CONTRACT PRICING REFERENCE GUIDE

VOLUME III

COST ANALYSIS

Prepared by

AIR FORCE INSTITUTE OF TECHNOLOGY (AFIT)
SCHOOL OF SYSTEMS & LOGISTICS
DEPARTMENT OF QUANTITATIVE MANAGEMENT
2950 P STREET
WRIGHT-PATTERSON AFB OH 45433

FEDERAL ACQUISITION INSTITUTE (FAI)
18TH & F STREETS NW
WASHINGTON DC 20405

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PREFACE

CONTRACT PRICING REFERENCE GUIDES

The Air Force Institute of Technology and the Federal Acquisition Institute jointly prepared a series of contract pricing reference guides for pricing and contract personnel. These guides, listed below, are referenced in FAR 15.805-1.

Volume I - Price Analysis

Volume II - Quantitative Techniques for Contract Pricing & Glossary of Terms

Volume III - Cost Analysis

Volume IV - Advanced Issues in Contract Pricing

Volume V - Federal Contract Negotiation Techniques

The five volumes are part of a curriculum of courses used to help contracting personnel become proficient in the performance of the duties and tasks associated with their particular jobs.

USING THE CONTRACT PRICING REFERENCE GUIDE IN THE CLASSROOM

Classroom Learning Objectives (CLOs)	The classroom learning objectives are listed at the beginning of each chapter. The text/reference provides you with the information necessary to accomplish those objectives. Likewise, the classroom instruction and exercises are designed to help you attain those objectives. Most of the objectives are written in terms of your performance of a duty or task. For example, the Text/Reference provides a step by step guide to performing the duties. In the classroom, you will have opportunities to practice performance of the duties. You will use the Text/Reference as your guide, using such instructional techniques as interactive view-graphs and case studies.
Interactive View-graphs	An interactive view-graph is a slide on the overhead projector that requires a response from the class. For example, if the instructor is showing a decision table, the "then" side would be empty and you would help fill in the answers. Or perhaps the slide asks a particular question about a list of conditions shown on the slide.
Case Studies	Case studies are written as scenarios or stories about particular procurement situations. There are several questions that follow the scenarios relating to the case and the particular lesson. Sometimes you will have to use information in the Text/Reference to complete a case study.
Reading Assignments	You are responsible for <u>all</u> assigned readings from the chapters. You will spend minimal time listening to lectures. Our philosophy is that you learn best by doing the tasks under simulated conditions.
Testing	There will be testing. Test items are taken <u>only</u> from the assigned readings. All test questions were developed to verify the learning acquired from the course learning objectives which appear on the first page of each chapter in the Text/Reference.

USING THE CONTRACT PRICING REFERENCE GUIDE AT YOUR JOB SITE.

The Text/Reference was developed for use at your job site as well as in the classroom. Its step by step approach, FAR references, structured writing and index are all designed for the easy and quick retrieval of information about the contracting process. Each Text/Reference is "dated" by indicating which Federal Acquisition Circular (FAC) of the FAR system it is current through. This lets you know exactly how up to date it is. You may contract the FAI for updates or annotate your own copy as FAR policies change.

PURPOSE OF THIS CURRICULUM OF COURSES

To Help You Accomplish The Goals Of The Federal Acquisition Process

As a Contract Specialist, your primary goals are to:

1. Obtain the optimum market response to requirements for supplies and services, in terms of:
   - Quality
   - Timeliness
   - Price

   While-
   - Accomplishing socioeconomic objectives
   - Minimizing business and technical risks
   - Maximizing competition
   - Maintaining integrity.

2. Assure that purchased supplies and services are:
   - Delivered or performed when and where specified in the contract
   - Acceptable, in terms of conforming to the contract's specifications or statement of work
   - Provided in compliance with other terms and conditions of the contract.

To Help You Perform Your Duties

To accomplish these goals, Contract Specialists perform more than 75 principal duties. Collectively, these duties constitute the Federal acquisition process. *Exhibit P-1* maps the acquisition process and relates each duty to the overall process. This curriculum has been designed to systematically develop your skill at every duty in *Exhibit P-1*, in the context of accomplishing the overall goals of the Federal Acquisition Process.

Your Challenge

Your challenge is to become proficient in performing the duties described in *Exhibit P-1*. Granted, you may presently perform only a subset of the duties. In terms of your career, however, learning the entire range of duties will improve your competitiveness for a great variety of contracting positions, including managerial positions. From the standpoint of the Government, you will be better able to perform any assigned duty if you have first hand knowledge of how that duty relates to the performance of the other duties.

PRESOLICITATION PHASE

Determination of Need	Initiating the Procurement	Analysis of Requirement	Sourcing
Determining Needs 1. Forecasting Requirements 2. Acquisition Planning	**Processing the PR** 3. Purchase Requests 4. Funding **Market Research** 5. Market Research	**Analyzing Requirements** 6. Specifications 7. Statements of Work 8. Services	**Extent of Competition** 9. Sources 10. Set Asides 11. 8(a) Procurements 12. Competition Requirements 13. Unsolicited Proposals **Selection Factors** 14. Lease vs. Purchase 15. Price Related Factors 16. Technical Evaluation Factors **Method and Plan for the Procurement** 17. Method of Procurement 18. Procurement Planning

SOLICITATION-AWARD PHASE

Solicitation	Evaluation-Sealed Bidding	Evaluation-Negotiation	Award
Terms and Conditions 19. Contract Types 20. Letter Contracts 21. Contract Financing 22. Use of Government Property and Supply Sources 23. Need For Bonds 24. Solicitation Preparation **Soliciting Offers** 25. Publicizing Proposed Procurements 26. Preaward Inquiries 27. Prebid/Proposal Conferences 28. Amending Solicitations 29. Canceling Solicitations	**Bid Evaluation** 30. Processing Bids 31. Bid Acceptance Periods 32. Late Offers 33. Bid Prices 34. Responsiveness	**Proposal Evaluation** 35. Processing Proposals 36. Technical Evaluation 37. Price Objectives 38. Cost and Pricing Data 39. Audits 40. Cost Analysis 41. Evaluating Other Terms and Conditions 42. Competitive Range **Discussions** 43. Factfinding 44. Negotiation Strategy 45. Conducting Negotiations	**Selection for Award** 46. Mistakes in Offers 47. Responsibility 48. Subcontracting Responsibilities 49. Preparing Awards **Executing Awards** 50. Award 51. Debriefing **Protests** 52. Protests **Fraud and Exclusion** 53. Fraud and Exclusion

Exhibit P-1

POST-AWARD ADMINISTRATION PHASE

Start-Up	Quality Assurance	Payment and Accounting	Closeout
Planning 54. Contract Administration Planning 55. Post-Award Orientations **Ordering** 56. Ordering Against Contracts and Agreements **Subcontracting** 57. Consent to Subcontracts	**Monitoring and Problem Solving** 58. Monitoring, Inspection, and Acceptance 59. Delays 60. Stop Work 61. Remedies **Property** 62. Property Administration **Reporting Performance Problems** 63. Reporting Performance Problems	**Payment** 64. Limitation of Costs 65. Payment 66. Unallowable costs 67. Assignment of Claims 68. Collecting Contractor Debts 69. Progress Payments 70. Price and Fee Adjustments **Accounting** 71. Accounting and Cost Estimating Systems 72. Cost Accounting Standards 73. Defective Printing	**Closeout** 74. Closeout

POST-AWARD ADMINISTRATION PHASE (cont.)

Contract Modification	Termination	Claims	
Modifications/Options 75. Contract Modifications	**Termination** 76. Termination 77. Bonds	**Claims** 78. Claims	

Exhibit P-1

OVERVIEW OF COST ANALYSIS (VOLUME III)

The following are among the primary duties from *Exhibit P-1* covered in this course:

Unit of Instruction	***Duty***	***Chapter(s)***
38	Pricing Information Form Offerors	2
39	Audits and Technical Reviews	1, 2 & 4
40	Cost Analysis	1, 3 - 12

CHARACTERISTICS OF THE CURRICULUM COURSES

- Each course in the curriculum builds on the skills and knowledge taught in prior courses.
- Each course covers specific duties and is designated to provide skills in performing those duties.
- Generally, there is a separate lesson for each duty, with a corresponding chapter in the Text/Reference.
- Each lesson introduces the duty, its purpose (learning objective), applicable policies and standards for performance.
- Each lesson contains a flowchart of the steps in performing the duty.
- You will perform selected steps in class, using case studies and other exercises.
- You will be tested.
- For each duty, the Text/Reference serves as a desk reference, with flowcharts, steps in performance and job aids.

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COST ANALYSIS

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Defining Costs and Cost Analysis CHAPTER 1

Chapter Vignette

Andrew's First Cost Analysis

As Andrew sits at his new desk, he is proud of his career progression. He was a procurement assistant going to college part-time. Now he has finished his degree and has been selected for a developmental buyer position. While proud of his accomplishments, he is concerned about his lack of experience and knowledge. Kay, Andrew's supervisor and Contracting Officer, has told him not to worry about his lack of experience. "We will show you what you need to know, and you will be attending professional continuing education classes that will teach you the basics," she said. In the meantime, Kay has given Andrew materials to review on various subjects relating to soliciting and negotiating contracts. The first stack of materials deals with contract cost, cost analysis, cost or pricing data, information other than cost or pricing data, data collection, cost allowability, work design and analysis, and cost analysis techniques. She told him that after he had reviewed the materials, he would be given a real proposal to review and negotiate with assistance from herself and another buyer.

Andrew picks up the folder marked "contract costs and cost analysis." He thinks to himself that this will be a good starting point since he is not really sure what these terms mean.

Learning Objectives

At the End of This Chapter

At the end of this chapter, you will be able to:

Classroom Learning Objective 1/1
Define contract cost as used in contract pricing.

Classroom Learning Objective 1/2
Identify cost analysis considerations.

Classroom Learning Objective 1/3
Describe cost estimating, cost accounting, and the relationship between the two.

Classroom Learning Objective 1/4
Describe cost estimating methods.

1.0 Chapter Introduction

In this Chapter

This chapter describes contract costs and cost analysis.

SECTION	DESCRIPTION	SEE PAGE
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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.

Total Contract Cost

FAR 31.201-1

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.

Direct Cost

FAR 31.202

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.
- No cost shall be charged to a contract as a direct cost if other costs incurred for the same purpose in like circumstances have been charged as an indirect cost to that contract or any other contract.

1.1 Defining Contract Costs (cont)

Direct Cost (cont)

FAR 31.202

- 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.
- No cost shall be charged to a contract as an indirect cost if other costs incurred for the same purpose in like circumstances have been charged as a direct cost to that contract or any other contract.

For example: A contractor is simultaneously working on two contracts in the same 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.

1.1 Defining Contract Costs (cont)

Alternative Direct Cost Treatment (cont)

FAR 31.202(b)

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 treat the cost of these rivets as an indirect cost, and allocate that cost to all items that use those rivets. Remember the 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
FAR 31.202
FAR 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 belong in one class or the other. 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. Key guidelines include:

- 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 15.801

Cost analysis is the review and evaluation of the separate cost elements and proposed profit/fee of:

- An offeror's or contractor's cost or pricing data or cost information other than cost or pricing data, and
- The judgmental factors applied in projecting from the data to the estimated costs in order to form an opinion on the degree to which the proposed costs represent what the cost of the contract should be, assuming reasonable economy and efficiency.

Cost Analysis Required by Law
FAR 15.804-2(a)(1)

Use cost analysis in contract pricing for any of the following contract actions when the amount exceeds the cost or pricing data threshold and the acquisition cannot be excepted from the cost or pricing data requirements in 10 U.S.C. 2306a and 41 U.S.C. 254b:

- Award of any negotiated contract (except for undefinitized actions such as letter contracts).
- Award of a subcontract at any tier, if the contractor and each higher-tier subcontractor have been required to furnish cost or pricing data.
- Modification of any sealed bid or negotiated contract or any subcontract where the contractor and each higher-tier subcontractor have been required to furnish cost or pricing data. Calculate the amount of a contract modification by adding related contract reductions and increases.

Optional Cost Analysis
FAR 15.804-2(a)(2)
FAR 15.804-5

When cost and pricing data are not required by law, only use cost analysis if you cannot make the pricing decision using price analysis alone.

Cost Analysis Supports Price Analysis
FAR 15.805-1(b)

Perform price analysis even when you perform cost analysis. Assuring the reasonableness of individual elements of cost does not always assure overall price reasonableness.

1.2 Identifying Key Cost Analysis Considerations (cont)

Cost Analysis Supports Price Analysis (cont)

FAR 15.805-1(b)

For example: Suppose that you wanted to purchase a custom-made automobile identical to a Pontiac Trans Am. You go to your neighborhood mechanic and ask her to build a car for you, and she agrees. In building the car, she gets competitive quotes on all the parts and necessary tooling. She pays minimum wage to all her workers. She asks only a very small profit because she enjoys the challenge.

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, will likely not be as efficient as assembly-line labor. Is the price reasonable? That decision can only be made through a thorough price analysis.

Cost Analysis Techniques and Procedures

FAR 15.805-3

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, make 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;

1.2 Identifying Key Cost Analysis Considerations (cont)

Cost Analysis Techniques and Procedures (cont)

FAR 15.805-3

- ◊ 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 them, and
  - ◊ Negotiate, using the data obtained or making satisfactory allowance for 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 15.811
DFARS 215.811
DFARS 252.215-7002

Cost proposals come from the offeror's cost estimating system. An offeror's estimating system is the policies, procedures, and practices for developing cost forecasts and estimates based on available information. It is the documented structure of all elements involved in estimate development:

- Organizational structure;
- Established lines of authority, duties, and responsibilities;
- Internal controls and managerial reviews;
- Flow of work, coordination, and communication; and
- Estimating methods, techniques, and analysis.

An adequate 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.

Characteristics of an Adequate Estimating System

FAR 15.811
DFARS 215.811

When evaluating the adequacy 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;

1.3 Defining the Cost Estimating and Cost Accounting Relationship (cont)

Characteristics of an Adequate Estimating System (cont)

FAR 15.811
DFARS 215.811

- 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 215.811

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.

1.3 Defining the Cost Estimating and Cost Accounting Relationship (cont)

Cost Accounting System
DCAM 5-310

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.

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 9-302

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.

1.3 Defining the Cost Estimating and Cost Accounting Relationship (cont)

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.

1.3 Defining the Cost Estimating and Cost Accounting Relationship (cont)

Two Common Cost Accounting Systems (cont)

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 cost accounting period (usually one month), 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 for 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 material.
  - ◊ 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 there is only one end-item in the process, 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 more than one item is in the process, 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.

1.3 Defining the Cost Estimating and Cost Accounting Relationship (cont)

Two Common Cost Accounting Systems (cont)

- 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 can 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 32.201-1
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 contractor's competitive advantage; • The degree of specification firmness; • The availability of cost information applicable to the same or a similar product/service in a previous contract.

1.4 Describing Cost Estimating Methods (cont)

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 the costs for a past or current item, the differences are isolated, and cost elements applicable to the differences are deleted from or added to experienced costs. This comparison may be done 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.

1.4 Describing Cost Estimating Methods (cont)

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 required	**Moderately Fast** -- especially with repetitive use	**Slow** -- requires detailed 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.

1.4 Describing Cost Estimating Methods (cont)

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.

Obtaining Offeror Information for Cost Analysis

CHAPTER 2

Chapter Vignette

Andrew Learns the Terms

Andrew has learned that he will be working on a radio proposal that is subject to the Truth in Negotiations Act (TINA). Also, some of the subcontract work is subject to TINA flow-down while other subcontracts are excepted. What is required? When is it required? And, what about these exceptions? Kay has suggested he review the Federal Acquisition Regulation Part 15.8 and focus on information requirements.

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 2/1
Determine when and how to require cost or pricing data.

Classroom Learning Objective 2/2
Identify the elements of a properly prepared Certificate of Current Cost or Pricing Data and the consequences to the contractor related to certifying defective cost or pricing data.

Classroom Learning Objective 2/3
Determine when and how to require information other than cost or pricing data.

2.0 Chapter Introduction

In This Chapter

In this chapter, you will learn about obtaining information for cost analysis:

SECTION	DESCRIPTION	SEE PAGE
2.0	Chapter Introduction	2-3
2.1	Determining When and How to Require Cost or Pricing Data	2-6
	2.1.1 Determining When to Require Cost or Pricing Data	2-7
	2.1.2 Determining What Data to Require	2-11
2.2	Assuring Proper Cost or Pricing Data Certification	2-18
	2.2.1 Obtaining a Properly Executed Certificate	2-19
	2.2.2 Identifying the Consequences of Certifying Defective Data	2-23
2.3	Determining When and How to Require Information Other Than Cost or Pricing Data	2-26
	2.3.1 Determining When to Require Cost Information	2-27
	2.3.2 Determining What Cost Information to Require	2-29

2.0 Chapter Introduction (cont)

Cost or Pricing Data

FAR 15.801
FAR 15.804-4

Cost or pricing data:

- Are all facts that, as of the date of price agreement or, if applicable, another 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 15.804-4.
- Are factual, not judgmental, and are therefore verifiable.
- Include the data that form the basis for the prospective offeror's judgement 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.

Information Other than Cost or Pricing Data

FAR 15.801
FAR 15.804-4

Information other than cost or pricing data:

- Are any type of offeror information that are not required to be certified as accurate, complete, and current, in accordance with FAR 15.804-4, that are necessary to determine price reasonableness or cost realism.
- May include pricing, sales, or cost information.
- Include cost or pricing data for which certification is determined inapplicable after submission.

2.0 Chapter Introduction (cont)

Data Requirements Decisions

FAR 15.804-6(a)

As you prepare a solicitation, you must decide what information you will require each offeror to submit with its proposal. The solicitation must specify the following:

- Any requirement for cost or pricing data. When you require cost or pricing data, advise prospective offerors that, in lieu of submitting cost or pricing data, they may submit a request for exception from the requirement.
- Any requirement for information other than cost or pricing data. Only consider requiring information other than cost or pricing data when you do not require cost or pricing data and the information is required to determine if the offered price is fair and reasonable.
- The format in which the cost or pricing data or information other than cost or pricing data must be submitted.
- Any requirements for preaward or post-award access to an offeror's records if not provided by the use of a standard form or clause.

2.1 Determining When and How to Require Cost or Pricing Data

Section Introduction

In this Section

This section will present information on situations when you should require cost or pricing data and the points that you must consider in deciding whether the prospective contractor has properly prepared and submitted a Certificate of Current Cost or Pricing Data.

TOPIC	SEE PAGE
2.1.1 Determining When to Require Cost or Pricing Data	2-7
2.1.2 Determining What Data to Require	2-11

2.1.1 Determining When to Require Cost or Pricing Data

Cost or Pricing Data Threshold

FAR 15.804-2

New Contract. For a new contract, the applicable cost or pricing data threshold is the threshold that is in effect on the date of agreement on price, or the date of award, whichever is later. The cost or pricing data threshold is currently $500,000. This amount is subject to review and possible adjustment on October 1, 2000 and every five years thereafter.

Existing Contract. For subcontract actions and contract modifications under an existing contract, the applicable cost or pricing data threshold is the threshold specified in the contract. The threshold in the contract does not automatically change as the current threshold for new contracts changes. However, as the current threshold changes, the contract threshold can be changed using a bilateral contract modification. Such modifications must meet applicable FAR and agency requirements.

TINA Cost or Pricing Data Requirements

Unless an exception applies, the Truth in Negotiations Act (TINA), as amended, requires you to obtain cost or pricing data before accomplishing any of the following actions when the price is expected to exceed the 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.

2.1.1 Determining When to Require Cost or Pricing Data (cont)

Exceptions to TINA Cost or Pricing Data Requirements
FAR 15.804-1(a)

The same laws that establish requirements for cost or pricing data also provide for mandatory exceptions. You shall not require cost or pricing data when an exceptions applies.

EXCEPT FROM TINA REQUIREMENTS IF…	STANDARD FOR GRANTING THE EXCEPTION
You determine 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 responsive to the Government's expressed requirement and both of the following requirements are met: ◊ Award will be made to a responsible offeror whose proposal offers either-- – The greatest value to the Government and price is a substantial factor in source selection; or – The lowest evaluated price; and ◊ There is no finding that the price of the otherwise successful offeror is unreasonable. Any such finding 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 responsive to the solicitation's expressed requirement, even though only one offer is received from a responsible, responsive offeror and both of the following requirements: ◊ Based on the offer received, you 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, responsive 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; or • Price analysis clearly demonstrates that the proposed price is reasonable in comparison with current or recent prices for the same or similar items purchased in comparable quantities, under comparable terms and conditions under contracts that resulted from adequate price competition.

(Table continued on next page)

2.1.1 Determining When to Require Cost or Pricing Data (cont)

EXCEPT FROM TINA REQUIREMENTS IF…	STANDARD FOR GRANTING THE EXCEPTION
You determine that the agreed upon price is based on prices set by law or regulation.	Prices are 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 set a price.
You are acquiring a commercial item.	An acquisition for an item that meets the FAR commercial item definition is excepted from the requirement to obtain cost or pricing data.
The head of the contracting activity has waived the requirement for cost or pricing data, because of the exceptional circumstances.	• Exception cannot be granted based on any other criteria, but the price can be determined to be fair and reasonable without submission of cost or pricing data; and • The head of the contracting activity, without power of delegation, waives the requirement for cost or pricing data submission. The authorization for the waiver and the reasons for granting it shall be in writing. Note: The contractor or higher-tier subcontractor to whom the waiver relates shall be considered as having been required to make available 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.
The action is a commercial item contract or subcontract modification and the basic contract or subcontract was awarded without submission of cost or pricing data.	• Contractor must have been excepted from submitting cost or pricing data for the original contract or subcontract based on adequate price competition, price set by law or regulation, or commercial item acquisitions; and • The modification does not change the item from a commercial item to a noncommercial item. However, you are not prohibited from obtaining cost or pricing data for added work, if the contract or subcontract modification changes the commercial nature of the work under the contract or subcontract either by a change to the commercial item or by the addition of other noncommercial work.

