical reports and outline your proposed disposition for any significant findings.
- In Paragraphs B and C, address the same subjects found in Paragraph A with one major exception. Since these are overhead and G&A expense rates, you need to address whether the dollar differences are the result of differences in the application base or in the rates themselves. If you look closely at the detailed examples below, you will see that the engineering overhead dollar reductions are the result of both reduced engineering labor dollars (the indirect cost base) and a reduced engineering overhead rate. For G&A expense, the difference is only in the subtotal dollars used as the allocation base with no difference in the G&A rate.

Engineering Overhead	**Calculations**
Proposed	$1,000,000 x 250% = $2,500,000
Objective	$900,000 x 225% = $2,025,000
General & Administrative Expense	**Calculations**
Proposed	$3,500,000 x 10% = $350,000
Objective	$2,925,000 x 10% = $292,500

Consider Risk by Developing a Range of Positions. The Government objective is a point estimate within a range of reasonable prices. The most likely cost estimate should be

your objective, but you should consider other reasonable positions based on the information available. While your agency or contracting activity guidance may vary, the classic approach to developing a negotiation range calls for three positions -- minimum, objective, and maximum.

- **Objective.** The Government cost objective should be your best estimate of what the effort should cost, and the position where you would ideally like to settle.
- **Minimum.** The minimum, sometimes called the "going in position," should be at the low end of the reasonable range. In effect, you are saying that a price lower than the minimum is unreasonably low. Support this position with a detailed rationale. If you use the minimum as your opening offer, you must be ready to explain to the offeror why that position is reasonable.

There may be situations where the offeror has proposed a cost below what you believe is a reasonable minimum objective. In such situations, you should present to the offeror your reasons for believing that the proposed cost is unreasonably low. If the offeror fails to change or support the cost, you must consider that failure in your analysis of proposal cost realism.

- **Maximum.** The maximum is at the high end of the reasonable range. In effect, you are saying that a price higher than the maximum is unreasonably high. You would not go above your maximum without additional data that would validate a higher figure. If you needed a negotiation clearance prior to entering negotiations, you will likely have to seek another approval before negotiating a price higher than the maximum. In any event, if you exceed the maximum, be prepared to document a clear audit trail of how you concluded a higher price was both fair and reasonable.

Document the References Used in Position Development. Documentation of the reference documents used in developing your negotiation positions is essential. You need to be able to find key references during management review of contract negotiation objectives, during negotiations, and during preparation of the price negotiation memorandum. If a question arises later concerning defective pricing, it is vital that you have a detailed record of the information that you relied on during negotiations.

Price Prenegotiation Memorandum Checklist. The Price Prenegotiation Memorandum Checklist presented below highlights points that you should consider as you prepare for price negotiations. Even if your organization does not require a prenegotiation memorandum, the checklist provides a guide to important points that you should consider as you complete your contract pricing position.

Price Prenegotiation Memorandum Checklist [1]

Subject Line

_____ 1. Identify company/division/cost center and location.

_____ 2. Show contract or solicitation number.

_____ 3. Identify item to be purchased.

_____ 4. Identify fiscal year funds.

Memorandum Text

Introductory Summary

_____ 1. Provide comparative figures summarizing pricing elements of the proposal, objective, and differences, by cost, profit/fee, price, profit/fee rate, and when applicable:

_____ Incentive share

_____ Minimum/maximum fee

_____ Ceiling price and percentage of target cost

_____ Option prices

_____ Type contract

Particulars

_____ 1. Identify dates, places, and participants in fact-

finding.

_____ 2. Identify quantities being negotiated.

_____ 3. Show unit prices quoted and objective.

Procurement Situation

_____ 1. Identify type of negotiation action (e.g., a new contract).

_____ 2. Describe contract items or services included in objective amount and identify status (development, production, etc.).

_____ 3. Place of contract performance.

_____ 4. Show delivery schedule or period of performance.

_____ 5. State if there is any differences between the delivery schedule objective and the delivery schedule proposed.

_____ 6. State whether there have been any previous buys of similar products, and if so identify:

_____ When

_____ How many

_____ Schedule/production rate

_____ Contract type

_____ Unit prices or total prices including both target and final prices if applicable

_____ 7. Identify if Government facilities will be furnished as a result of the contract, and, if so, the estimated dollar value.

_____ 8. Describe any unique features of the procurement action; for example should-cost, design-to-cost,

life-cycle cost, or special provisions affecting cost.

_____ 9. Describe any outside influences or time pressures associated with the procurement; for example, procurement priority, funding limitations, etc.

Prenegotiation Summary

_____ 1. Show proposed costs, prenegotiation objectives, and differences, tabulated in parallel form by major element of cost.

_____ 2. Identify the major considerations in pricing each major cost element in a separate paragraph showing when applicable:

_____ Treatment accorded the element in the proposal including derivation of the estimate and "as of" data used as a basis for projection.

_____ Availability, adequacy, and use of subcontractor cost or pricing data.

_____ Extent and adequacy of offeror review of subcontract proposals.

_____ Describe how the Government objective for each major cost element was developed.

_____ Consideration given to information contained in in-house technical evaluations, field analyses, or audit reports.

_____ Description of any additional or updated information obtained during fact-finding and the consideration given to it.

_____ Identification of any offeror provided data that formed the basis of the objective.

_____ Identification of any data or information relied on instead of contractor provided data

_____ Impact of the procurement on company volume and its

impact, if any, on each major cost element.

_____ If economic adjustment, specified contingencies, savings clauses, or other provisions are included, describe the details and rationale for use.

_____ 3. Describe, in a separate paragraph, how the Government profit objective was developed.

_____ If structured approach used, rationale supporting assigned weights.

_____ If structured approach not used, details on alternate approach and any weights used.

_____ 4. Justify the contract type selected including, as applicable:

_____ Share line

_____ Ceiling price

Miscellaneous

_____ 1. Identify audit reports received.

_____ 2. Identify contractor reviews received:

_____ Purchasing system

_____ Accounting system

_____ Estimating system

_____ Property system

_____ Compensation system

_____ 3. Identify field technical reports received.

_____ 4. Identify in-house technical evaluations received.

[1] Refer to your agency or contracting activity guidance for specific requirements.