Prohibition Against Requiring Cost or Pricing Data at or Below the Simplified Acquisition Threshold

FAR 15.804-2(a)(2)

You shall not require cost or pricing data for any contract action with an estimated price that is equal to or less than the simplified acquisition threshold.

When calculating the price of a contract modification, consider both increases and decreases. (For example, a $50,000 modification resulting from a reduction of $120,000 and an increase of $70,000 is a pricing adjustment exceeding the current simplified acquisition threshold.) This requirement for calculating the modification price 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.

2.1.1 Determining When to Require Cost or Pricing Data (cont)

Cost or Pricing Data Requirements Authorized by the Head of the Contracting Activity

FAR 15.804-2(a)(2)

If the price of the contract action exceeds the simplified acquisition threshold and none of the exceptions described above apply, the head of the contracting activity (without power of delegation) may authorize you to obtain cost or pricing data for any contract action below the cost or pricing data threshold.

- The head of the contracting activity shall justify the requirement for cost or pricing data.
- Documentation shall 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 requiring cost or pricing data if 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.

2.1.2 Determining What Data to Require

Require an Appropriate Cover Form

FAR 15.804-6
FAR 49.602-1

When you require an offeror to submit cost or pricing data for any contract action other than a contract termination, require data submission using a SF 1411, Contract Pricing Proposal Cover Sheet.

For a contract termination, require the contractor to submit cost or pricing data using the appropriate contract termination settlement proposal form. Select the appropriate form for the type of contract and settlement involved.

Key SF 1411 Requirements

Because the SF 1411 is required for most cost or pricing data submissions, you should be familiar with key requirements of the form highlighted in the following table:

KEY SF 1411 REQUIREMENTS	
SF 1411 Blocks	Key Requirements
1	Solicitation/contract/modification number
2 & 3	Name and address of the business entity, points of contact, and telephone number
4	Type of contract action (e.g., new contract, change order, etc.)
5	Proposed contract type (e.g., fixed-price or a cost-reimbursement)
6	Summary of cost and profit make-up of contract price
7	Summary of where and when the contract will be performed
8	Summary of proposed prices by line item, with references to the proposal location of a detailed item cost breakdown and supporting data
9	Names and addresses of cognizant contract administration and audit offices
10 & 11	Indicates whether the firm will require Government furnished property or financing for proposed contract performance
12	Indicates whether the offeror has contracted for the same or similar item in the past three years.
13	Indicates whether the proposal is consistent with the offeror's established estimating and accounting practices, as well as FAR Part 31 cost principles.
14	Indicates whether the proposal is subject to CAS Board regulations, whether the firm has submitted a CAS Disclosure Statement, whether the firm has been notified that it may be in noncompliance with its CAS Disclosure Statement or CAS requirements, or whether any aspect of the proposal is inconsistent with the firm's disclosed practices or applicable CAS Standards
15, 16, & 17	Offeror's signature and related information confirms that the proposal reflects the firm's "estimates and/or actual costs" as of the proposal date. It also grants the "contracting officer and authorized representative(s)" records access for proposal analysis.

2.1.2 Determining What Data to Require (cont)

FAR Data Requirements
FAR 15.804-6(b)(1)

FAR Table 15-2 outlines the type of information that you should require offerors to submit when they are required to submit cost or pricing data.

Note that the first seven sections of the table establish general requirements that apply to all types of pricing proposals. Section 8 establishes specific information requirements for three different pricing situations: new contracts; change orders, modifications, and claims; and price revision/redetermination.

FAR Table 15-2, Instructions For Submission Of A Contract Pricing Proposal When Cost Or Pricing Data Are Required

The SF 1411 provides a cover sheet for use by offerors to submit to the Government a pricing proposal of estimated and/or actual costs only when cost or pricing data are required.

1. The pricing proposal shall be segregated by contract line item with sufficient detail to permit cost analysis. Attach cost-element breakdowns, using the applicable formats prescribed in Item 8A, B, or C of this section, for each proposed line item. These breakdowns must conform to the instructions in the solicitation and any specific requirements established by the contracting officer. Furnish supporting breakdowns for each cost element, consistent with the offeror's cost accounting system.

   When more than one contract line item is proposed, summary total amounts covering all line items must be furnished for each cost element. If agreement has been reached with Government representatives on use of forward pricing rates/factors, identify the agreement, include a copy, and describe its nature. Depending on offeror's system, breakdowns shall be provided for the following basic elements of cost, as applicable:

   Materials -- 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.

   ***Competitive Methods* --** For those acquisitions (e.g., subcontracts, purchase orders, material orders, etc.) exceeding the pertinent threshold set forth at FAR 15.804-2(a)(1) priced on a competitive basis, also provide data showing degree of competition, and the basis for establishing the source and reasonableness of price. For interorganizational transfers priced at other than cost of the comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (see FAR 31.205-26(e)).

   ***Established Catalog or Market Prices or Prices Set by Law or Regulation or Commercial Item Not Covered By Another Exception* --** When an exception from the requirement to submit cost or pricing data is requested, whether the item was produced by others or by the offeror, provide justification for the exception as required by FAR 15.804-1(d).

2.1.2 Determining What Data to Require (cont)

FAR TABLE 15-2, INSTRUCTIONS FOR SUBMISSION OF A CONTRACT PRICING PROPOSAL WHEN COST OR PRICING DATA ARE REQUIRED (CONT)

***Noncompetitive Methods* --** For those acquisitions (e.g., subcontracts, purchase orders, material orders, etc.) exceeding the pertinent threshold set forth at FAR 15.804-2(a)(1) priced on a noncompetitive basis, also provide data showing the basis for establishing source and reasonableness of price. 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 by elements. As required by FAR 15.806-2(a), provide a copy of cost or pricing data submitted by the prospective source in support of each subcontract, or purchase order that is either: (i) $1,000,000 or more, or (ii) both more than the pertinent threshold set forth in FAR 15.804-2(a)(1)(iii) and (iv) and more than 10 percent of the prime contractor's proposed price. The contracting officer may require submission of cost or pricing data in support of proposals in lower amounts. Submit the results of the analysis of the prospective source's proposal as required by FAR 15.806. When the submission of a prospective source's cost or pricing data is required as described above, it shall be included as part of the offeror's initial pricing proposal.

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.

Indirect Costs -- Indicate how offeror has computed and applied offeror's indirect costs, including cost breakdowns, and showing trends and budgetary data, to provide a basis for evaluating the reasonableness of proposed rates. Indicate the rates used and provide an appropriate explanation.

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.

Royalties -- If more than $250, provide the following information on a separate page for each separate royalty or license fee: name and address of licensor; date of license agreement; patent numbers, patent application serial numbers, or other basis on which the royalty is payable; brief description (including any part or model numbers of each contract item or component on which the royalty is payable); percentage or dollar rate of royalty per unit; unit price of contract item; number of units; and total dollar amount of royalties. In addition, if specifically requested by the contracting officer, provide a copy of the current license agreement and identification of applicable claims of specific patents. (See FAR 27.204 and FAR 31.205-37.)

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

2. As part of the specific information required, the offeror must submit with offeror's proposal, and clearly identify as such, cost or pricing data (that is, data that are verifiable and factual and otherwise as defined at FAR 15.801). In addition, submit with offeror's proposal any information reasonably required to explain offeror's 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.
3. Whenever the offeror has incurred costs for work performed before submission of proposal, those costs must be identified in the offeror's cost/price proposal.

2.1.2 Determining What Data to Require (cont)

FAR TABLE 15-2, INSTRUCTIONS FOR SUBMISSION OF A CONTRACT PRICING PROPOSAL WHEN COST OR PRICING DATA ARE REQUIRED (CONT)

4. 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 the offeror's possession, it should be promptly submitted 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 another date agreed upon between the parties if applicable.
5. In submitting offeror's proposal, offeror must include an index, appropriately referenced, of all the cost or pricing data and information accompanying or identified in the proposal. In addition, any future additions and/or revisions, up to the date of agreement on price, must be annotated on a supplemental index.
6. By submitting offeror's proposal, the offeror, if selected for negotiation, grants the contracting officer or an authorized representative the right to examine, at any time before award, those books, records, documents, and other types of factual information, regardless of 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.
7. As soon as practicable after final agreement on price, but before the award resulting from the proposal, the offeror shall, under the conditions stated in FAR 15.804-4, submit a Certificate of Current Cost or Pricing Data.
8. Headings 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)

***Under Column (1)* --** Enter appropriate cost elements.

***Under Column (2)* --** Enter those necessary and reasonable costs that in offeror's 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 or unpriced order), describe them on an attached supporting schedule. 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.

***Under Column (3)* --** Optional, unless required by the contracting officer.

***Under Column (4)* --** Identify the attachment in which the information supporting the specific cost element may be found. Attach separate pages as necessary.

2.1.2 Determining What Data to Require (cont)

FAR TABLE 15-2, INSTRUCTIONS FOR SUBMISSION OF A CONTRACT PRICING PROPOSAL WHEN COST OR PRICING DATA ARE REQUIRED (CONT)

B. Change Orders, Modifications, and Claims.

COST ELEMENT (1)	ESTIMATE COST OF ALL WORK COMPLETED (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)

Under Column (1) **--** Enter appropriate cost elements.

Under Column (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.

Under Column (3) **--** Include the incurred cost of deleted work already performed, actually computed if possible, or estimated in the contractor's 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 offeror desires to retain these items or any portion of them, indicate the amount offered for them.

Under Column (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) less Column (3) = Column (4).

Under Column (5) **--** Enter the offeror's 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.

Under Column (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).

Under Column (7) **--** Identify the attachment in which the information supporting the specific cost element may be found. Attach separate pages as necessary.

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 -- PREPRO-DUCTION (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)

2.1.2 Determining What Data to Require (cont)

FAR TABLE 15-2, INSTRUCTIONS FOR SUBMISSION OF A CONTRACT PRICING PROPOSAL WHEN COST OR PRICING DATA ARE REQUIRED (CONT)

***Under Column (1)* --** Enter the cut off date required by the contract, if applicable.

***Under Column (2)* --** Enter the number of units completed during the period for which experienced costs of production are being submitted.

***Under Column (3)* --** Enter the number of units remaining to be completed under the contract.

***Under Column (4)* --** Enter the cumulative contract amount.

***Under Column (5)* --** Enter the offeror's redetermination proposal amount.

***Under Column (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) less Column (5) = Column (6).

***Under Column (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.

***Under Column (8)* --** Enter all costs incurred under the contract before starting production and other nonrecurring costs (usually referred to as startup costs) from offeror's 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 offeror's records, enter in this column offeror's 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, etc.). Also show how the costs would be allocated to the units at their various stages of contract completion.

***Under Columns (9) and (10)* --** Enter in Column (9) the production costs from offeror's books and records (exclusive of preproduction costs reported in Column (8)) of the units completed as of the cutoff date. Enter in Column (10) the costs of work in process as determined from offeror's records or inventories at the cutoff date. When the amounts for work in process are not available in contractor's 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 offeror's proposal relates.

***Under Column (11)* --** Enter total incurred costs (Total of Columns (8), (9), and (10)).

***Under Column (12)* --** Enter those necessary and reasonable costs that in contractor's judgment will properly be incurred in completing the remaining work to be performed under the contract with respect to the item(s) to which contractor's proposal relates.

***Under Column (13)* --** Enter total estimated cost (Total of Columns (11) and (12)).

***Under Column (14)* --** Identify the attachment in which the information supporting the specific cost element may be found. Attach separate pages as necessary.

2.1.2 Determining What Data to Require (cont)

Local Data Requirements

FAR 15.801
FAR 15.804-6(b)(1)

Many contracting activities establish specific format and data requirements tailored to the products typically acquired by the activity. These requirements supplement those established in FAR Table 15-2.

In addition to FAR and local requirements, you may establish format and data requirements for a specific solicitation.

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

Traditionally contracting officers have required offerors to submit cost or pricing data as paper documents. Most firms prepare these proposals 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 disk or you may require electronic transmission (modem to modem) by Electronic Data Interchange (EDI). Whatever method you choose, make sure that the requirement does not place an unreasonable hardship on the offeror. For example, one offeror recently reported that a single proposal required the firm to format and submit its proposal on 300 computer disks. This was necessary because of the obsolete data format required by the Government

2.2 Assuring Proper Cost or Pricing Data Certification

Section Introduction

In this Section

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

TOPIC	SEE PAGE
2.2.1 Obtaining a Properly Executed Certificate	2-19
2.2.2 Identifying the Consequences of Certifying Defective Data	2-23

2.2.1 Obtaining a Properly Executed Certificate

Situations Requiring a Certificate

FAR 15.804-2(b)

Whenever you obtain cost or pricing data, you shall require a Certificate of Current Cost or Pricing Data unless you find 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 you determine 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 15.804-4

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 15.801 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.804-2) 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, quotation, 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, another 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.

2.2.1 Obtaining a Properly Executed Certificate (cont)

Certificate Wording (cont)

FAR 15.804-4

Assure that the offeror uses the exact language required by FAR 15.804-4. 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

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, another 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 15.804-2(a)(1)
FAR 15.804-4

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.
- Prior to the contract action (award or modification) formalizing.

2.2.1 Obtaining a Properly Executed Certificate (cont)

Documenting Data Received by the Government

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 you document the existence and location of the data.

Many offerors take great care to assure that every piece of data is documented. Whenever any document is provided to the Government, these offerors assign an exhibit number to the document and add it to the list of data provided. A copy of this list is then provided with the Certificate of Current Cost or Pricing Data as a record of the data provided.

Whenever an offeror uses this procedure, assure that the list is an accurate record of the data provided. Accepting the list without question indicates agreement that the Government has received all the data identified.

Data and Judgement

FAR 15.801

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 judgement in making the projections or estimates (educated guesses) of future costs using these data. It applies only to the data upon which the judgement and estimate were based.

For example: The offeror estimates labor hours based on a recent contract for the same 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.

2.2.1 Obtaining a Properly Executed Certificate (cont)

Complete Knowledge

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) another 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, it is generally assumed that if anyone in the offeror's firm knew, on the "as of" date, of a fact that may have resulted in a lower contract price, then the person signing the Certificate should have known. If that fact was not disclosed prior to agreement on contract price, then it must be disclosed when the Certificate is submitted. Failure to disclose that fact constitutes defective pricing.

For example: An offeror's subcontract negotiator negotiates a $100,000 price reduction on the $450,000 subcontract proposal used as a basis for contract pricing. The person signing the Certificate of Current Cost or Pricing Data is not notified, because the subcontract has not yet been signed. That would likely be considered defective pricing, because the person signing the Certificate should have known about the negotiated subcontract reduction.

2.2.2 Identifying the Consequences of Certifying Defective Data

Defective Pricing
FAR 15.804-7

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 excluded 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 15.804-7
FAR 52.215-22
FAR 52.215-23
FAR 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 provided under FAR 32.902
- Penalty amounts equal to the amount of any overpayments when the contractor knowingly submitted defective cost or pricing data. Obtain the advice of counsel, before taking any contractual actions concerning penalties.

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;

2.2.2 Identifying the Consequences of Certifying Defective Data (cont)

Government Rights Under Defective Pricing (cont)

FAR 15.804-7(b)

- 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 was based on an agreement about the total cost of the contract and there was no agreement about the cost of each such item procured under such contract; or
- The prime contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data relating to the contract.

Offsets Under Defective Pricing

FAR 15.804-7

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 was known by the contractor to be understated when the Certificate of Current Cost or Pricing Data was signed, 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 date of agreement on price.

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.

2.2.2 Identifying the Consequences of Certifying Defective Data (cont)

Penalties and Fraud for Knowingly Withheld Data

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 fraud case rather than defective pricing.

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

Audit Scrutiny

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.

2.3 Determining When and How to Require Information Other Than Cost or Pricing Data

Section Introduction

In this Section

This section will examine situations when you should require cost information other than cost or pricing data.

TOPIC	SEE PAGE
2.3.1 Determining When to Require Cost Information	2-27
2.3.2 Determining What Cost Information to Require	2-29

2.3.1 Determining When to Require Cost Information

Situations Where Cost Information May Be Required

FAR 15.802
FAR 15.804-5

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. Give special consideration to requiring information other than cost or pricing data when you:

- Anticipate adequate price competition but you do not expect to be able to rely on comparisons with competitive offers to determine price reasonableness (e.g. offerors may use different technical approaches to meeting Government requirements).
- Expect to except an offeror from submitting cost or pricing data based on an exception other than adequate price competition, but you need cost information to determine price reasonableness or cost realism.
- Have determined not to require cost or pricing data solely because an action is at or below the cost or pricing data threshold, but you need cost information to determine price reasonableness.

Price Reasonableness

FAR 15.802(a)

Remember that a price is considered fair and reasonable when it is:

- Fair to both the buyer and the seller, and
- Reasonable considering:
  - ◊ Market conditions;
  - ◊ Price-related factors;
  - ◊ The evaluated price of each alternative; and
  - ◊ Non-price evaluation factors.

Cost Realism Analysis

FAR 15.801

Cost realism is the review and evaluation of the separate elements of offeror or contractor-proposed cost and profit or fee to form an opinion on the degree to which they represent what contract cost should be, assuming reasonable economy and efficiency.

This review and evaluation will consider both the:

- Cost or pricing data or information other than cost or pricing data submitted by the offeror or contractor; and
- Judgmental factors applied in projecting from the data or information to the estimated costs.

2.3.1 Determining When to Require Cost Information (cont)

Situations That May Require Cost Information To Evaluate Price Reasonableness or Cost Realism

If necessary, you may request cost information other than cost or pricing data to determine price reasonableness or cost realism in a variety of contracting situations. The table below provides examples of four such situations. These examples describe each situation, the purpose of analysis, and typical questions that the information may be used to answer. Government technical and audit assistance may be required to analyze the cost information and answer related questions.

SITUATIONS THAT MAY REQUIRE COST INFORMATION OTHER THAN COST PRICING DATA		
Situation	**Purpose of Analysis**	**Analysis Questions**
You expect one or more proposals will be substantially different than the Government cost estimate.	Performance requirements used to provide greater opportunity for contractor technical innovation permit a variety of approaches to meeting Government need. However, the use of performance requirements makes competitive price comparisons suspect. You must determine if an offeror's price is reasonable and consistent with its technical proposal. Remember the paper cup/ceramic mug example? The fact that a paper cup is a cheaper 8-ounce container does little to determine price reasonableness.	Are proposed costs realistic for the work to be performed? Do proposed costs reflect a clear understanding of the requirements? Are costs consistent with the various elements of the offeror's technical proposal?
You expect a cost-reimbursement or incentive contract.	With these contract types, final contract price will depend on final contract cost. Therefore, you must determine if price estimates are realistic. An unreasonably low contract price estimate may look attractive, but the final price may be substantially higher. Another firm, with a higher but more accurate cost estimate, may be able to deliver a lower final price to the Government.	
You believe that the solicitation contains complex requirements that might not be fully understood by all offerors.	Determine if the offeror understands all contract requirements, including: • Requirements that may have changed since the last purchase. • Unusually complex requirements included in the specifications or statement of work.	
You are concerned about product quality.	Determine if the proposed price will permit the firm to meet contract quality and delivery requirements. Quality concerns can develop for even apparently simple contracts, such as janitorial services. Such contracts can easily be under-priced because offerors simply do not understand quality or delivery requirements. Concerns are normally greatest when firms have not contracted for the required product before and when past experience indicates that one or more prospective offerors have had performance problems.	

2.3.2 Determining What Cost Information to Require

FAR Information Requirements
FAR 15.804-6

Tailor requirements for cost information other than cost or pricing data to assure that you only require offerors to submit information needed to determine price reasonableness or cost realism.

FAR TABLE 15-3, INSTRUCTIONS FOR SUBMISSION OF INFORMATION OTHER THAN COST OR PRICING DATA

SF 1448 is a cover sheet for use by offerors to submit information to the Government when cost or pricing data are not required but the contracting officer has requested information to help establish price reasonableness or cost realism. Such information is not considered cost or pricing data, and shall not be certified in accordance with 15.804-4.

1. The information submitted shall be at the level of detail described in the solicitation or specified by the contracting officer. The offeror's own format is acceptable unless the contracting officer determines that use of a specific format is essential.
   - A. If adequate price competition is expected, the information may include cost or technical information necessary to determine the cost realism and adequacy of the offeror's proposal, e.g., information adequate to validate that the proposed costs are consistent with the technical proposal, or cost breakdowns to help identify unrealistically priced proposals.
   - B. If the offer is expected to be at or below the cost or pricing data threshold, and adequate price competition is not expected, the information may consist of data to permit the contracting officer and authorized representatives to determine price reasonableness, e.g., information to support an analysis of material costs (when sufficient information on labor and overhead rates is already available), or information on prices and quantities at which the offeror has previously sold the same or similar items.
2. Any information submitted must support the price proposed. Include sufficient detail or cross references to clearly establish the relationship of the information provided to the price proposed. Support any information provided by explanations or supporting rationale as needed to permit the contracting officer and authorized representatives to evaluate the documentation.

Specific Information Requirements
FAR 15.804-6(a)

Tailor any requirements for cost information other than cost or pricing data so that you only require information essential to your analysis. Limit your request to those facts necessary to determine price reasonableness. Specify the scope and extent of data requirements in the solicitation.

2.3.2 Determining What Cost Information to Require (cont)

Specific Information Requirements (cont)

FAR 15.804-6(a)

For example: Suppose you are buying a research study from the only known source. You expect that material costs will be a small portion of the total price. You have a copy of a Forward Pricing Rate Agreement (FPRA) with the firm, under which the firm has agreed to use the agreement indirect rates (all of which are based on direct labor hours) in preparing proposals. Given these facts, you are particularly concerned about estimated of direct labor hours. Solicitation information requirements might include:

- A task by task breakdown of work to be performed.
- A breakdown of labor hours and costs by task and labor category.
- A total figure for all direct material costs, with no further breakdown of those costs.
- A total figure for indirect costs (along with verification that the firm used indirect rates in the Forward Pricing Rate Agreement to calculate that total).
- Proposed profit or fee.

Specific Information Submission

FAR 15.804-5(a)(2)

Whenever you require cost information other than cost or pricing data:

- Permit the offeror to select the format for submitting the information unless you determine that use of a specific format is essential.
- Ensure that the information used to support price negotiations is sufficiently current to permit negotiation of a fair and reasonable price.
- However, limit requests for updated offeror information to information that affects the adequacy of the proposal for negotiations, such as changes in price lists.
- Never require certification of any information other than cost or pricing data.

Identifying Considerations Affecting Cost Allowability

CHAPTER 3

Chapter Vignette

Andrew Learns About Cost Allowability

While talking with Kay and the other buyers about contract costs, several terms kept coming up: "allowable," "reasonable," "allocable," "GAAP," "CAS," and "cost principles." Andrew has decided that it must be time to pick up the second folder, marked "Considerations Affecting Cost Allowability," so that he can understand what everyone is talking about!

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 3/1
Identify general cost principles on allowability.

Classroom Learning Objective 3/2
Determine cost allowability using specific cost principles.

Classroom Learning Objective 3/3
Identify unallowable costs.

3.0 Chapter Introduction

In This Chapter

In this chapter, you will learn about the various factors that affect cost allowability.

SECTION	DESCRIPTION	SEE PAGE
3.0	Chapter Introduction	3-3
3.1	Identifying Allowability Factors to Consider	3-5
	3.1.1 Identifying Factors That Affect Cost Reasonableness	3-6
	3.1.2 Identifying Factors That Affect Cost Allocability	3-9
	3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability	3-12
	3.1.4 Identifying Contract Terms That Affect Cost Allowability	3-19
3.2	Determining Allowability of Specific Costs	3-20
3.3	Identifying Unallowable Costs	3-26

Cost Allowability

FAR 31.201-1(b)

An allowable cost is any cost which you can include in a Government contract price, cost-reimbursement, or settlement under a Government contract to which it is allocable. A cost is considered allowable if it is: reasonable; NOT expressly or by mutual agreement of the contracting parties declared unallowable; properly accounted for under applicable accounting standards, practices, and principles; and properly assigned either directly or by allocation to a contract.

3.0 Chapter Introduction (cont)

Factors Affecting Cost Allowability FAR 31.201-2	Consider the following factors in determining cost allowability: • Reasonableness; • Allocability; • Applicable accounting practices and standards; • Applicable cost principles; and • Terms of the contract
Allowability Decision FAR 15.805-3	Consider all the above factors in deciding whether to allow a particular contract cost. As you decide, remember that these factors are complex and applying them to a contract situation requires careful judgment. For complex questions, you will likely need assistance from a Government auditor or price analyst. **However, remember that the contracting officer is ultimately responsible for any contract cost analysis.**

3.1 Identifying Allowability Factors to Consider

Section Introduction

In This Section

This section examines the general factors that you should consider in determining whether a contract cost is allowable. Consider these same factors whether you are evaluating a proposal or the final costs on a cost reimbursement contract.

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3.1.1 Identifying Factors That Affect Cost Reasonableness

Defining a Reasonable Cost
FAR 15.201-3(a)

A cost is reasonable if, in its nature and amount, it does not exceed what a prudent person would pay 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 must consider as you decide if a particular cost is reasonable. If you answer "yes" to all of these questions, the cost is probably 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 is probably a reasonable cost.

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

   NO: If this is not normally 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 normally necessary cost of doing business.

3.1.1 Identifying Factors That Affect Cost Reasonableness (cont)

Questions to Consider in Determining Cost Reasonableness (cont)

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 is probably acceptable.

   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, it is probably inappropriate for the contract.

   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.

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?***

   YES: Then the Government's interests are probably being protected.

   For example: A good price analysis, and when necessary, cost analysis of supplier proposals prior to awarding purchase orders on Government cost-reimbursable contracts reflects a responsible attitude toward the use of taxpayer dollars.

   NO: If the offeror is acting irresponsibly, then the costs are probably excessive and inappropriate.

   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.

3.1.1 Identifying Factors That Affect Cost Reasonableness (cont)

Questions to Consider in Determining Cost Reasonableness (cont)

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

YES: Then the Government's interests are probably protected.

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 Government's interests are not protected and costs may be excessive.

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 to perform the effort in-house and the cost would be substantially lower than contracting out. It would be unreasonable to accept the proposed design cost.

3.1.2 Identifying Factors That Affect Cost Allocability

Defining an Allocable Cost

FAR 15.201-3(a)

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 projects, 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 must consider as you decide if a particular cost is properly allocated to a particular contract. If you answer "yes" to one or more of these questions, the cost is probably allocable to the contract. If you answer "yes" to two or more of these questions, be particularly careful to assure that the method of cost allocation 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. ***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 major subassembly was purchased specifically for use on a Government contract and was properly charged to the Government contract

3.1.2 Identifying Factors That Affect Cost Allocability (cont)

Questions to Consider in Determining Cost Allocability (cont)

NO: If the costs were incurred for more than one objective, then they are eligible for allocation to all benefiting objectives.

For example: General office supplies used throughout the company were incorrectly charged as a direct cost on a Government cost-reimbursement contract.

2. ***If the cost benefits both the contract and other work, were the costs allocated in reasonable proportion to the benefits received?***

YES: If the allocation is proportional, then the cost objective is "paying" its fair share.

For example: A technical typing department proportionately allocates its costs by dividing its total operating costs by the number of pages produced during the year and then charging each job on a rate per page basis.

NO: If the allocation is disproportionate, then the objective is "paying" too little or too much of the cost. Auditors can be very helpful in dealing with this situation.

For example: A maintenance department charges one fourth its costs to each of four departments serviced even though one department accounts for 90% of the work performed by the maintenance department.

3. ***Is the allocated cost necessary for overall operation of the firm even though it does not obviously benefit the contract?***

YES: Commonly known as general & administrative expenses, if the costs are necessary in the course of business, then it is assumed that they are of general (overall) benefit to the company.

Example: The salary of the Chief Executive Officer's secretary is a necessary cost of doing business even though the secretary's activities CANNOT be associated with a particular product or portion of the company.

3.1.2 Identifying Factors That Affect Cost Allocability (cont)

Questions to Consider in Determining Cost Allocability (cont)	NO: If the cost is NOT necessary for overall operations, then it is not allocable. **For example:** The cost of operating a tool crib is identifiable with manufacturing operations and could be charged to manufacturing overhead. Since it is identifiable to a particular part of the company, it should NOT be charged to General & Administrative expense.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability

Source of Practice and Standards

There are three sources of accounting practices and standards that provide guidance on the acceptability of contractor accounting systems (in order of precedence):

- Cost Accounting Standards (CAS)
- Federal Acquisition Regulation (FAR)
- Generally Accepted Accounting Principles (GAAP)

Cost Accounting Standards Board

FAR App B, 9900
FAR 30.101
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 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, a new CASB began operation under the Office of Federal Procurement Policy (OFPP). It consists of five members:

- OFPP Administrator, who is the Chairperson;
- DoD member;
- GSA member;
- Industry member; and
- Private sector member (generally expected to be an accounting professional).

The new 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 and procedures are reprinted in Appendix B of the FAR loose-leaf edition, along with procedures for applying CAS (e.g., exemptions to CAS and CAS-related requirements for any particular contract action). However, be careful this appendix is not always updated to incorporate the most recent CAS changes.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

CAS Coverage
FAR App B, 9904

When a contract is CAS-covered, the Standards take precedence over all other forms of accounting guidance. The table below, divides the 19 current Standards into four groups to highlight the types of coverage involved.

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 405	Accounting for Unallowables
CAS 406	Cost Accounting Period
ALLOCATION OF COSTS TO CONTRACTS	
CAS 403	Allocation of Home Office Expense
CAS 407	Use of Standard Cost Systems
CAS 410	Allocation of Business Unit G&A
CAS 418	Allocation of Direct and Indirect Costs
IDENTIFICATION & ASSIGNMENT OF COSTS	
CAS 404	Capitalization of Tangible Assets
CAS 409	Depreciation of Tangible Assets
CAS 408	Accounting for Paid Absence
CAS 412	Composition & Measurement of Pension Costs
CAS 413	Adjustment & Allocation of Pension Costs
CAS 415	Accounting for Deferred Compensation
CAS 416	Accounting for Insurance Costs
CAS 411	Accounting for Acquisition Costs of Materials
CAS 420	Accounting for IR&D/B&P
COST OF MONEY	
CAS 414	Cost of Money as an Element of Facilities Capital
CAS 417	Cost of Money of Capital Assets under Construction

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

CAS Exemptions

FAR 30.201-4(a)
FAR App B, 9903.201-1

All contracts awarded using sealed bidding are exempt from CAS coverage. When awarding a contract using negotiation procedures, insert CAS clauses 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 CONTRACTS OR SUBCONTRACTS FROM CAS COVERAGE	
Basis For Exemption	**Exempt If ...**
Dollar Amount of Contract Award	The 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	It is with a small business.
Commercial Item(s)	It is firm fixed-price for commercial item(s).
Method of Pricing	The price is set by law or regulation. It is firm fixed-price and awarded without contractor submission of any cost or pricing data.
Foreign Contractor/ Performance	It is with a foreign government, agent, or instrumentality. It 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). It is a subcontract under the NATO PHM Ship program to be performed outside the United States by a foreign concern. It will be executed and performed entirely outside the United States, its territories, and possessions.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

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 commercial 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 $25 million or more; or • Received $25 million or more in net CAS-covered awards during its preceding cost accounting period, of which, at least one award exceeded $1 million.	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, and Note: In addition, the business unit must disclose existing accounting practices and proposed changes to those practices.
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 $25 million awarded to a business unit that received less than $25 million in net CAS-covered awards in the immediately preceding cost accounting period; or • Business units that received more than $25 million in net CAS covered awards in the immediately preceding cost accounting period, wherein no single contract award exceeded $1 million..	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.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

Disclosure Statement

FAR App B, 9903.202-1
FAR App B, 9903.202-9

A Cost Accounting Standards Board Disclosure Statement is a written description of a contractor's cost accounting practices and procedures. The Statement is normally 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.

Requirement for a Disclosure Statement

FAR App B, 9903.202-1

Firms that do not have CAS-covered contracts are never required to submit a Cost Accounting Standards Board Disclosure Statement.

Obtain a completed Disclosure Statement from:

- Any business unit that is selected to receive a CAS-covered contract or subcontract of $25 million or more; or
- Any company which, together with its segments, received net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than $25 million in its most recent cost accounting period, if at least one contract award exceeded $1 million.

When a Disclosure Statement is required, a separate Disclosure Statement must be submitted for each segment which 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.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

Requirement for a Disclosure Statement (cont)

FAR App B, 9903.202-1

Foreign contractors and subcontractors who are required to submit a Disclosure Statement may, in lieu of filing a Form No. 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 2-step Disclosure Statement review:

- **Review Adequacy.** The cognizant auditor must review the Disclosure Statement to ascertain whether it is current, accurate, and complete and report the results of that review to the contracting officer. Based on the audit findings, the ACO must determine if it adequately discloses the firm's accounting practices. If the Statement 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.
- **Review Compliance.** After the notification of adequacy, the cognizant auditor must conduct a detailed compliance review to ascertain whether or not the disclosed practices comply with FAR Part 31 and CAS. The ACO must take appropriate action regarding any noncompliance reported by the cognizant auditor.

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 the accounting treatment.

FAR cost principles (presented in the next section) provide detailed guidance for cost accounting. 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 certain conditions are met by the contractor.

3.1.3 Identifying Accounting Principles and Standards Affecting Cost Allowability (cont)

Generally Accepted Accounting Practices (GAAP)	Generally Accepted Accounting Practices are general accounting rules used by most business entities. The GAAP consist of uncodified financial accounting standards established by the Financial Accounting Standards Board or otherwise represented in general or industry practice. If you have questions about GAAP (or any other accounting issue), consult with the cognizant Government auditor.

3.1.4 Identifying Contract Terms Affecting Cost Allowability

Contract Terms and Cost Principles

Specific types of cost are often addressed in a contract or request for proposal (RFP). For example, while 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 allocable to the contract,
- Not accounted for in accordance with applicable accounting principles and standards, or
- Not allowable in accordance with specific cost principles.

3.2 Determining 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 51 generally applicable cost principles. Over the years, the number and wording of these principles have changed to reflect changes in:

- Business practices (e.g., the large number of business takeovers in the 1980's);
- 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; proper application of accounting principles, practices, and standards; and terms of the contract; or

3.2 Determining Allowability of Specific Costs (cont)

Categories of Cost Identified by the Cost Principles (cont)

FAR 31.205

- ◊ It is not addressed in the cost principles but meets the requirements of the other four tests.

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

Guidelines for Using Cost Principles

The following guidelines may be helpful in addressing questions concerning cost principles and their application:

- In considering the allowability of a particular cost, more than one cost principle may apply. Consider all possible alternative cost principles in your deliberations.
- Guidance and assistance can be obtained from the cognizant auditor.
- If you still have questions concerning the proper interpretation of a cost principle or classification of a particular cost, contact your legal counsel.

3.2 Determining Allowability of Specific Costs (cont)

Cost Principles Summary

FAR 31.205

The table below summarizes the cost guidance provided by the current cost principles in FAR 31.205. In this table:

- "A" indicates that the cost principle classifies specific types of the cost as allowable.
- "UA" indicates that the cost principle classifies specific types of the cost as unallowable.
- "AWR" indicates that the cost principle classifies specific types of the cost as "allowable with restrictions."

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.

UNDER FAR 31.205, ARE THE FOLLOWING SELECTED COSTS ALLOWABLE?				
Selected Costs	**FAR Ref.**	**A**	**UA**	**AWR**
ADPE Leasing Costs	31.205-2			X
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		
Civil Defense Cost	31.205-5	X	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	31.205-15		X	X
Gains & Losses on Disposition 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
Insurance & Indemnification	31.205-19	X	X	X

(Table continued on next page)

3.2 Determining Allowability of Specific Costs (cont)

Cost Principles Summary (cont)

(A = Allowable, UA = Unallowable, AWR = Allowable With Restrictions)

UNDER FAR 31.205, ARE THE FOLLOWING SELECTED COSTS ALLOWABLE?				
Selected Costs	**FAR Ref.**	**A**	**UA**	**AWR**
Interest & Other Financial Cost	31.205-20		X	X
IR&D/B&P Costs	31.205-18		X	X
Labor Relations Costs	31.205-21	X		
Legal & Other Proceedings Costs	31.205-47		X	X
Lobbying Costs (Executive)	31.205-50		X	
Lobbying Costs (Legislative)	31.205-22		X	X
Losses on Other Contracts	31.205-23		X	
Maintenance & Repair Costs	31.205-24	X		
Manufacturing & Production Engineering Cost	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	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	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 Cost	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

3.2 Determining Allowability of Specific Costs (cont)

Consider all Relevant Cost Principles

FAR 31.205-8
FAR 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.

3.2 Determining Allowability of Specific Costs (cont)

Consider all Relevant Cost Principles (cont)	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.

3.3 Identifying Unallowable Costs

Unallowable Cost

FAR 31.001

An unallowable cost is any cost which (under the provisions of a pertinent law, regulation, or contract) you cannot include in any prices, cost-reimbursements, or settlements under a Government contract.

Some Costs Are Identified as Strictly Unallowable

FAR 31.205

The table above provides a quick reference that you can use as you perform your cost analysis. With 51 different cost principles, you are not expected to automatically know the specific treatment afforded each type of cost. However, you should know that nine categories of cost identified in the table below are always unallowable.

UNALLOWABLE COSTS	REFERENCE
Alcoholic Beverages	31.205-51
Bad Debts	31.205-3
Contributions and Donations	31.205-8
Entertainment Costs	31.205-14
Goodwill	31.205-49
Interest & Other Financial Costs	31.205-20
Lobbying Costs (Executive)	31.205-50
Losses on Other Contracts	31.205-23
Organization Costs	31.205-27

Some Costs Are Unallowable under Certain Circumstances

FAR 31.205-15
FAR 31.205-1

For other types of cost, allowability may vary with the circumstances. A cost may be unallowable under certain circumstances, but allowable, or allowable with restrictions, under other circumstances.

Example 1. Fines and penalties resulting from violations of, or failure to comply with, federal, state, local, or foreign laws and regulations are normally **unallowable** under provisions of FAR 31.205-15, Fines, Penalties, and Mischarging Costs. However, these costs may be **allowable** when incurred as a result of compliance with specific terms and conditions of the contract or written instructions from the contracting officer.

3.3 Identifying Unallowable Costs (cont)

Some Costs Are Unallowable under Certain Circumstances (cont)

FAR 31.205-15
FAR 31.205-1

Example 2. Under FAR 31.205-1, Public Relations and Advertising, the cost of responding to inquiries on company policies and activities is **allowable**. The costs of memberships in civic and community organizations are **unallowable**, while costs to promote American aerospace exports at exhibits and air shows are **allowable, except** for hospitality suites and other entertainment.

Directly Associated Costs

FAR 31.201-6(a)

Any costs that would not have been incurred if the 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.

The practices used by the offeror/contractor in accounting for and presenting these costs must comply with the requirements of CAS 405, Accounting for Unallowables.

Collecting Information to Support Cost Analysis

CHAPTER 4

Chapter Vignette

Collecting Information for Cost Analysis

Kay has assigned Andrew to analyze a cost proposal for a follow-on radio procurement. The proposal is due in a few days, but before the proposal arrives, Kay wants Andrew to collect and examine other available data related to the procurement. "Know your item," she says. Kay has suggested that Andrew examine contract files from related procurements, relevant cost audits, technical reports, and other market data. Andrew plans to start by reviewing the Government requirements documents. Then he plans to collect all the related information that he can find.

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 4/1
Identify relevant data from acquisition histories and market research.

Classroom Learning Objective 4/2
Prepare requests for and critique data from field pricing reports.

4.0 Chapter Introduction

In This Chapter

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.

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4.1 Conducting Market Research for Cost Analysis

Section Introduction

In This Section

For every procurement, you must collect market information for price analysis. If you are performing cost analysis, you have already determined that you cannot rely on price analysis alone to determine price reasonableness. Your additional market research for cost analysis should center on collecting and analyzing information on the cost of efficient and effective contract performance, including:

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4.1.1 Examining Related Contract Files

Using Historical Contract Information

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 situations of the past and the current contracting situation.

Identify Past Problems/ Precedents

FAR 15.808(a)(7)

Information on problems that may have occurred in previous proposals or past contracts 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.

4.1.1 Examining Related Contract Files (cont)

Identify Past Problems/ Precedents (cont)

FAR 15.808(a)(7)

- ***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.

4.1.1 Examining Related Contract Files (cont)

Identify Contracting Situation Differences (cont)

- ***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

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 the same or similar items, and
- Proposed forward pricing rates and factors.

Reports on Other Proposals for the Same or Similar Items

Reports on previous procurements of the same 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 costs and production 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 costs and production methods for similar items compare with those proposed for the current contract?***

  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 contract.

- ***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.

4.1.2 Examining Relevant Audits and Technical Reports (cont)

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 or responsible 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.

- ***When an administrative contracting officer (ACO) assigned to negotiate forward pricing rates, 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 Agreement 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,
- Performance Assessment Reviews, and
- Contractor Estimating System Reviews.

Contractor Purchasing System Review

FAR Subpart 44.3
FAR 15.806-1

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 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.

4.1.3 Examining Reviews of Offeror's Systems (cont)

Contractor Purchasing System Review (cont)

- ***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 Performance Assessment Review

The largest Government contractors may be subject to general management systems review by integrated teams of Government personnel. The agency names for these reviews may differ, but the Contractor Performance Assessment Review (CPAR) objective is to assess the strength of various contractor management systems. These reviews are important, because, efficient and effective management systems should lead to efficient and effective contract performance.

Areas commonly covered in a typical review include:

- Quality assurance;
- Manufacturing;
- Engineering;
- Purchasing;
- Property administration;
- Safety and security;
- Proposal preparation;
- Cost estimating;
- Contract administration; and
- Finance.

When consulting a CPAR report, ask the following questions:

- ***What deficiencies were found that might affect cost estimates?***

  Deficiencies in any of the above areas could potentially impact the quality and validity of a cost proposal.

- ***How might cost estimates be affected?***

  Management deficiencies anywhere in the firm could affect contract costs. For example, deficiencies in production scheduling could affect manufacturing labor costs, material costs, or a variety of other related costs.

4.1.3 Examining Reviews of Offeror's Systems (cont)

Contractor Estimating System Review

FAR 15.811
DFARS 215.811

An effective cost estimating system is essential for any firm to consistently provide adequate 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 purposes 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.

When consulting a CESR, consider the following:

- ***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 assure that relevant historical experience is available to, and utilized by, cost estimators;

  ◊ Continuing failure to analyze material costs, or failure to perform subcontractor cost reviews;

  ◊ Consistent absence of analytical support for significant amounts of proposed cost;

  ◊ Excessive reliance on individual proposal judgment where historical experience or commonly used standards are available;

  ◊ Recurring defective pricing findings within the same cost elements;

4.1.3 Examining Reviews of Offeror's Systems (cont)

Contractor Estimating System Review (cont)	◊ Failure to integrate relevant parts of other management systems with the estimating system, resulting in an impaired ability to generate reliable cost estimates; or ◊ 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

SOURCE	INFORMATION
R.S. Means Company, Inc. 100 Construction Plaza Kingston, MA 02364	**Construction** Over 45 guides and indexes related to construction cost estimating
National Institute of Building Sciences 1201 L Street, Suite 400 Washington, DC 20005	**Construction** CD-ROM package that includes Federal Guide Specifications and two estimating guides: *Naval Facilities Cost Estimating System* and *Microcomputer Aided Cost Estimating Support (MCACES)*
Naval Facilities (NAVFAC) Hoffman Building 2 Code DS01 200 Stovall Street Alexandria, VA 22332	**Construction** *Naval Facilities Cost Estimating System* developed by NAVFAC and programmed by NCTAMSLANT
Corps of Engineers Huntsville Division (CEHND) 105 Wynn Drive Huntsville AL 35805	**Construction** *Microcomputer Aided Costing Support (MCACES)* a *cost* estimating system including unit price data for labor and equipment
Naval Computer and Telecommunications Area Master Station Atlantic (NCTAMSLANT) Building V-53 Norfolk VA 23511-5355	
John Wiley & Sons, Inc. New York, New York	**Electronics** Handbook *Handbook of Electronics Industry Cost Estimating Data* by Theodore Taylor, guide to estimating costs for electronics production
Air Force Cost Analysis Center	**Aircraft** *Cost Estimating System (CES)* Air Force cost estimating system and database for fixed and rotary wing aircraft. aircraft engines, and aircraft avionics

4.1.4 Examining Industry Cost Estimating Guides and Standards (cont)

Industry Estimating Guides/ Standards (cont)

SOURCE	INFORMATION
Institute for Defense Analysis	**Aircraft** Military aircraft development cost database
Rand Reports	**Aircraft** Aircraft airframe cost database
Electronics Systems Center (ESC) Air Force Materiel Command Hanscom AFB, MA Tecolote Research, Inc. 5266 Hollister Avenue, No. 301 Santa Barbara, CA 93111	**Aircraft Avionics** *The Black Box Estimator (BBEST)* Estimating system and data base for estimating the cost of aircraft avionics
Electronics Systems Center Air Force Materiel Command Hanscom AFB, MA Aeronautical Systems Center (ASC) Air Force Materiel Command Wright-Patterson AFB, OH 45433 Tecolote Research, Inc. 5266 Hollister Avenue, No. 301 Santa Barbara, CA 93111	**Aircraft Avionics** *Automated Cost Estimating Integrating Tools (ACEIT)* estimating system and database for estimating the cost of electronic warfare systems
Space Systems Center (SSC) Air Force Materiel Command Los Angeles AFS, CA Tecolote Research, Inc. 5266 Hollister Avenue, No. 301 Santa Barbara, CA 93111	**Spacecraft** Estimating data bases for spacecraft
Air Force Cost Analysis Center	**Various Systems** *Cost Analysis Resource Reference System (CARRS)* Database designed to identifying cost estimating databases

4.2 Requesting and Evaluating Acquisition Team Support

In This Section

You are responsible for performing cost analysis, but you should not try to do the job alone. This section examines:

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Acquisition Team Analysis

FAR 15.801

The offeror's cost proposal is the offeror's estimate of reasonable contract costs. This estimate is normally a combination of technical estimates and related cost estimates. Normally, you will need help from other members of the Acquisition Team as you evaluate these estimates.

- **Technical Analysis Support.** A technical analysis is an examination and evaluation by Government personnel 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 Government personnel performing the technical analysis must have specialized knowledge, skills, experience, or capability in:
    - – Engineering,
    - – Science, or
    - – Management of 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,
    - – Processes,
    - – Special tooling requirements,
    - – Facility requirements, and
    - – Associated factors set forth in a proposal

4.2 Requesting and Evaluating Acquisition Team Support (cont)

Acquisition Team Analysis (cont)

FAR 15.805-4
DCAM 1-104

- **Audit Analysis Support.** 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.

4.2.1 Requesting Acquisition Team Support

Sources of Technical Analysis Support

FAR 15.805-5

Members of the Acquisition Team who are familiar with the offeror and contract technical requirements can usually conduct 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 support may come from one or both of the following sources:

- **In-house Technical Support.** Within the requiring activity, there are normally technical personnel who are intimately familiar with the contract requirement and related issues. Their knowledge can be invaluable, especially from an overall activity perspective.

- **Field Pricing Support.** Field pricing support 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 methods. Personnel available for field pricing technical analysis support typically include, but are not limited to the following:
  - ◊ Administrative contracting officers;
  - ◊ Price analysts;
  - ◊ Engineers;
  - ◊ Small business specialists; and
  - ◊ Legal counsel.

Situations Requiring Technical Analysis Support

Normally when you use cost analysis to determine price reasonableness, you will need technical analysis support to analyze the efficiency and effectiveness of the offeror's technical approach.

- **In-house Technical Support.** In most contracting situations, in-house members of the Acquisition Team will be your primary source for technical analysis support. Follow agency and activity procedures for requesting in-house technical analysis support.

4.2.1 Requesting Acquisition Team Support (cont)

Situations Requiring Technical Analysis Support (cont)

FAR 15.805-5
DFARS 215.805-5

- **Field Pricing Support.** Follow FAR and agency guidance as you determine whether to request field pricing support. Generally, you should:
  - ◊ Request field pricing support, before negotiating any contract or modification resulting from a cost proposal over $500,000, **unless** one of the following is true:
    - – Different guidance is provided in agency procedures. For example, if you are assigned to a DoD organization, you must only request field pricing support for:
      - -- Fixed-price proposals over $500,000;
      - -- Cost-reimbursement proposals over $500,000 from offerors with significant estimating system deficiencies; or
      - -- Cost-reimbursement proposals exceeding $10 million from offerors without significant estimating system deficiencies.
    - – In-house technical support and other information available within the contracting activity are adequate for contract pricing, However, be sure to follow any agency requirements for documenting this decision. For example, if you are assigned to a DoD organization, you must provide adequate written justification for waiving the requirement for field pricing support.
  - ◊ Not request field pricing support, before negotiating any contract or modification resulting from a cost proposal of $500,000 or less, unless you need support to determine price reasonableness, because:
    - – You lack knowledge of the particular contractor;
    - – Sensitive conditions require field pricing support; or
    - – You are unable to evaluate price reasonableness through price analysis or cost analysis of existing data.

Sources of Audit Support

Available sources of Government audit support differ from agency to agency. Consult agency procedures to determine which of the following types of audit support are available to you:

- **In-house Support.** Your contracting activity may have in-house financial management personnel assigned to act as contract auditors.

4.2.1 Requesting Acquisition Team Support (cont)

Sources of Audit Support (cont)

- **Inspector General Support.** Your Agency Inspector General office may perform contract audits as well as internal Government audits.

Field Pricing Support. 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.

Situations Requiring Audit Support

FAR 15.805-5

Before requesting contract audit support, consider agency procedures, FAR requirements, and the information already available.

- **In-house and Inspector General Support.** FAR does not provide guidelines for requesting in-house or Inspector General audit support. Follow agency procedures when requesting such agency support.

- **Field Pricing Support.** The requirements for requesting field pricing audit support are basically the same as those described above for requesting field pricing technical support. However, there is one additional requirement. **You must never request a preaward indirect cost audit, if the information is available from any existing audit completed within the preceding 12 months is adequate for your cost analysis.**

Situations Requiring Subcontract Audit or Field Pricing Support

FAR 15.806-1
FAR 15.806-3

While you are responsible for ensuring that the total contract price is fair and reasonable, the contractor is primarily responsible for subcontract pricing. When subcontract cost analysis is required, the prime contractor or higher tier subcontractor is responsible for:

- Obtaining the necessary cost or pricing data or information other than cost or pricing data;
- Performing an analysis of that submission; and
- Including the results of that analysis in its own proposal.

Do not permit a prime contractor or higher-tier subcontractor to routinely transfer its subcontract pricing responsibilities to the Government.

4.2.1 Requesting Acquisition Team Support (cont)

Situations Requiring Subcontract Audit or Field Pricing Support (cont)

FAR 15.806-1
FAR 15.806-3

Only request audit or field pricing support to analyze a subcontract proposal if you believe that such support is needed to ensure total price reasonableness. Give special consideration to requesting subcontract audit or field pricing support when one or more of the following situations exist:

- 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;
- You determine that factors (e.g., proposed subcontract dollar value) make audit or field pricing support 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.

Requesting Audit or Technical Support

FAR 15.805-5

Good Acquisition Team proposal analyses begin with good clear requests for analysis support. Do not make general requests for analysis. Tailor each request to the contracting situation.

Unless precluded by agency procedures, only request the minimum information that you need to establish a fair and reasonable price.

As you prepare a request for audit or technical support, ensure that you:

- Describe the extent of support needed.
- Identify the specific areas for which input is required.
- Include the information necessary for the requested analysis.
  - ◊ A request for technical analysis:
    - – Should include a copy of all technical information submitted by the offeror on the cost(s) involved.
    - – Should 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.

4.2.1 Requesting Acquisition Team Support (cont)

Requesting Audit or Technical Support (cont)

FAR 15.805-5

- ◊ A request for audit support should include a:
  - Copy of the SF 1411, Contract Pricing Proposal Cover Sheet, when the offeror submitted cost or pricing data;
  - Complete copy of the proposal;
  - Copy of any technical analyses already completed.
- Assign a realistic deadline for receipt of the 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.

Requesting a Subcontract Audit or Technical Support

FAR 15.806-3
DFARS 215.806-3

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

- Any review prepared by the prime contractor or higher tier subcontractor;
- 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 analyses. For example, in the DoD, you must fully coordinate any requirement for subcontract proposal analysis with the administrative contracting officer (ACO) that has cognizance for administering contracts with the prime contractor. The ACO for prime contractor will initiate the request for subcontract proposal analysis to the ACO with cognizance for administering contracts with the subcontractor. The ACO for the subcontractor will send the resulting report to the ACO for the prime contractor with an information copy to the prime contract auditor. Handle requests for field pricing support at lower tier subcontractors in a similar manner.

Remember Subcontractor Consent Requirements: As you prepare your request, remember that you must obtain the subcontractor's consent before you 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 them with a range of unacceptable costs for each cost element, and you must provide that range in a way that prevents disclosure of subcontractor proprietary data.

4.2.2 Evaluating Acquisition Team Support

Reports on Technical and Audit Analyses

DCAM 10-304.8

Whenever you receive technical or audit reports, you must 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) you cannot include 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.

Questions to Identify Report Strengths and Weaknesses

As you evaluate analysis report(s), use the following questions to identify analysis strengths and weaknesses:

- ***Does the technical analysis or audit report answer the questions in your request?***

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

4.2.2 Evaluating Acquisition Team Support (cont)

Questions to Identify Report Strengths and Weaknesses (cont)

FAR 15.805-5(e)

- ***Does the technical or audit 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 technical or audit 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.

- ***Does the audit report include the minimum elements required for an effective report?***

  The auditor is responsible for the scope and depth of the audit, but the audit report should include the following:

  ◊ The findings on specific areas identified in your request;

  ◊ An explanation of the basis and method used by the offeror in preparing the proposal;

  ◊ An identification of the original proposal and of all subsequent written formal and other identifiable submissions by which cost or pricing data were either submitted or identified;

  ◊ A description of cost or pricing data identified by the auditor that were not submitted, but may have a significant effect on the proposed cost or price;

  ◊ A list of any cost or pricing data submitted that are not accurate, complete, and current, as well as any cost representations that are unsupported;

  ◊ If the auditor believes that the offeror's estimating methods or accounting system are inadequate to support the proposal or to permit satisfactory administration of the contract contemplated, a statement to that effect; (Note: When the effect of deficiencies is so great that the auditor cannot

4.2.2 Evaluating Acquisition Team Support (cont)

Questions to Identify Report Strengths and Weaknesses (cont)	perform an audit or considers the proposal unacceptable as a basis for negotiation, the auditor should notify you orally so that you can take prompt corrective action. The auditor should immediately confirm the notification in writing, explaining the deficiencies and the cost impact on the proposal.) ◊ The originals of all technical analyses received by the auditor and a quantification of the dollar effect of the technical analysis findings; and ◊ A statement of the extent to which the auditor has discussed discrepancies or mistakes of fact in the proposal with the offeror;
Identify Inconsistencies Within Each Analysis	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. These inconsistencies usually occur for one or both of the following reasons: • **Selective Analysis.** A single analyst may only report the results from using a particular analysis technique when the resulting estimate is lower than that proposed by the offeror. Higher results 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 the advantage or disadvantage to the Government. Remember, your objective is to obtain a fair and reasonable price. • **Multiple Analyses.** 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.

4.2.2 Evaluating Acquisition Team Support (cont)

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.

For example: 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 accepts the estimate. Same estimate, different analysis results

Note: The possibility of this type of inconsistency is one reason why a copy of available technical reports should be provided to the auditor before the audit is performed.

Resolve Apparent Weaknesses and Inconsistencies

FAR 15.808(a)(7)

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 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.

However you request clarification, your request for clarification should not be regarded as a new request for analysis. Technical analysts and auditors have a responsibility to support their findings.

4.2.2 Evaluating Acquisition Team Support (cont)

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.

Defining and Evaluating Work Design for Contract Performance

CHAPTER 5

Chapter Vignette

Assumptions and Work Design in Analysis

Andrew feels he is ready to begin his review, but Kay tells him, "not yet." "You need to step back and look at the total situation before you proceed. You need to understand the impact of the offeror's basic planning assumptions and work design in proposal development and analysis." While Andrew is anxious to get started, Kay knows what she is talking about, so he begins by trying to figure out what she means by planning assumptions.

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 5/1
Identify the offeror's planning assumptions, including contingencies.

Classroom Learning Objective 5/2
Develop positions on the proposed work design.

Classroom Learning Objective 5/3
Identify the level of risk inherent in the offeror's cost estimate.

5.0 Chapter Introduction

In This Chapter

As you prepare 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.

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5.0	Chapter Introduction	5-3
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	5.1.2 Analyzing Specific Assumptions	5-10
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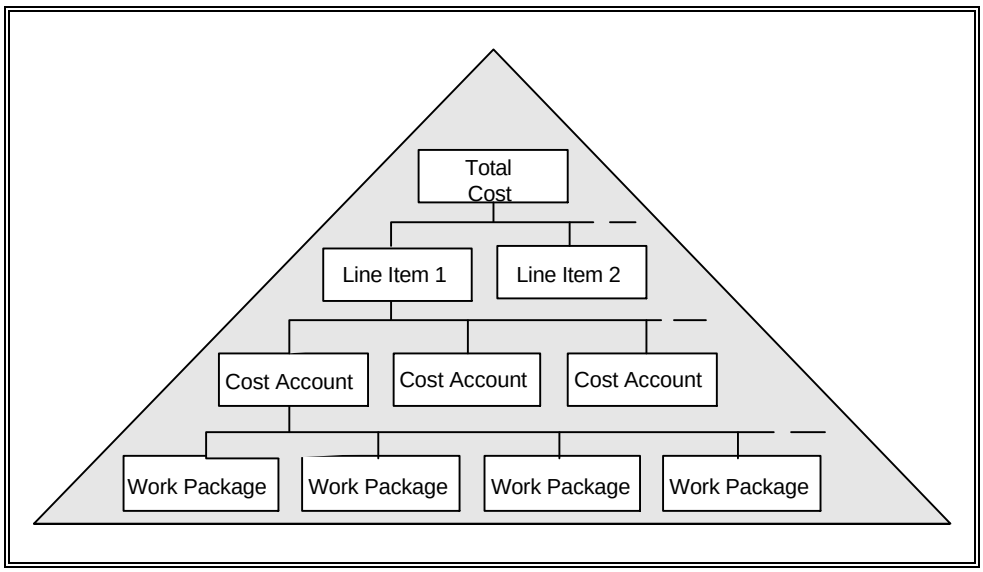
5.0 Chapter Introduction (cont)

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 work to complete the contract;
- 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.

5.0 Chapter Introduction (cont)

Work Breakdown Structure

MIL-STD 881B

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 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, will depend on the complexity of the system and the perceived need for in-depth visibility.

The table on the following page provides an example of a WBS structure. The example is the WBS for a missile system, but the concept can be applied to any large system.

5.0 Chapter Introduction (cont)

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 Offeror's Planning Assumptions

Section Introduction

In This Section

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

TOPIC	SEE PAGE
5.1.1 Identifying Basic Planning Assumptions	5-8
5.1.2 Analyzing Specific Assumptions	5-10
5.1.3 Determining Proper Contingency Cost Treatment	5-16

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 use historical costs as the basis for 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 will rely less on historical cost 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 costs. 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).

5.1.1 Identifying Basic Planning Assumptions (cont)

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 support in developing your position on technical assumptions (e.g., labor efficiency) and audit support 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 where a local community would allow such a facility;
- 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;
- Hazardous product storage.

5.1.2 Analyzing Specific Assumptions (cont)

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 support, specifically ask for an assessment of the likelihood of the problem occurring and the affect 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 affect technological change 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 affect 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.

5.1.2 Analyzing Specific Assumptions (cont)

Identifying Assumptions Regarding Technological Changes (cont)

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 the
- 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 technology required to complete the contract.

5.1.2 Analyzing Specific Assumptions (cont)

Evaluating Assumptions Regarding Technological Changes (cont)

- ***What will be the cost/benefit of the indicated technology 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. Alternatively, other firms may have already developed the required technology. Subcontracting would be more logical than paying for the reinvention of existing technology.

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.

5.1.2 Analyzing Specific Assumptions (cont)

Evaluating Assumptions Regarding Interruptions and Shortages (cont)

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

  Be particularly careful to assure that 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 interruptions or shortages, 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

5.1.2 Analyzing Specific Assumptions (cont)

Evaluating Assumptions Regarding Inflation/ Deflation (cont)

that any index numbers are appropriate for your analysis situation. Two of the most commonly used indexes 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

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 is 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.

5.1.3 Determining Proper Contingency Cost Treatment (cont)

Contingencies, Contract Costs, and Separate Agreements

FAR 31.205-7(c)
FAR 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 31.505-7

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 engineering support direct labor hours 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

5.1.3 Determining Proper Contingency Cost Treatment (cont)

Contingencies and Historical Costs (cont)

FAR 31.505-7

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

Section Introduction

In This Section

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

TOPIC	SEE PAGE
5.2.1 Identifying Causes of Inefficient or Uneconomical Performance	5-20
5.2.2 Performing a Formal Should-Cost Analysis	5-24

5.2.1 Identify Causes of Inefficient or Uneconomical Performance

Key Areas for Cost Analysis

FAR 15.801

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 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 operations to see if they are necessary and if they really add anything of value to the final product.

For example: A manufacturer's proposal may have 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 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 new 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.

5.2.1 Identify Causes of Inefficient or Uneconomical Performance (cont)

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

(Savings per Unit * # Units) - (Cost of Change) = Net Gain/Loss

($150,000 * 6)	-	$1,000,000	=	
$900,000	-	$1,000,000	=	- $100,000

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

(Savings per Unit * # Units) - (Cost of Change) = Net Gain/Loss

($150,000 * 38)	-	$1,000,000	=	
$5,700,000	-	$1,000,000	=	$4,700,000

Conclusion: If only the current contract is considered, the investment would not be cost effective. However, if all 38 systems are produced by this firm, the savings would substantially outweigh the cost of the investment. As a result, final recommendations should consider the viability and direction of the entire program

Note: To simplify this example, 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.

5.2.1 Identify Causes of Inefficient or Uneconomical Performance (cont)

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 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 reductions.
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.

5.2.1 Identify Causes of Inefficient or Uneconomical Performance (cont)

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 Analysis

Should-Cost Analysis Concept

FAR 15.810

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 analysis. A formal should-cost analysis is a multi-functional 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 analysis and the overhead should-cost analysis. These analyses may be performed together or independently. The scope of a should-cost analysis 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. Teams may also include a wide variety of technical specialists including specialists contracted to support the should-cost analysis.

The decision on conducting a should-cost should be a part of acquisition planning. Before initiating a should-cost analysis, 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 analysis. 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 15.810-1(b)

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.

5.2.2 Performing a Formal Should-Cost Analysis (cont)

Program Should-Cost Analysis

FAR 15.810-2
DFARS 215.810-2

A program should-cost analysis 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 analysis (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 plan and conduct the should-cost review adequately; 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 15.810-2(c)

A program should-cost facilitates a comprehensive analysis 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. If the team is large, consider dividing team members into subteams. Subteam members will then be able to concentrate on a specific area of contractor operations, such as:

- Management
- Pricing
- Engineering
- Subcontract and vendor management
- Manufacturing and quality assurance

5.2.2 Performing a Formal Should-Cost Analysis (cont)

Program Should-Cost Report
FAR 15.810-2(d)

When you conduct a program should-cost analysis, you must prepare a should-cost report in accordance with agency procedures. Do not require separate field pricing reports unless they provide a unique contribution to the combined team position. However, a separate audit report is still required.

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, do not address specific findings in depth and do not make specific recommendations on how the contractor should correct identified deficiencies.

When the report is completed distribute copies to all Government organizations affected by the should-cost results.

Government Action Based on Program Should-Cost Analysis Results
FAR 15.810-2(d)

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 Analysis
FAR 15.810-3
DFARS 215.810-3

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 analysis is normally used to support evaluation and negotiation of a forward pricing rate agreement (FPRA) with the contractor.

5.2.2 Performing a Formal Should-Cost Analysis (cont)

Overhead Should-Cost Analysis (cont)

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.
- Mergers, acquisitions, takeovers.
- 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, the overhead should-cost 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 operation have the greatest potential for cost savings. If the team is large, consider dividing team members into subteams. Subteam members will then be able to concentrate on a specific area of contractor operations, such as:

- Sales volume and rate bases
- Indirect labor cost
- Non-labor indirect cost

5.2.2 Performing a Formal Should-Cost Analysis (cont)

Overhead Should-Cost Report FAR 15.810-2(c)	If overhead should-cost analysis is conducted in conjunction with a program should-cost analysis, 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. A separate audit report is always required, regardless of the nature of the overhead should-cost analysis.
Government Action Based on Overhead Should-Cost Results FAR 15.810-3(c)	The ACO should use the results of the should-cost analysis as the basis for the Government position in negotiating a 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 Cost Risk And Related Contract Decisions

Section Introduction

In This Section

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.

TOPIC	SEE PAGE
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5.3.1 Identifying Principal Sources of Cost Risk

Introduction

When the offeror considers entering into a contract with the Government to perform a job, the offeror will 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 to take the job.

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 to commercial business, is the potential for loss caused by sudden changes in Government requirements.)

Economic Risk

Economic risk is the probability of regaining one's money with a reasonable profit from an investment versus not making a profit, or, even worse, losing the investment. The higher the risk of an investment,

5.3.1 Identifying Principal Sources of Cost Risk (cont)

Economic Risk (cont)	i.e., the higher the probability of losing the investment, the higher the potential profit must be in order to persuade an investor to take the risk. A low profit may be acceptable when a low risk is involved. ***Ask yourself***—would you rather invest your money in a Government contract with a projected return on investment of 3 percent at best and a risk of sudden changes in Government requirements, or put the same money into Government securities at a 6.5 percent return on investment? There are more uses for investment capital than there is capital to invest. Investments, including Government contracts, must compete for a limited amount of investment capital. Potential offerors will consider both the return and the risk involved when deciding whether to submit a proposal. High risk should hold the potential for a high return. A low return may be acceptable when a low risk is involved.
Performance Risk	Performance risk is the potential difficulty in successfully performing the work required by the contract. The cost that an offeror will estimate for a proposal depends on the offeror's assessment of the risk involved in performing the contract work. If the work is difficult and requires greater effort to accomplish with a relatively high risk of failure or defective units being produced, then this risk will be weighed and reflected in a higher estimated cost.

5.3.2 Assessing the Level of Risk

Introduction	As you begin your analysis of the offeror's proposal, make your own independent assessment of contract-related risk. In your assessment, consider the contract requirements, the offeror's assessment of risk, and the facts supporting that assessment. If the risk identified by the offeror is real, you should consider the methods of mitigating risk that are described in the next section. If the risk identified by the offeror is not real, you must be prepared to explain the errors in the offeror's analysis of risk. If the offeror has failed to identify an area of significant risk, you must assure that the offeror is aware of the risk possibilities.
What Are the inherent risks?	As you review contract requirements, consider the risks involved. Every contract has risks. However, some are more risky than others. For example, in estimating the material required to produce any product, there will be risk involved. Parts may fail and production errors may make parts unusable. The offeror's proposal will likely include a contingency estimate to cover the risk involved. If the contractor requires use of fine tolerances or extremely fragile materials, risk will increase. If you identify risks that the offeror has not considered in the proposal, assure that the offeror understands the possibility of risk.
What Is the offeror's assessment?	The offeror's proposal should identify the risk involved with contract performance and how that risk will affect contract price. **For Example:** In estimating scrap, the offeror should describe the causes of scrap and how the scrap was estimated. The proposal should include all the facts that the firm used in developing the estimate as well as other available facts that could reasonably be expected to affect the estimate.
Has the offeror properly assessed the risk?	Compare your assessment of risk with the offeror's analysis of risk. If the offeror projects significant risk, do you concur in that assessment? If you do, you should consider ways of mitigating that risk. If you do not concur, you must be able to explain why your analysis differs from the offeror.

5.3.2 Assessing the Level of Risk (cont)

Has the offeror properly assessed the risk? (cont)

An offeror might believe that anything that can go wrong will go wrong. A proposal based on such a belief will include estimated costs to cover all possible risk. You MUST analyze the facts involved to determine if the offeror's assessment on the probability of problems is reasonable. In your assessment, you should consider both the probability of the problem occurring and the cost involved if it does occur.

In assessing the risk involved, you will normally rely on the answers to two questions:

- ***What information is available to the offeror?***

  Continuing with the production material example, in production of an item never produced before, there may be great uncertainties about the scrap that will be produced. Substantial material may be required to replace material lost in producing units that fail critical tests. If an item has been produced several times, there may still be production errors that result in scrap. However, with the increased production experience, the offeror should be better able to estimate and control the risks involved.

- ***What is the offeror doing to control risk?***

  Knowing that there is a production problem is not enough. The offeror should have a plan of action to correct the problem. Some problems can be resolved using existing technology and methods. Others are beyond the “state of the art” and may require greater effort to correct.

Mitigate Risk

If risk is real, related costs must be considered in developing your negotiation positions. If the costs are substantial, you should consider ways of mitigating the risk involved. Four ways of mitigating risk are considered in the next sections: appropriate contract type, clear contract technical requirements, Government furnished property, and contract terms and conditions.

5.3.3 Using Contract Type To Mitigate Risk

Introduction

Your principal method for controlling cost risk, both to the Government and to the contractor, is to select the proper contract type to suit the risk conditions of the project. This will make the work more attractive to more potential offerors, thereby increasing competition. Increased competition usually helps you get a fairer and more reasonable price.

The type of contract you select can also motivate the contractor to perform more efficiently by giving the offeror more control over the amount of profit he or she earns.

Basic Contract Types

Most contracts fit into one of two basic types:

- Fixed-price; or
- Cost-reimbursement.

A **fixed-price** type contract is used when the cost risk to the contractor is low, or well-defined, and the contractor can confidently estimate an accurate cost. This situation applies when the production methods for the contract product are well-established and the costs are well known. In a fixed-price contract, the contractor is required to deliver a final product and a maximum price is fixed at the time of award.

A **cost-reimbursement** type contract is used when the cost risk to the contractor is high, and the contractor cannot estimate the cost with reliable accuracy.

This situation commonly exists when the product is still in the development stage, the production methods are not well-established and the costs are not well-known. This uncertainty will have two results: (1) potential contractors will decline to bid rather than accept the risk, or (2) offerors will “pad” their estimates to cover the uncertainties. This is NOT in the Government's interest. The first result decreases competition and reduces the Government's choices. The second result increases the cost to the Government eventualities that may never occur.

A *cost-reimbursement* type contract deals with this uncertainty by only the contractor requiring to deliver a “best effort” to provide the product. Costs MUST be reimbursed regardless of delivery, as long as they are allowable.

5.3.3 Using Contract Type To Mitigate Risk (cont)

Select Contract Type

The following table provides a simple basis for selecting the basic contract type.

IF COST RISK IS...	SELECT...
Low or Well-Defined	Fixed-Price Contract
High or Poorly Defined	Cost- Reimbursement Contract

Fixed-Price *vs.* Cost Type Contracts

There are different types of contracts within both the fixed-price and cost-reimbursement categories. Each type handles the cost risk differently. You will want to select the contract type that best meets the cost risk situation of a particular project.

On a long-term project, the contract needs may change as project stages progress. For example, a long, development project for a new product may pass through several stages from concept to full-production. The cost risks involved may change as the product development evolves. In the very early stages, when the focus is on research and development, the Government should assume cost risk through the use of cost-reimbursement contracts. As the product reaches full production, where cost estimates are well defined, the cost risk should be shifted more to the contractor through the use of fixed-price contracts.

The cost risk sharing features are described below for six of the most common contract types:

- Firm fixed-price (FFP)
- Fixed-price economic price adjustment (FP-EPA)
- Fixed-price incentive firm (FPIF)
- Cost-plus-incentive-fee (CPIF)
- Cost-plus-award-fee (CPAF)
- Cost-plus-fixed-fee (CPFF)

5.3.3 Using Contract Type To Mitigate Risk (cont)

Cost Risk and Contract Type

Use the following table to determine the relationship of the cost risk and the most common contract type. A detailed chart of contract characteristics is given at the end of this chapter.

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	*	CPFF	CPIF, FPIF	CPIF, FPIF, FFP	FFP, FPIF, FP-EPA	FFP, FPIF, FP-EPA

* Varied types of cost reimbursement contracts

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 a firm fixed-price contract.

A firm fixed-price contract places ALL cost risk on the contractor. It requires the Government to pay a specified price when the items specified by the contract 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 (FP-EPA)

FAR 16.203
DFARS 216.203

When there are volatile economic conditions outside of the offeror's control that could affect the cost, such as an unstable labor or material market, a FFP contract would not cover the offeror's cost risk sufficiently. In this case, you would need a contract that allows for adjustments due to changes in economic conditions.

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

5.3.3 Using Contract Type To Mitigate Risk (cont)

Fixed-Price-Economic Price Adjustment (FP-EPA) (cont)

FAR 16.203
DFARS 216.203

If such clauses are not used, you can expect contractors 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
FAR 16.403-1

In circumstances where cost uncertainties still exist, such as the first production run of a completely designed and tested prototype product, the offeror will still have cost risks, but these will probably be more under the control of the offeror than in an FP-EPA. Therefore, you want to give the offeror incentive to control costs. Use a fixed-price incentive (FPI) contract to do this.

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

- Target cost
- Target profit
- Ceiling price
- Underrun and overrun sharing formulas

Costs under target are shared according to the share ratio established in the *underrun* sharing formula. Costs over target are shared according to the *overrun* sharing formula until the incurred costs and profit equal the ceiling price. This point is known as the point of total assumption. Since the ceiling price has been reached, any additional cost would be subtracted, dollar for dollar, from the contractor's profit. In effect, at the point of total assumption, the contract risk sharing shifts completely to the contractor as in a firm fixed-price contract.

Cost-Plus-Incentive-Fee (CPIF)

When the contract calls for such risky ventures as the development and testing of a new product, the offeror's risk may be too high for any fixed-price type contract. You still want to motivate the offeror to hold down costs. If a target cost and fee adjustment formula can be negotiated and will motivate the contractor, the CPIF contract is appropriate.

5.3.3 Using Contract Type To Mitigate Risk (cont)

Cost-Plus-Incentive-Fee (CPIF) (cont)

FAR 16.304
FAR 16.404-1
DFARS 216.404-1

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

- Target cost
- Target fee
- Maximum fee
- Minimum fee
- Sharing formulas

The cost risk on this type of contract is shared by the Government and the contractor according to "sharing formulas" with limits to prevent the contractor from incurring too great a cost risk or receiving too large a fee. These limits essentially create a range around the target cost. If the costs go above the upper limit, the Government is responsible for the costs and the contractor receives at least a minimum fee. If the costs fall below the lower limit, the contractor only receives up to a maximum fee. If the costs fall within the limits, they are shared by the contractor and the Government according to the sharing formulas.

The incentive is effective in the most likely range of cost underrun to overrun; however, on either end of this range, when the maximum or minimum fees are reached, the contract converts to a cost-plus-fixed-fee structure. The assumption is that the contractor will be motivated to reduce costs, and thus increase the fee in the range where the incentive is effective, but be neither penalized nor unduly rewarded for final costs outside that range.

Cost-Plus-Award-Fee (CPAF)

FAR 16.305
FAR 16.404-2
DFARS 216.404-2

When the required contract level of effort is unknown 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 when both of the following conditions exist:

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

5.3.3 Using Contract Type To Mitigate Risk (cont)

Cost-Plus-Award-Fee (CPAF) (cont)

FAR 16.305
FAR 16.404-2
DFARS 216.404-2

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 performances based on such criteria as quality, timelines, technical ingenuity, and cost effectiveness management.

CPAF contracts MUST Provide for fee evaluations at stated points during contract performance. The points may be at stated intervals, such as quarterly, or at stated milestones of contract performance, such as completion of a product design test.

The amount of award fee is determined judgmental by a Government "fee determining official" and is NOT subject to contractor dispute through the Disputes clause of the contract. Depending on the terms of the contract, the fee NOT awarded at one evaluation may be lost to the contract or retained to permit greater rewards later in the contract.

Cost-Plus-Fixed-Fee Incentive (CPFF)

FAR 16.306

When it is so uncertain how much work might actually need to be performed on a contract, such as for 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, then 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 defined. The Government agrees to reimburse the contractor for all allocable, allowable, and reasonable costs incurred during the performance of the contract up to cost 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.

5.3.3 Using Contract Type To Mitigate Risk (cont)

Contract Type Selection

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

WHEN...	SELECT...
The offeror can accurately estimate the cost.	Firm Fixed-Price Contract
Economic conditions that might cost significantly are outside of the offeror's control, but otherwise the offeror can accurately estimate the cost.	Fixed-Price Economic Price Adjustment Contract
There are cost uncertainties that offeror can have some influence over if they occur.	Fixed-Price Incentive Firm Contract
The cost uncertainties are so great that a basic fixed price CANNOT cover the offeror's risk, but you want to motivate offeror to hold down cost and/or achieve performance targets	Cost-Plus-Incentive-Fee Contract
The contract level of effort is unknown 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
The uncertainty of the cost could result in too great a risk for the offeror OR an excessively large fee for the Government.	Cost-Plus-Fixed-Fee Contract

Cost-Plus-Percentage-Cost (CPPC)

BEWARE! The CPPC contract is illegal in federal contracting. The principle is well known but many buyers have unwittingly negotiated CPPC contracts. 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

Introduction	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	In a contract, 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 will be writing the requirement, the Government is liable for any additional costs.
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 a project. If they 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 the additional costs.
Requirement Open to Interpretation	Make sure the contract requirements are written so that they are not open 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 (GFP) To Mitigate Risk

Introduction	Government furnished property (GFP) is one way you can reduce the risk to the contractor and thus make a contract more attractive. For our purposes, GFP includes Government-owned equipment, facilities, and materials provided to a contractor for use on a contract. The GFP is provided to the contractor in order to 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 shifts 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 the contract (e.g. high explosives and 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 can purchase materials at lower prices than are available to the individual contractor, and without as great a risk of changes in market prices. An example of this is special purpose fuels that are often supplied to contractors.
Positive Effects of GFP	Government furnished property has positive effects for the contractor and for the Government: • **For the contractor.** When GFP is used, the contractor avoids risky investment, high liability costs, and the need for contingencies in the proposal. • **For the Government.** GFP reduces cost on the current contract, and, also, reduces Government risk for future contracts by providing the Government with the option of moving the GFP from one contractor to another, thus avoiding a high-cost, sole-source situation.

5.3.5 Using Government Furnished Property (GFP) To Mitigate Risk (cont)

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

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 the some examples of contract terms that have been used to reduce cost risk:

Example 1: On one DoD program, where the contract required that a specified percentage of the total product had to be subcontracted to participating allied countries, a clause was included in the contract allowing for price adjustments to cover increased costs associated with subcontracting with producers from allied countries rather than domestic sources.

Example 2: The use of flexible progress payments in lieu of customary progress payments, reduces contractor cost risk on long-term contracts with significant operating capital investments.

Example 3: The use of contract clauses allowing variations in delivery schedules can reduce cost risk by allowing for optimal production and shipping schedules.

Example 4: The use of clauses that obligate the Government to provide existing Government data eliminates the cost and associated risk for contractors to acquire the information themselves.

Example 5: The use of contract clauses allowing variations in quantities on large volumes commodity items can reduce risk by allowing for standard lot shipments and the elimination of excessive administrative work on insignificant "ship-short" situations.

Chapter Vignette (cont)

Assumptions and Work Design in Analysis

Now Andrew understands that he must be able to answer a variety of questions about work design before he begins his in-depth cost analysis. For a manufacturing proposal he might answer questions such as:

- *What basic assumptions is the offeror making about manufacturing cost behavior?*
- *What is the offeror assuming about engineering cost behavior?*
- *Would a program should-cost team accept the offeror's estimate?*

Analyzing Direct Material Costs CHAPTER 6

Chapter Vignette

Andrew Begins His Review

FINALLY, a proposal to work on! The buyer Kay assigned to help Andrew through his first case has suggested that he start with direct material costs. The proposal includes raw materials, parts, subassemblies, and components that will become part of the final product. It also include something called a scrap factor. Since this case was started by another buyer, there is an audit report, a technical report, and an administrative contracting officer's report using several of the analytical techniques Andrew just learned about. Andrew said to himself, "I always thought 'parts are parts,' but this is more complicated than I realized!"

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 6/1
Identify the different types of direct material elements that must be considered for cost analysis.

Classroom Learning Objective 6/2
Analyze summary-level material cost estimates.

Classroom Learning Objective 6/3
Analyze detailed direct material cost estimates.

Classroom Learning Objective 6/4
Identify Government, prime contractor, and higher-tier subcontractor responsibilities in pricing subcontracts.

6.0 Chapter Introduction

In this Chapter

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

SECTION	DESCRIPTION	SEE PAGE
6.0	Chapter Introduction	6-3
6.1	Conducting Preliminary Direct Material Cost Analysis	6-5
	6.1.1 Identifying Material Cost Elements	6-6
	6.1.2 Identifying Collateral Costs	6-8
	6.1.3 Identifying Related Costs	6-9
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6.3	Analyzing Detailed Material Cost Estimates	6-20
	6.3.1 Analyzing Detailed Quantity Estimates	6-22
	6.3.2 Analyzing Unit Price Estimates	6-26
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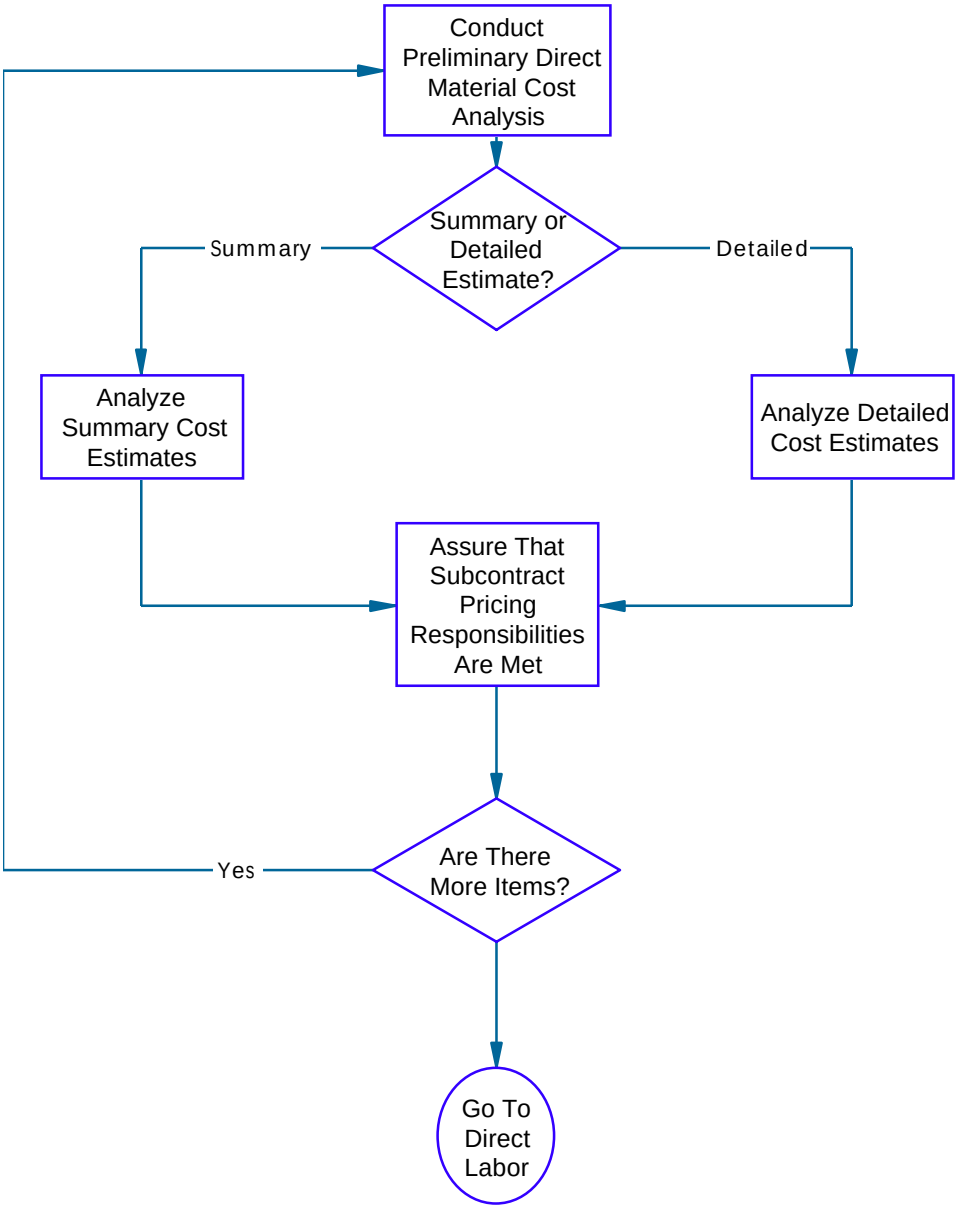
6.0 Chapter Introduction (cont)

Flowchart of Direct Material Costs Analysis



6.1 Conducting Preliminary Direct Material Cost Analysis

Section Introduction

In This Section

This section will identify points that you should the types of cost that may be classified as direct material costs.

TOPIC	SEE PAGE
6.1.1 Identifying Material Cost Elements	6-6
6.1.2 Identifying Collateral Costs	6-8
6.1.3 Identifying Related Costs	6-9
6.1.4 Planning for Further Analysis	6-12

6.1.1 Identifying Material Cost Elements

Material Cost

FAR 31.205-26

The cost of materials used to complete a contract normally include more than just the cost of the materials that actually become part of the product. They 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
FAR 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.
  - ◊ No material cost shall 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 shall 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.

6.1.1 Identifying Direct Material Elements (cont)

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 paying 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)
FAR 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
FAR 31.205-26(a)
FAR 31.205-45

The intransit insurance expense related to material is the cost of insurance for inbound material. Any costs or 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 Costs
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 another 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 price 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 residual value 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 common example is a minimum order quantity requirements. 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 job, you should expect to pay for all 100 units under your contract. On the other hand, if the fastener has general application to other items produced by the contractor, you should expect to pay only for the fasteners used on your contract.

6.1.3 Identifying Related Costs (cont)

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.

6.1.3 Identifying Related Costs (cont)

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. Large dollar values and unusual material 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 price per unit. In a detailed-level estimate, material cost is estimated based on estimates of the number of material units required and the price 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.

6.1.4 Planning for Further Analysis (cont)

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 listed on the drawings or specifications 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 lowest cost to the Government. There may be good reasons why such a decision will produce more advantageous overall results 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 specifications).

- ***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.

6.1.4 Planning for Further Analysis (cont)

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 inconsistencies. If you have is 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 material items is essential for contract performance. Related estimates may merit special attention, because the offeror may be willing to pay "any price" for the material.

6.1.4 Planning for Further Analysis (cont)

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 discussions.

6.2 Analyzing Summary Material 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 price per unit. Summary estimates may be round-table or comparison estimates. Round-table estimates commonly use words such as "engineering estimate" or "professional judgement." 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 summary cost estimates 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 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.

6.2 Analyzing Summary Material Cost Estimates (cont)

Determine If Summary Estimates Are Appropriate (cont)

- ***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

6.2 Analyzing Summary Material Cost Estimates (cont)

Determine Which Summary Estimating Technique Was Used (cont)	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?***

6.2 Analyzing Summary Material Cost Estimates (cont)

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 Material Cost Estimates

Section Introduction

In This Section

This section presents points to consider as you analyze a direct material cost estimate.

TOPIC	SEE PAGE
6.3.1 Analyzing Detailed Quantity Estimates	6-22
6.3.2 Analyzing Unit Price Estimates	6-26

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 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 obtain 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.

6.3 Analyzing Detailed Material Cost Estimates (cont)

Bill of Materials (cont)

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	$120,000.00
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

6.3.1 Analyzing Detailed Quantity Estimates

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. Those procedures 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 product. Technical personnel should be able to verify this quantity by comparison with relevant contract requirements including drawings and specifications.

6.3.1 Analyzing Detailed Quantity Estimates (cont)

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:

$$\frac{\text{Scrap Dollars}}{\text{Total Assembly Material Dollars}} \text{ or } \frac{\text{Scrap Units}}{\text{Total Assembly Material Units}}$$

$$\frac{\text{Scrap Dollars}}{\text{Material Dollars Purchased}} \text{ or } \frac{\text{Scrap Units}}{\text{Material Units Purchased}}$$

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?***
- ***Do you know what types of material costs are covered by the CER?***
- ***Is the method used to apply the CER in the estimate consistent with the method used in rate calculation?***
- ***Does related estimate information indicate that the additional material amounts are consistent with past experience?***
- ***Are the materials, tolerances, and processes similar to those used to calculate the CER?***

6.3.1 Analyzing Detailed Quantity Estimates (cont)

Determine the Reasonableness of Any Adjustments (cont)

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 6-month 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 a 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.

6.3.1 Analyzing Detailed Quantity Estimates (cont)

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.

6.3.2 Analyzing Unit Price Estimates

Points to Consider When Analyzing Unit Price 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 Quotes or Purchase Prices	Work will be performed using materials not 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 offeror to solicit and receive vendor quotes.)
Inventory Pricing	Work will be performed by using materials in the existing inventory.

6.3.2 Analyzing Unit Price Estimates (cont)

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.

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Current Quotes (cont)

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 5 percent below the prices subcontractors propose, you could use a 5 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 on top of 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 to a price considering the estimated amount of the rebate.
  - ◊ **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.

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Current Quotes (cont)

- ***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.

6.3.2 Analyzing Unit Price Estimates (cont)

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.

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Historical Quotes or Purchase Prices (cont)

- ***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 in production, 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, such as tooling, set-up, or first article expenses, that will not need to 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)
FAR 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.

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Inventory Pricing (cont)

FAR 31.205-26(d)
FAR App B, 9904.411-50

- **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:

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Inventory Pricing (cont)

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 = $100

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).

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Inventory Pricing (cont)

- **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 cost of units.

  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.

6.3.2 Analyzing Unit Price Estimates (cont)

Analyzing Inventory Pricing (cont)

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 Transfer

FAR 15.804-1
FAR 31.205-26(e)

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. These transfers may be priced using any of the methods described above. However, 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. Without special analysis, 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 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.
  - ◊ You do not determine that the price is unreasonable.

6.4 Assuring That Subcontract Pricing Responsibilities Are Met

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, and privity of contract exists between the prime and its subcontractors.
- However, the Government does not have a contract with any subcontractor, and no privity of contract exists between the two parties. Since no privity of contract between the Government and the subcontractor, 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 15.806-1

The firm awarding the subcontract (the offeror or a higher-tier subcontractor), is responsible for subcontract pricing. At the same time, you are responsible for the total price paid by the Government, and must be satisfied that each subcontracting tier has performed an adequate and acceptable analysis of each subcontract proposal. Part of your responsibility is to assure that the subcontracting activity has performed an appropriate analysis of the subcontract pricing proposal.

- **Price Analysis Always Required.** As a minimum, the firm awarding a subcontract must perform a price analysis of the subcontract proposal and include the results of that analysis as part of any cost or pricing data submission. This price analysis should be similar to a price analysis that you would perform in pricing a similar contract under similar circumstances.
- **Cost Analysis When Required.** The firm awarding a subcontract must perform cost analysis when:
  - ◊ The subcontractor is required to submit cost or pricing data, or
  - ◊ The firm awarding the subcontract is unable to perform an adequate price analysis.

6.4 Assuring That Subcontract Pricing Responsibilities Are Met (cont)

Responsibility to Analyze Subcontract Proposals (cont)

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 overpricing.

Responsibility to Obtain Subcontract Cost or Pricing Data

FAR 15.804-1
FAR 15.806-1

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 involving a price adjustment expected to exceed the cost or pricing data threshold.

Responsibility to Submit Subcontract Cost or Pricing Data

FAR 15.804-1
FAR 15.806-2

When an offeror is required to submit cost or pricing data to the Government, also require that offeror to submit (or cause submission of) accurate, complete, and current cost or pricing data from prospective subcontractors in support of each subcontract cost estimate that is:

- $1,000,000 or more,
- Both more than the cost or pricing data threshold and more than 10 percent of the prime contractor's proposed price, or
- Considered to be necessary for adequately pricing the prime contract.

Subcontractors must submit cost or pricing data to the firm awarding the subcontract using a Standard Form (SF) 1411, Contract Pricing Proposal Cover Sheet (Cost or Pricing Data Required).

6.4 Assuring That Subcontract Pricing Responsibilities Are Met (cont)

Exceptions to Subcontract Cost or Pricing Data Requirements FAR 15.806-2	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 15.806-2	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 15.806-2	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
Excusing an Offeror from Submitting Required Information Prior to Close of Negotiations FAR 15.806-2(e)	In exceptional cases, you may, with the approval of the chief of the contracting office, excuse a prospective contractor from submitting subcontractor cost or pricing data and the required related analyses before completion of prime contract negotiations. However, excusing the prospective contractor from submitting the subcontract cost or pricing data to the Government, does not relieve the firm from its responsibility to obtain the required data from the prospective subcontractor before award of the subcontract in question.

6.4 Assuring That Subcontract Pricing Responsibilities Are Met (cont)

Excusing an Offeror from Submitting Required Information Prior to Close of Negotiations (cont)	Any request from a prospective contractor to be excused from submitting subcontractor cost or pricing data before completion of negotiations of the prime contract must be supported by an explanation as to why the data and analyses cannot be submitted in a timely manner. If excusing the prospective contractor appears to be appropriate, request approval from the chief of the contracting office. Include the following information in your request: • The prospective contractor's explanation; • Your rationale for supporting the request; and • A discussion of how the subcontract price will be determined to be fair and reasonable or what steps you will take to protect the interest of the Government (e.g., include a contract clause that provides for negotiating an adjustment to the prime contract amount after award).

Chapter Vignette (cont)

Direct Material Cost Analysis Makes Sense!

Andrew is catching on. A single material cost proposal can include items that cost millions of dollars and items that cost less than one dollar. To perform an effective and efficient cost analysis, he must be able to consider all these items. Effective use of stratified sampling procedures can improve analysis efficiency and effectiveness. Summary and detailed estimates require different analysis treatment, but the same general concepts apply.

Close cooperation with other members of the Acquisition Team makes the task much easier. Government auditors and technical personnel play a key role in material cost analysis as in other types of cost analysis. Contractor and higher-tier subcontractor members of the Acquisition Team can also play a key role through effective analyses of subcontract cost estimates.

Analyzing Direct Labor Costs CHAPTER 7

Chapter Vignette

Analyzing Direct Labor

The same reports that Andrew used for analyzing direct material also addressed direct labor. He tells Kay that "Considering that the offeror has built many of these units in the past, you would think the labor hours would be pretty well set, but these reports seem to be taking large exceptions to the proposed hours."

Kay told Andrew not to get ahead of himself, "review the methods available to you for analyzing direct labor and then study the reports. Give it your best shot, then bring it to me and we will look at how you are doing."

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objective 7/1
Identify direct labor elements that must be considered during cost analysis.

Classroom Learning Objective 7/2
Analyze estimates of direct labor hours.

Classroom Learning Objectives 7/3
Analyze proposed labor rates.

7.0 Chapter Introduction

In This Chapter

This chapter will identify points to consider as you develop your prenegotiation position on direct labor costs.

SECTION	DESCRIPTION	SEE PAGE
7.0	Chapter Introduction	7-3
7.1	Conducting Preliminary Direct Cost Analysis	7-5
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	7.1.2 Identifying Major Types of Direct Labor	7-8
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7.2	Analyzing Labor-Hour Estimates	7-18
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	7.3.1 Considering Government Labor-Rate Requirements	7-32
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Analysis Responsibility

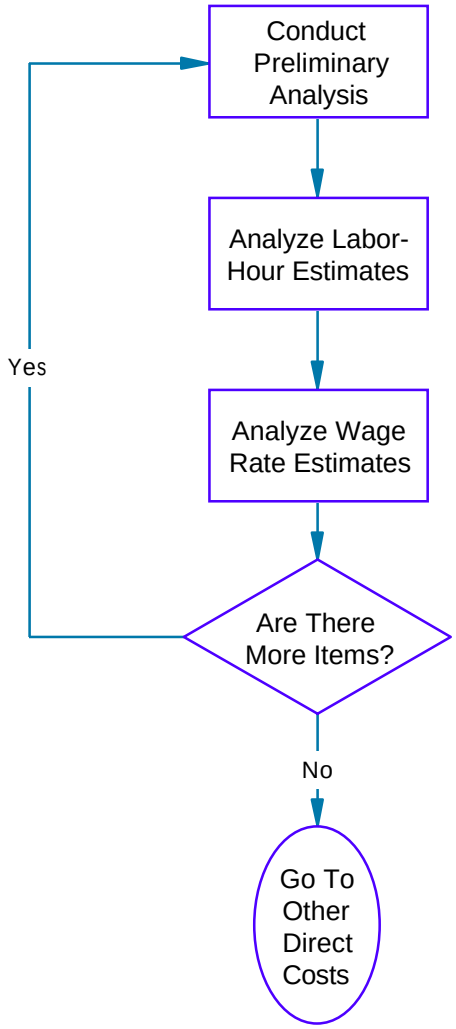
FAR 15.802
FAR 15.805-3

Request appropriate technical and audit support for your analysis. However, remember that the contracting officer has the ultimate responsibility for determining price reasonableness.

7.0 Chapter Introduction (cont)

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 Conducting Preliminary Direct Cost Analysis

Section Introduction

In This Section

This section will present points that you should consider as you identify direct labor hours and plan for further analysis.

TOPIC	SEE PAGE
7.1.1 Identifying Direct Labor Classifications	7-6
7.1.2 Identifying Major Types of Direct Labor	7-8
7.1.3 Planning for Further Analysis	7-12

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 (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).

7.1.1 Identifying Direct Labor Classifications (cont)

Position Classification Plan (cont)	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. In that situation, 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
FAR 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. In general:

- **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.
  - ◊ No labor cost shall 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 shall 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 their 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.

7.1.2 Identifying Major Types of Direct Labor (cont)

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

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.

7.1.2 Identifying Major Types of Direct Labor (cont)

Manufacturing Labor (cont)

The following table presents examples of some of the most common manufacturing labor classifications.

EXAMPLES OF ENGINEERING 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.

7.1.2 Identifying Major Types of Direct Labor (cont)

Services Labor (cont)	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.

7.1.3 Planning for Further Analysis (cont)

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 their 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.

7.1.3 Planning for Further Analysis (cont)

Identify any Cost That Does Not Appear Reasonable (cont)

- ***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.

7.1.3 Planning for Further Analysis (cont)

Identify any Cost That Does Not Appear Reasonable (cont)

- ***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 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 hour 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 firm's classify similar labor as an indirect cost. However, the issue is not how other contractors classify the cost but rather how the offeror's estimating and accounting systems treat the cost.

7.1.3 Planning for Further Analysis (cont)

Identify Any Proposed Direct Labor Cost That Should Be Classified As an Indirect Cost (cont)

- ***Do the personnel projected to 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.

7.1.3 Planning for Further Analysis (cont)

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 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 task or group of tasks will be 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 discussions.

7.2 Analyzing Labor-Hour Estimates

Section Introduction

In This Section

This section identifies points to consider as you analyze direct labor-hour estimates.

TOPIC	SEE PAGE
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7.2.2 Analyzing Comparison Estimates	7-22
7.2.3 Analyzing Estimates Developed Using Labor Standards	7-27

Steps for Labor-Hour Estimate Analysis

The points that you consider in your analysis will not be the same for every estimating method. 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 judgement 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.

7.2.1 Analyzing Round-Table Estimates (cont)

Determine If The Round-Table Estimate Was Properly Developed And Applied (cont)

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.

7.2.1 Analyzing Round-Table Estimates (cont)

Determine If The Round-Table Estimate Was Properly Developed And Applied (cont)

- ***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 JUDGEMENT 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. These adjustments may be based on 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

7.2.2 Analyzing Comparison Estimates (cont)

Comparison Estimates (cont)

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?***

  Comparison estimates can be used in many estimating situations. However, detailed estimates usually provide more accurate results. If the offeror typically uses a detailed estimate in similar situations, question why they were 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.

7.2.2 Analyzing Comparison Estimates (cont)

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.

7.2.2 Analyzing Comparison Estimates (cont)

Determine If The Comparison Estimate Was Properly Developed And Applied (cont)

- ***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;

7.2.2 Analyzing Comparison Estimates (cont)

Determine If The Comparison Estimate Was Properly Developed And Applied (cont)

- ◊ 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.

7.2.3 Analyzing Estimates Developed Using Labor Standards (cont)

Determine If Labor Standard Use Is Appropriate (cont)

- ***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 is really a comparison estimate.

7.3 Analyzing Labor-Rate Estimates

Section Introduction

In This Section

This section identifies points to consider as you analyze direct labor labor-rate estimates.

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7.3.2 Considering the Skill Mix of Labor Effort	7-43
7.3.3 Considering the Time Period of Labor Effort	7-48
7.3.4 Considering Company-Unique Factors	7-51

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 15.805-5(d)
FAR 15.809

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.

7.3 Analyzing Labor-Rate Estimates (cont)

Honor ACO Recommendations and Agreements

FAR 15.809

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, 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?***

7.3 Analyzing Labor-Rate Estimates (cont)

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 Contract 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 Applicability

FAR 22.1001
FAR 22.1002
FAR 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 Contract 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;

7.3.1 Considering Government Labor-Rate Requirements (cont)

Service Contract Act Requirements (cont)

FAR 22.1001
FAR 22.1002
FAR 52.222-41(c)

- ◊ 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 in the determination but is employed under the contract in a manner that provides a reasonable relationship between the unlisted classifications and the classifications listed in the wage determination. For example, a more skilled person in a similar class of work could not make less money than an employee covered by the wage determination.

7.3.1 Considering Government Labor-Rate Requirements (cont)

Service Contract Act Requirements (cont)

FAR 52.222-43

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.

- ***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 multiyear 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

7.3.1 Considering Government Labor-Rate Requirements (cont)

Service Contract Act Requirements (cont)

FAR 22.1008-3

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, 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.

  This requirement will 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:

7.3.1 Considering Government Labor-Rate Requirements (cont)

Service Contract Act Requirements (cont)

- — 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
FAR 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 and 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;

7.3.1 Considering Government Labor-Rate Requirements (cont)

Davis-Bacon Act Requirements (cont)

- 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 included.

7.3.1 Considering Government Labor-Rate Requirements (cont)

Davis-Bacon Act Requirements (cont)

FAR 22.404
FAR 52.222-47

- ***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?***

  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. You may issue a solicitation before obtaining the appropriate rate schedule. In sealed bidding, you may not open bids until a reasonable time after you have furnished the wage

7.3.1 Considering Government Labor-Rate Requirements (cont)

Davis-Bacon Act Requirements (cont)

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 best and final offers.

- ***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
FAR 22.603
FAR 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 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.

7.3.1 Considering Government Labor-Rate Requirements (cont)

Walsh-Healey Public Contract Act (cont)

- ◊ 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.

7.3.1 Considering Government Labor-Rate Requirements (cont)

OFPP Policy Letter No. 78-2

FAR 22.1101
FAR 22.1102
FAR 22.1103

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).

  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.

7.3.1 Considering Government Labor-Rate Requirements (cont)

OFPP Policy Letter No. 78-2 (cont)

FAR 22.1101
FAR 22.1102
FAR 22.1103

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

It is a fact 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.

Calculating a Weighted Average Labor-Rate

- ***Did the offeror calculate the weighted-average labor rate correctly?***

  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.

  They may estimate labor rates by position class (e.g., senior engineer, or principle analyst) or they may estimate labor rates by department. Either way 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.

  The following table demonstrates the weighted-average labor rate calculation for Engineering Department A. The department workforce includes three engineering position classes: senior engineer, intermediate engineer, and entry-level engineer.

7.3.2 Considering the Skill Mix of Labor Effort (cont)

Calculating a Weighted Average Labor-Rate (cont)

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	600		$18,924.00
Weighted Average Labor Rate = $18,924.00 ÷ 600 = $31.54			

Note that the simple average would be $32.81 -- calculated [($37.50 + $31.02 + $29.90) / 3]. Also note that the simple average would over-estimate Engineering Department A cost by an average of $1.27 per hour because it does not consider that there are more Intermediate and many more Entry-Level Engineers than Senior Engineers. Instead a simple average gives each labor rate the same weight.

Looking at the same data another way, if all 600 engineers worked one hour each on a Government contract, the actual cost would be $18,924. If you developed an estimate using the weighted average labor rate, your estimate would also be $18,924 (600 x $31.54) for those 600 labor hours. If you developed an estimate using the simple average labor rate, your estimate would be $19,686. Using the simple average, you would have overestimated actual cost by $762 dollars or by about four percent.

Be Careful Not to Permit an Offeror to Shift Costs

FAR App B, 9904.418-50(a)

- ***If the offeror is CAS-covered, does the weighted-average meet CAS requirements?***

  CAS only permits a business unit to use average costs for accounting purposes when the offeror meets one of the following conditions:

  - ◊ The functions performed are not materially different and employees involved are interchangeable with respect to the functions performed; or

7.3.2 Considering the Skill Mix of Labor Effort (cont)

Be Careful Not to Permit an Offeror to Shift Costs (cont)

◊ The functions performed are materially different but the employees involved either all work in a single production unit yielding homogeneous outputs, or perform their respective functions as an integral team.

- ***Did the offeror use a weighted-average labor rate to shift labor costs from one group of contracts to another?***

  Even when the offeror is not CAS-covered, be careful when any offeror proposes a weighted-average labor rate for any group of employees that does not meet either of the conditions above.

  The following tables examine an offeror's efforts to consolidate two dissimilar departments for estimating purposes. Department A provides engineering support for several non-competitive Government parts production contracts. Department B provides engineering support for several competitive initial production contracts.

CALCULATING A WEIGHTED-AVERAGE LABOR RATE FOR ENGINEERING DEPARTMENT A			
Engineering Labor Category	**Engineers Employed**	**Labor-Rate Per Hour**	**Weighted Data**
Senior	100	$37.50	$3,750.00
Intermediate	200	$31.02	$6,204.00
Entry-Level	300	$29.90	$8,970.00
Totals	600		$18,924.00
Weighted Average Labor Rate = $18,924.00 ÷ 600 = $31.54			

CALCULATING A WEIGHTED-AVERAGE LABOR RATE FOR ENGINEERING DEPARTMENT B			
Engineering Labor Category	**Engineers Employed**	**Labor-Rate Per Hour**	**Weighted Data**
Senior	200	$43.50	$8,700.00
Intermediate	250	$38.05	$9,512.50
Entry-Level	275	$30.00	$8,250.00
Totals	725		$26,462.50
Weighted Average Labor Rate = $26,462.50 ÷ 725 = $36.50			

7.3.2 Considering the Skill Mix of Labor Effort (cont)

Be Careful Not to Permit an Offeror to Shift Costs (cont)

The weighted average wage rate for the proposed combined department is calculated below.

CALCULATING A WEIGHTED-AVERAGE LABOR RATE FOR THE COMBINED ENGINEERING DEPARTMENT A+B		
Engineering Department	**Engineers Employed**	**Weighted Data**
Total From Dept. A	600	$18,924.00
Total From Dept. B	725	$26,462.50
Combined Total	1,325	$45,386.50
Combined Weighted Average Labor Rate = $45,386 ÷ 725 = $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

- ***Is a plant-wide labor rate reasonable for the proposed contract?***

  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.

  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!

7.3.2 Considering the Skill Mix of Labor Effort (cont)

Contract vs. Plant-Wide Averages (cont)	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. However, 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

- ***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

7.3.3 Considering the Time Period of Labor Effort (cont)

Labor-Loading Schedules (cont)

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

- ***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.

7.3.3 Considering the Time Period of Labor Effort (cont)

Labor-Management Agreement

FAR 22.101-2
FAR 31.205-6(c)

- ***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 provisions of a labor-management agreement that were designed to apply to a given set of circumstances and conditions of employment (e.g., work involving extremely hazardous activities or work not requiring recurrent use of overtime) to a Government contract involving significantly different circumstances and conditions of employment (e.g., work involving less hazardous activities or work continually requiring use of overtime).

  ◊ 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,
FAR App B, 9904.401
FAR 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 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?***

  Firms do not all treat uncompensated hours in the same way.

  - ◊ The firm may only account for eight hours of work each day no matter how may hours are actually worked. 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), among others, contends 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?***

  When evaluating proposals, differences in accounting for uncompensated overtime can be troublesome. For example, when competing for a fixed-price contract, Firm A may be able to offer a lower price than Firm B because Firm A plans to have

7.3.4 Considering Company-Unique Factors (cont)

Uncompensated Overtime (cont)

DFARS 215.608
DFARS 252.237-7019

its professionals work many hours of uncompensated time to complete the proposed contract (while charging much of their compensated time to other sole source, cost-reimbursement contracts).

Because of such problems, the Department of Defense (DoD) and other agencies prescribe special clauses and provisions for some service contract solicitations contracts, such as a requirement that an offeror's practices for estimating uncompensated overtime be consistent with its cost accounting practices for accumulating and reporting uncompensated overtime.

When evaluating the realism of proposed costs be alert for proposed hours that seem well below levels required for performance. The reason may be that the firm 's estimates reflect only compensated hours — not the uncompensated overtime customarily worked by its employees. If a firm expects its employees to devote many hours of uncompensated time to your contract, consider the associated risks to the Government — such as whether the offeror's expectations are realistic.

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 on 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. On the other hand, if the offeror is proposing overtime to compensate for poor scheduling, Government recognition of the overtime costs is clearly not reasonable.

7.3.4 Considering Company-Unique Factors (cont)

Paid Overtime and Shift Premiums (cont)

FAR 22.103

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

- ***Are labor rates affected by changes in company labor demographics?***

  There are many company actions that can have an affect on labor demographics, including: major personnel hiring, layoffs, recalls, and early retirement options are examples of work force changes that can impact labor rates.

  - ◊ 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.

Compensation Trade-Offs

FAR 31.205-6(b)

- ***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.

7.3.4 Considering Company-Unique Factors (cont)

Compensation Trade-Offs (cont)

FAR 31.205-6(b)

- ***Do trade-offs between labor rates and other compensation elements appear to result in a compensation package that is reasonable overall?***

  Considered 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.
  - ◊ Compensated personal absence benefits.

However, do not consider any of the above elements or portions thereof, if the amount of that element is not measurable.

Production Method Changes

- ***Have changes in the methods used by the firm to complete the contract affected labor rates?***

  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, the introduction of computer aided manufacturing technology could significantly reduce the number of higher cost toolmakers while increasing the number of lower cost machinists in the plant. If the offeror is projecting major changes in manufacturing methods, you should, with the help of Government technical personnel, look at the potential ramifications of the change on the work force.

Chapter Vignette (cont)

Analyzing Direct Labor

Andrew now understands that analysis of direct labor cost is a process that requires close coordination between the contracting officer and other members of the Acquisition Team. Input from technical personnel, the cognizant ACO (if one is assigned), and the cognizant auditor are particularly important.

Actually, the analysis centers on two separate but related questions:

- *Is the number of labor hours proposed in each labor category reasonable?*
- *Is the labor rate for each proposed labor category reasonable?*

Furthermore, now knows that analysis of direct labor cost requires knowledge of what is included in related indirect cost pools, because he must assure that proposed direct labor costs are not duplicated in proposed indirect costs.

Analyzing Other Direct Costs CHAPTER 8

Chapter Vignette

Analyzing Other Direct Costs

Andrew asks, "What are these other direct costs? I thought that direct material and direct labor cover the entire direct contract effort?"

Kay says "Read on, Andrew, you will see that there are some costs that do not fit in direct material, direct labor, or indirect cost. These costs can, sometimes, be a problem if they look like they are covered in other categories of cost."

Andrew decided to learn more about what types of cost are typically included in the other direct cost category and how analysis is different than analysis of other types of estimated costs.

Learning Objectives

At the End of This Chapter

At the end of this chapter you will be able to:

Classroom Learning Objectives 8/1
Identify other direct cost elements that must be considered during cost analysis.

Classroom Learning Objectives 8/2
Identify questions for analysis of other direct costs.

8.0 Chapter Introduction

In This Chapter

This chapter will identify points to consider as you develop your prenegotiation position on other direct costs.

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8.2	Analyzing Specific Types of Other Direct Cost	8-9
	8.2.1 Analyzing Special Tooling and Test Equipment Costs	8-11
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Analysis Responsibility

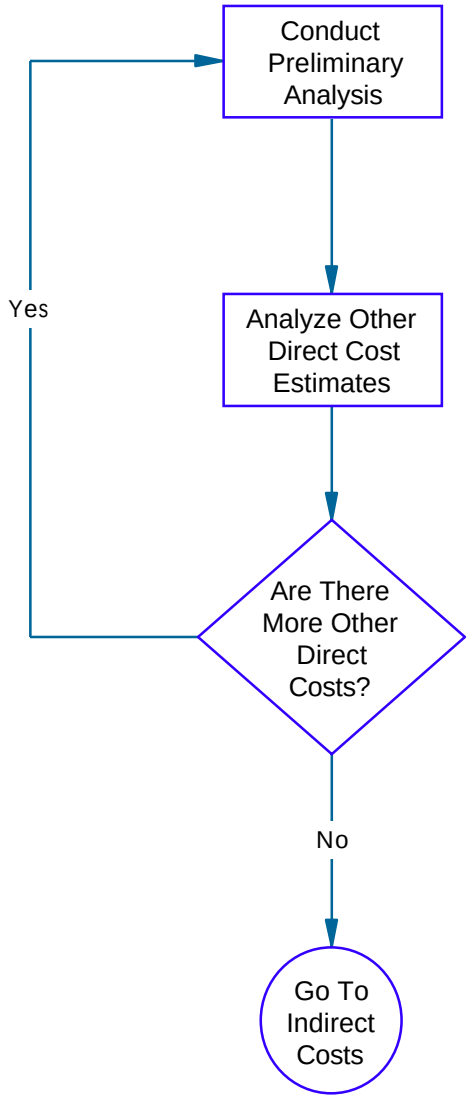
FAR 15.802
FAR 15.805-3

Request appropriate technical, audit, and legal support for your analysis. However, remember that the contracting officer has the ultimate responsibility for determining price reasonableness.

8.0 Chapter Introduction (cont)

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 Conducting Preliminary Other Direct Cost 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.

8.1 Conducting Preliminary Other Direct Cost Analysis (cont)

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 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

8.1 Conducting Preliminary Other Direct Cost Analysis (cont)

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.

8.1 Conducting Preliminary Other Direct Cost Analysis (cont)

Identify any Cost That Does Not Appear Reasonable (cont)

- ***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 Specific Types of Other Direct Costs

Section Introduction

In This Section

This section identifies points to consider as you analyze other direct cost estimates.

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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.

8.2 Analyzing Specific Types of Other Direct Costs (cont)

Develop and Document Your Prenegotiation Position	As you develop and document your prenegotiation position on direct labor hours: • 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 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:

- ***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.

8.2.1 Analyzing Special Tooling and Test Equipment Costs (cont)

Determine If the Cost Is Properly Proposed (cont)

- ***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 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.

8.2.1 Analyzing Special Tooling and Test Equipment Costs (cont)

Determine If the Proposed Cost Is Reasonable (cont)

- ***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

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 overhead 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

FAR 31.205-26(c)

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 effort?***

  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.

8.2.2 Analyzing Computer Service Costs(cont)

Determine If the Proposed Cost Is Reasonable (cont)

FAR 31.205-26(c)

- ***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 have 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

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 comparison with competitive sources?***

  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

8.2.3 Analyzing Professional and Consultant Service Costs (cont)

Determine If the Proposed Cost Is Reasonable (cont)	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 reasonable in comparison with in-house labor expense?*** Another test of reasonableness could be a comparison of contract labor with the cost of full-time employees. If the cost of full-time employees is less than the cost of using consultants to complete a particular effort, question the related costs.

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, such as teleconferencing, are becoming more common place.

Determine If the Cost Is Properly Proposed

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 generally 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 Total Quality 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, then the travel costs will normally be charged to the contract requiring the demonstration.

8.2.4 Analyzing Travel Costs (cont)

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.

8.2.4 Analyzing Travel Costs (cont)

Determine If the Proposed Cost Is Reasonable (cont)

FAR 31.205-46(a)

- ***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 estimate and the reason for using that rate.

Determine If the Proposed Cost Is Reasonable

FAR 29.201(c)
FAR 29.202
FAR 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.

8.2.5 Analyzing Federal Excise Tax Costs (cont)

Determine If the Proposed Cost Is Reasonable (cont)

FAR 29.201(c)
FAR 29.202
FAR 29.203

- ◊ 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.

8.2.6 Analyzing Royalty Costs (cont)

Determine If the Proposed Cost Is Reasonable

FAR 27.205
FAR 31.205-30
FAR 31.205-37

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 truly necessary to complete the contract.

- ***Does the Government possesses a royalty-free license on 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.

- ***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?***

  Probably the most difficult aspect of analyzing royalty fees is determining reasonableness. If possible, compare the proposed fee with any royalties that the offeror pays for similar commercial production. Consider the related cost of any possible alternatives to using the proposed patent. Consult the Government office with cognizance over patent matters for assistance.

- ***Does the contract include a provision for refund of excess royalty costs?***

  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 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)
FAR 15.406-2(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
FAR 15.804-6(f)

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.

FAR Requirement
FAR 15.804-6(f)

When these costs may be a significant cost factor in an acquisition, require 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.

8.2.8 Analyzing Preproduction Costs (cont)

Determine If the Cost Is Properly Proposed (cont)

- ***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

FAR 15.804-6(f)

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.

Chapter Vignette (cont)

Analyzing Other Direct Costs (cont)

Andrew now understands that analysis of other direct costs is similar to the analysis of any direct cost. Of course, each type of indirect cost requires special attention of unique concerns, but the main difference is the emphasis on ensuring that each cost is properly proposed as an other direct cost.

Analyzing Indirect Costs CHAPTER 9

Chapter Vignette

Indirect Costs Are Important, Too.

Andrew came into Kay's office and sat down. "I thought I was getting the hang of this, but these indirect cost rates have me really confused! There are proposed rates, recommended rates, negotiated rates, billing rates, and actual rates. They seem to jump all over the place. I guess I'm overwhelmed by all the numbers; base numbers, pool numbers, the rates, and they are all projections of future costs."

"Indirect cost projections can be difficult to understand, especially when you do not have good access to contractor records," Kay said. "Besides understanding how rates are developed and applied, you need to gain an understanding of the overall environment that the rates represent. Indirect cost rates reflect all the work the contractor is performing, not just your proposed contract."

Learning Objectives

At the End of This Chapter

At the end of this chapter, you will be able to:

Classroom Learning Objective 9/0
Identify the importance and composition of indirect costs.

Classroom Learning Objective 9/1
Identify the allocation bases and indirect cost pools used to calculate indirect cost rates.

Classroom Learning Objective 9/2
Identify inconsistencies and weaknesses in indirect cost rate development.

Classroom Learning Objective 9/3
Develop prenegotiation positions on a contractor's indirect cost rate estimates.

Classroom Learning Objective 9/4
Apply indirect cost forward pricing rates in contract pricing.

9.0 Chapter Introduction

In This Chapter

This chapter will identify points that you should consider as you evaluate the rates used to allocate indirect costs to various cost objectives.

SECTION	DESCRIPTION	SEE PAGE
9.0	Chapter Introduction	9-3
9.1	Identifying Pools and Bases for Rate Development	9-7
	9.1.1 Identifying Indirect Cost Pools	9-8
	9.1.2 Identifying Indirect Cost Allocation Bases	9-13
9.2	Identifying Inconsistencies and Weaknesses in Rate Development	9-15
	9.2.1 Identifying Cost Allocation Cycle Inconsistencies	9-16
	9.2.2 Identifying Apparent Rate Development Process Weaknesses	9-19
9.3	Analyzing Estimated Rates	9-31
9.4	Using Forward Pricing Rates	9-43

Analysis Responsibility

FAR 15.802
FAR 15.805-3

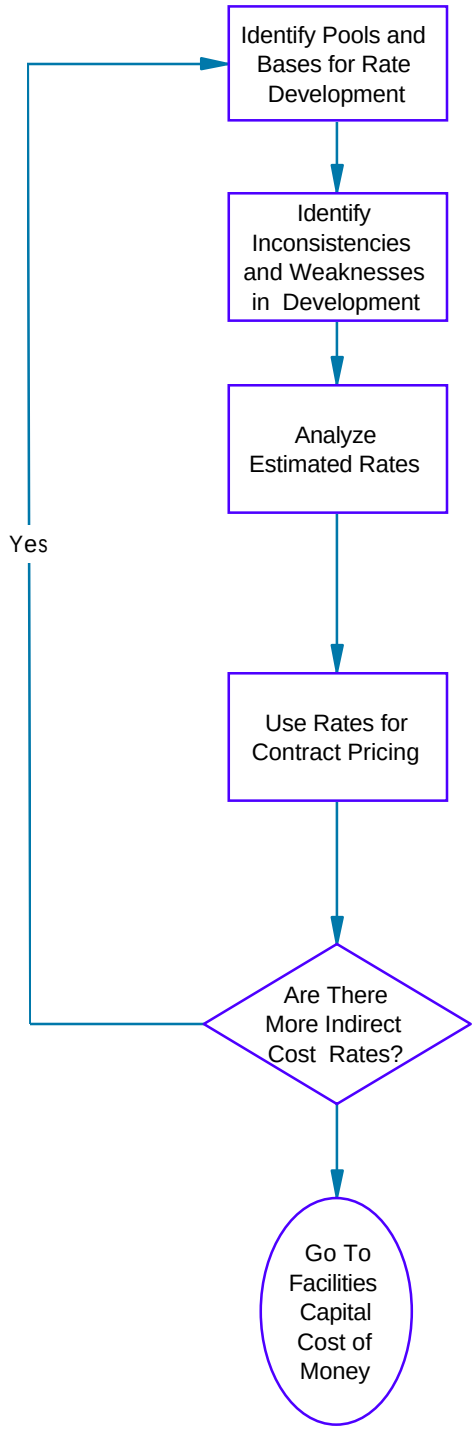
While indirect costs cannot be directly identified with the production or sale of a particularly product, they are necessary costs of doing business. Some portion of indirect costs are properly allocable to each contract that benefits from that cost.

Because indirect costs affect a number of contracts, support from the cognizant auditor and administrative contracting officer (when one is assigned) can be particular important to your analysis. However, remember that the contracting officer still has the ultimate responsibility for determining contract price reasonableness.

9.0 Chapter Introduction (cont)

Flowchart of Indirect Cost Analysis

The following flowchart depicts the key events that must be completed as part of a typical indirect cost analysis:



9.0 Chapter Introduction (cont)

Indirect Cost

FAR 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 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.

9.0 Chapter Introduction (cont)

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
  - ◊ 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 Available Audit and ACO Analysis Support

FAR 15.805-5(d)
FAR 15.809

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

Section Introduction

In This Section

This section will identify 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.

TOPIC	SEE PAGE
9.1.1 Identifying Indirect Cost Pools	9-8
9.1.2 Identifying Indirect Cost Allocation Bases	9-13

Indirect Cost Allocation Rates

Since indirect costs are not directly related to a single cost objective, how do you 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 Pools

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 following list is only typical; do not regard it as the only correct way to group costs.

9.1.1 Identifying Indirect Cost Pools (cont)

Primary Indirect Cost Pools (cont)

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.

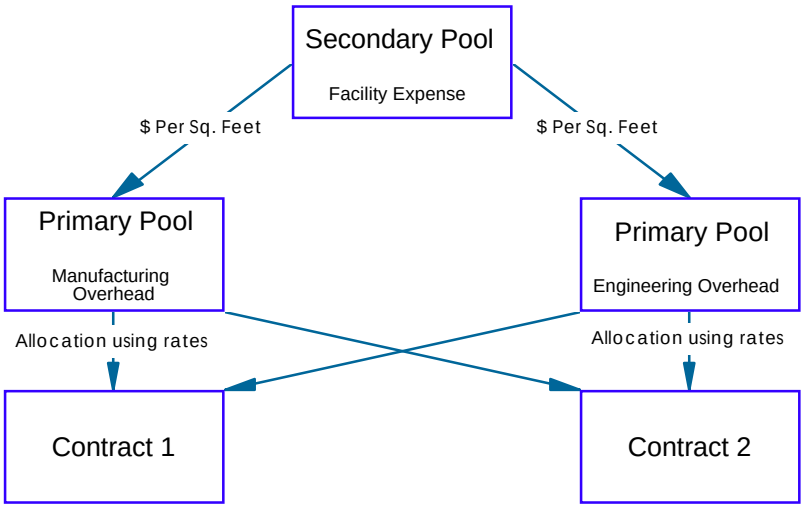
9.1.1 Identifying Indirect Cost Pools (cont)

Secondary Indirect Cost Pools (cont)

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.



9.1.1 Identifying Indirect Cost Pools (cont)

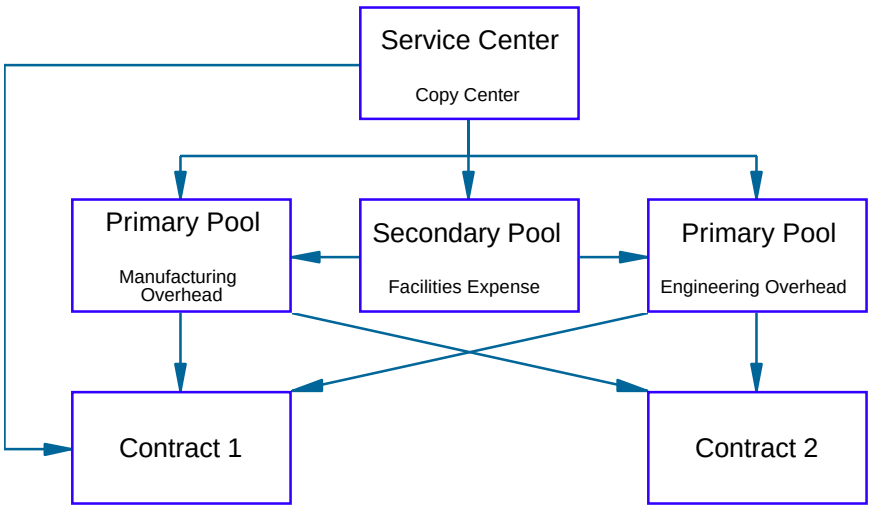
Service Centers

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.

9.1.1 Identifying Indirect Cost Pools (cont)

Service Centers (cont)

SERVICE CENTER EXAMPLES	
• Copy center • Business data processing • Photographic services • Reproduction services • Art services • Technical data processing services	• Communication services • Facility services • Motor pool services • Company aircraft services • Wind tunnels • Scientific computer operations

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
- 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:

$$\text{Dollars per Direct Labor Hour} = \frac{\text{Pool Dollars}}{\text{Direct Labor Hours}}$$

$$\text{Percent of Direct Labor Dollars} = \frac{\text{Pool Dollars}}{\text{Direct Labor Dollars}} \times 100$$

$$\text{Dollars per Unit of Production} = \frac{\text{Pool Dollars}}{\text{\# of Production Units}}$$

$$\text{Dollars per Machine Hour} = \frac{\text{Pool Dollars}}{\text{Machine Hours}}$$

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.

9.1.2 Identifying Indirect Cost Allocation Bases (cont)

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" during the accounting period, or "production cost." 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 Inconsistencies and Weaknesses in Rate Development

Section Introduction

In This Section

This section will identify points that you should consider as you evaluate the estimating process used by the contractor in indirect cost rate development.

TOPIC	SEE PAGE
9.2.1 Identifying Cost Allocation Cycle Inconsistencies	9-16
9.2.2 Identifying Apparent Rate Development Process Weaknesses	9-19

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:

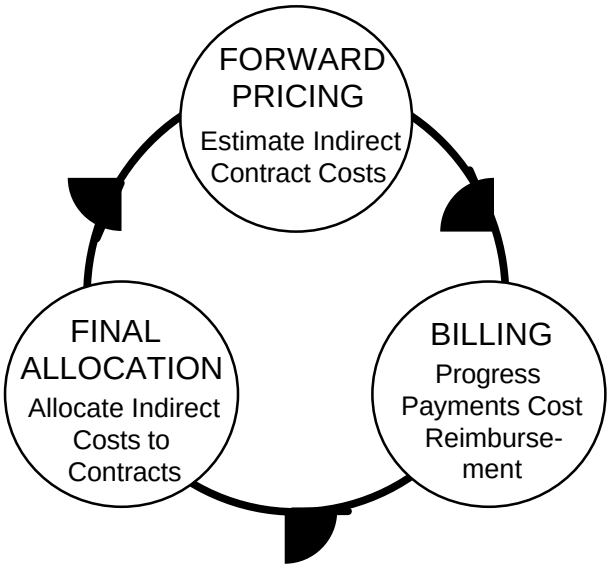
- Identify apparent inconsistencies in the indirect cost allocation cycle.
- Identify apparent weaknesses in the indirect cost rate estimating process.
- Assure that concerns about the estimating process are well documented.

9.2.1 Identifying Cost Allocation Cycle Inconsistencies

Indirect Cost Allocation Cycle

FAR 42.701
FAR 42.704
FAR 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 increasingly 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.

9.2.1 Identifying Cost Allocation Cycle Inconsistencies (cont)

Indirect Cost Allocation Cycle (cont)

FAR 42.708(a)

- **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.

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.

9.2.1 Identifying Cost Allocation Cycle Inconsistencies (cont)

Identifying Inconsistencies in Cost Allocation Cycle Information (cont)

- ***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.

9.2.2 Identifying Rate Development Process Weaknesses

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 overly high indirect cost rates.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Estimated Sales Volume for the Period (cont)

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

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. Estimates will also include the allocation base for each indirect cost rate.

For cost or pricing data submissions, FAR 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.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Estimated Indirect Cost Allocation Bases for the Period (cont)

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 under estimation of the allocation base. Document any unexplained differences for further analysis.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Estimated Indirect Cost Allocation Bases for the Period (cont)

- ***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.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Estimated Indirect Cost Pools for the Period (cont)

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 over estimation 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.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Estimated Indirect Cost Pools for the Period (cont)

- ***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%

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (cont)

FAR 15.804-6
FAR Table 15-2

Normally, you should expect more detail in support of rate calculations. Remember that an offeror must comply with the requirements in Table 15-2 when submitting cost or pricing data, and you should consider those same requirements for cost information other than cost or pricing data.

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 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 refused approval by the cognizant auditor?***

  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 requirements deserves special attention during cost analysis.

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (cont)

	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 Insurance	$25,545	$24,544	$26,304	$28,500
	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	$25,174	$25,062	$26,350	$28,500
	Hourly	$62,321	$58,132	$65,497	$68,700
	Training, Conferences, & Technical Meetings	$418	$407	$539	$457
	Educational Loans & Scholarships	$400	$400	$400	$400

[1] SUTA is State Unemployment Tax Allowance. FUTA is Federal Unemployment Tax Allowance.

(Manufacturing Overhead table continued on next page)

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (cont)

	MANUFACTURING OVERHEAD RATE HISTORY AND PROJECTION (CONT)				
	Account Title	**Actual 19X4**	**Actual 19X5**	**Actual 19X6**	**Projected 19X7**
Pool (cont)	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%

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (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 Expense	$62,513	$70,001	$64,987	$67,000
	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

(General and Administrative Overhead table continued on next page)

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (cont)

	GENERAL & ADMINISTRATIVE EXPENSE RATE HISTORY AND PROJECTION (CONT)				
	Account Title	**Actual 19X4**	**Actual 10X5**	**Actual 19X6**	**Projected 19X7**
Pool (cont)	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

(General and Administrative Overhead table continued on next page)

9.2.2 Identifying Rate Development Process Weaknesses (cont)

Review Information on Indirect Cost Rate Estimates for the Period (cont)

	GENERAL & ADMINISTRATIVE EXPENSE RATE HISTORY AND PROJECTION (CONT)				
	Account Title	**Actual 19X4**	**Actual 10X5**	**Actual 19X6**	**Projected 19X7**
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%

9.3 Analyzing Estimated 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 base, types of costs in the pool, reasonableness of the costs in the pool, and the overall effect on total cost and the operations of the firm. 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

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:

- ***Did your review of the indirect cost allocation cycle identify any inconsistencies in the relationship between related rates in the indirect cost allocation cycle?***

  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.

9.3 Analyzing Estimated Rates (cont)

Develop an Analysis Plan (cont)

- ***Did your review identify any apparent weaknesses in the indirect cost rate estimating process?***

  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:

$$\frac{4.3+4.5+5.2}{254.8+251.8+254.8}=\frac{14.0}{761.4}=.018(1.8\%)$$

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.

9.3 Analyzing Estimated Rates (cont)

Develop an Analysis Plan (cont)

- ***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 the indirect cost rate.

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.

Any indirect cost analysis should specifically identify unallowable costs to assure proper treatment in indirect cost rate development:

- 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.

9.3 Analyzing Estimated Rates (cont)

Identify Unallowable Costs (cont)

FAR 31.205

Consider the following tests for cost allowability identified in the following table as you perform your analysis.

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.
This 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, or 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 allocable, in part or in whole, to the pool under CAS or GAAP	Reallocate the cost 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	

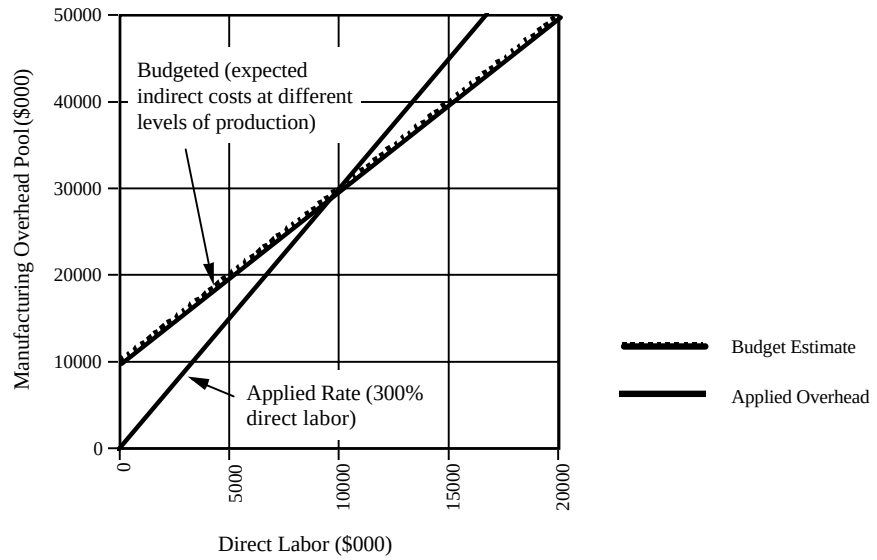
Analyze the Allocation Base Estimate

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:

9.3 Analyzing Estimated Rates (cont)

Analyze the Allocation Base Estimate (cont)



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.

9.3 Analyzing Estimated Rates (cont)

Analyze the Allocation Base Estimate (cont)

FAR 31.203(e)
FAR App B, 9904.406-40

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.

Consider questions such as the following as you analyze indirect cost allocation bases:

- ***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[1] 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.

  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.

[1]Be leery of any projections developed using a base period shorter than the firm's fiscal year. Assure that the firm is not unreasonably allocating charges that should be allocated to all cost objectives over the fiscal year.

9.3 Analyzing Estimated Rates (cont)

Analyze the Allocation Base Estimate (cont)

FAR 31.203(b)

- ***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 are part of the base—even the unallowables. 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.

9.3 Analyzing Estimated Rates (cont)

Analyze the Allocation Base Estimate (cont)

- ***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., BAFOs);
  - ◊ 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.

9.3 Analyzing Estimated Rates (cont)

Analyze the Allocation Base Estimate (cont)

- ***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.

9.3 Analyzing Estimated Rates (cont)

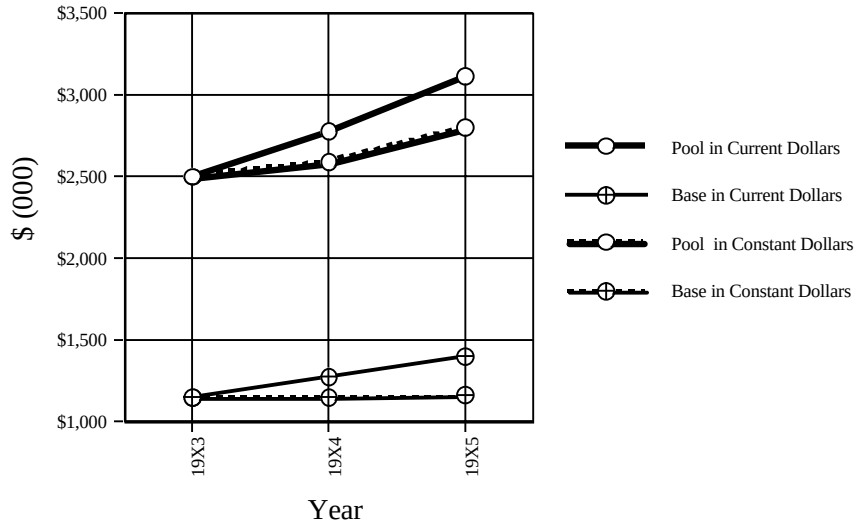
Convert the Base and Pool to Constant-Year Dollars (cont)

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 For Inflation)	**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%

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.

Base Pool Relationship



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.

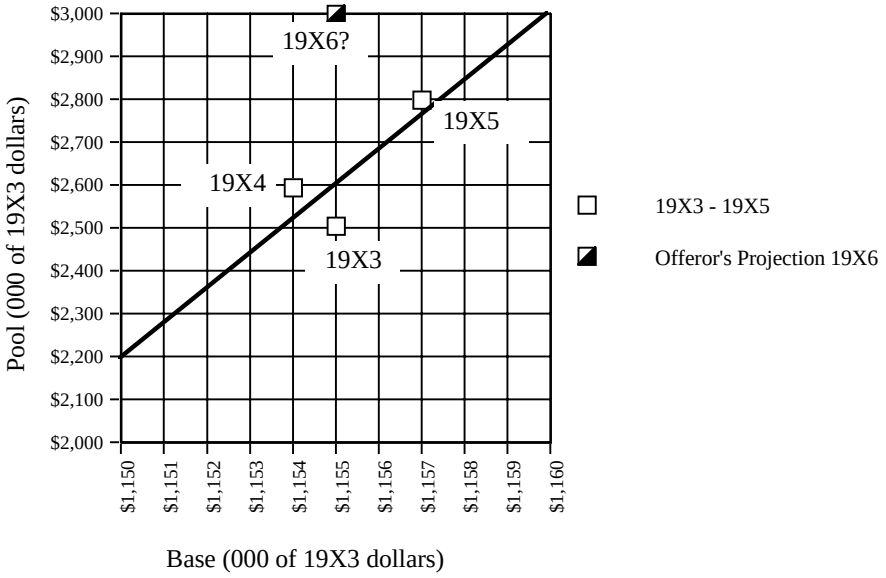
9.3 Analyzing Estimated Rates (cont)

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.

Line-Of-Best-Fit For Historical Data (19X3 - 19X5)



As you review the above graph, note that the proposed rate for 19X7 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 reduce its rate and cannot explain the reasons for the difference, consider performing a more in-depth analysis.

9.3 Analyzing Estimated Rates (cont)

Analyze the Pool/Base Relationship (cont)

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 changes 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.

9.4 Using 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 15.805-3
FAR 15.805-5(a)
FAR 15.805-5(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. You are 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.

9.4 Using Forward Pricing Rates (cont)

Forward Pricing Rates (cont)

FAR 15.804-4(g)
FAR 15.809
FAR Table 15-2

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. When negotiating a contract or contract modification for which cost or pricing data are required, consider inviting the ACO that issued the FPRR and cognizant auditor to attend negotiations concerning indirect cost rates.

- **Forward Pricing Rate Agreements.** 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.

9.4 Using Forward Pricing Rates (cont)

Forward Pricing Rates (cont)

FAR 15.809
FAR Table 15-2

Whenever an FPRA exists FAR requires that the offeror's proposal must:

- ◊ Identify the agreement;
- ◊ Include a copy of the agreement;
- ◊ Identify the most recent cost or pricing data already submitted in support of the agreement; and
- ◊ Describe the nature of the agreement. The description should identify the Government representative with whom the agreement was reached, the date of the agreement, and the period of contemplated use.

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 9.2, 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

9.4 Using Forward Pricing Rates (cont)

Rate Application (cont)

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.**

9.4 Using Forward Pricing Rates (cont)

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.

Chapter Vignette (cont)

Teamwork is Important

Now Andrew understands that estimated indirect cost rates depend on more than one contract. They depend on the estimated indirect cost pool required to support all cost objectives and the base used to allocate those indirect costs to those cost objectives.

He also understands that close Government Team cooperation is vital for both direct and indirect cost analysis. The contracting officer is responsible for cost analysis, but no one person can have the technical and accounting knowledge needed for an effective analysis.

Analyzing Facilities Capital Cost of Money CHAPTER 10

Chapter Vignette

Facilities What?

"I don't understand this one. I thought we were analyzing real costs; these 'imputed costs' aren't real. Why are we doing this?"

"I appreciate your confusion," said Kay, "but recognition of Facilities Capital Cost of Money is required by FAR and Cost Accounting Standards. Normally, the cost of money factors we use are proposed by the contractor, and reviewed by the cognizant Government auditor and the cognizant Administrative Contracting Officer. Review your training materials, then look at the field reports to determine which rates we should use."

Learning Objectives

At the End of This Chapter

At the end of this chapter, you will be able to:

Classroom Learning Objective 10/1
Describe facilities capital cost of money and the basic elements affecting its allowability on Government contracts.

Classroom Learning Objective 10/2
Apply facilities capital cost of money factors as part of contract pricing.

10.0 Chapter Introduction

In This Chapter

This chapter will identify points to consider as you develop your prenegotiation position on facilities capital cost of money.

SECTION	DESCRIPTION	SEE PAGE
10.0	Chapter Introduction	10-3
10.1	Facilities Capital Cost of Money Fundamentals	10-4
10.2	Developing and Applying Facilities Capital Cost of Money Factors	10-6
	10.2.1 Calculating Contract Facilities Capital Cost of Money	10-7
	10.2.2 Using the DD Form 1861	10-10

10.1 Facilities Capital Cost of Money Fundamentals

Facilities Capital Cost of Money

FAR 31.205-10(a)
FAR App B, 9904.414-30
FAR 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 deals exclusively with establishing 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 for all firms and all facility investments.

10.1 Facilities Capital Cost of Money Fundamentals (cont)

Facilities Capital Cost of Money Allowability

FAR 31.205-10(a)
FAR 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 15.903(c)
FAR 15.904(b)
FAR 52.215-31

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 15.903(c)
DFARS 215.971-4

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.

10.2 Developing and Applying Facilities Capital Cost of Money Factors

Section Introduction

In This Section

This section presents procedures for calculating and applying facilities capital cost of money factors and for using the DD Form 1861.

TOPIC	SEE PAGE
10.2.1 Developing and Applying Facilities Capital Cost of Money Factors	10-7
10.2.2 Using the DD Form 1861	10-10

10.2.1 Developing and Applying Facilities Capital Cost of Money Factors

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	$40,000	$20,000	$60,000	$4,800	$960,000	0.00500
	ENGINEERING	$100,000	$20,000	$120,000	$9,600	$640,000	0.01500
	MANUFACTURING	$850,000	$112,500	$962,500	$77,000	$700,000	0.11000
G&A EXPENSE POOLS							
	G&A EXPENSE	$62,000	- $0 -	$62,000	$4,960	$4,000,000	0.00124
TOTAL		$1,052,000	$152,500	$1,204,500	$96,360		

10.2.1 Developing and Applying Facilities Capital Cost of Money Factors (cont)

Developing Facilities Capital Cost of Money Rates (cont)

FAR App B, 9904.414-60

For each accounting period, the factor-development process follows a 7-step procedure:

- **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 PL 92-40. The rate is published twice a year in the Federal Register. (Column 1)
- **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. Depending on the method used to estimate costs, this figure will normally change from period to period. (Business Unit Facilities Capital -- Column 2)
- **Allocate facilities capital net book value to overhead 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)
- **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)
- **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)
- **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 figure will normally change from period to period. (Column 6)
- **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)

10.2.1 Developing and Applying Facilities Capital Cost of Money Factors (cont)

Government Facilities Cost of Capital Rate 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. When there is no Government audit or ACO review of the proposed rates or a review questions rate preparation, you may be called upon to analyze development procedures and specific calculations.

Applying Factors to Appropriate Bases

To be considered for application of facilities capital cost of money, the contractor must include the cost in the proposal. The calculations are normally found at the end of the proposed cost breakdown, after profit. The following example demonstrates how facilities capital cost of money would be calculated for work performed during each contract accounting period.

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 Less G&A	$140,000
Total Price Less Cost of Money		$882,000
Facilities Capital Cost of Money		
Material	.00500 x 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	$920
Total		$18,980
Total Price		$900,980

Note that each facilities capital cost of money factor is applied to the same base (bold font) as the related overhead rate.

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 231.7001-2
NASA FAR Sup 18-30.7001-1(a)

If you are assigned to a DoD organization, you will 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 also permit 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 Feb 28, 1993

Public reporting burden for this collection of information is estimated to average 1 hour 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.

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 FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110
Manufacturing	$150,000	.11000	$16,500
G&A	$742,000	.00124	$920
TOTAL			$18,980
TREASURY RATE			%
FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			

7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED

	PERCENTAGE	AMOUNT
LAND	%	
BUILDINGS	%	
EQUIPMENT	%	
FACILITIES CAPITAL EMPLOYED	100%	

DD Form 1961, MAR 90 Previous editions are obsolete

10.2.2 Using the DD Form 1861 (cont)

Calculating Contract Facilities Capital Cost of Money (cont)

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 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 allocation base column by the factor column.

After all factors are applied to the appropriate base, 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.

10.2.2 Using the DD Form 1861 (cont)

Calculating Contract Facilities Capital Employed (cont)

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 Feb 28, 1993

Public reporting burden for this collection of information is estimated to average 1 hour 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.

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 FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110
Manufacturing	$150,000	.11000	$16,500
G&A	$742,000	.00124	$920
TOTAL			$18,980
TREASURY RATE			8.0 %
FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			$237,250

7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED

	PERCENTAGE	AMOUNT
LAND	%	
BUILDINGS	%	
EQUIPMENT	%	
FACILITIES CAPITAL EMPLOYED	100%	

DD Form 1961, MAR 90 Previous editions are obsolete

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.

10.2.2 Using the DD Form 1861 (cont)

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 NBV dollars 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 Feb 28, 1993

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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 FACTOR	AMOUNT
Material	$90,000	.00500	$450
Engineering	$74,000	.01500	$1,110
Manufacturing	$150,000	.11000	$16,500
G&A	$742,000	.00124	$920
TOTAL			$18,980
TREASURY RATE			8.0 %
FACILITIES CAPITAL EMPLOYED (TOTAL DIVIDED BY TREASURY RATE)			$237,250

7. DISTRIBUTION OF FACILITIES CAPITAL EMPLOYED

	PERCENTAGE	AMOUNT
LAND	20.0 %	$47,450
BUILDINGS	50.0 %	$118,625
EQUIPMENT	30.0 %	$71,175
FACILITIES CAPITAL EMPLOYED	100%	$237,250

DD Form 1961, MAR 90 Previous editions are obsolete

Chapter Vignette (cont)

Considering a Contractor's Facilities Capital Cost of Money in Cost Analysis Makes Good Sense!

When he first heard of the idea, Andrew thought that the concept of including an imputed cost in contractor's costs was strange. After all, investment in facilities is the contractor's responsibility.

Now, he realizes that contractors must consider their cost of capital in any investment decision. If investing in productive facilities has a greater financial benefit to the contractor, they will be more likely to invest in acquiring and upgrading plant and equipment. Effective investment in plant and equipment should make a contractor more efficient and actually bring down the cost of contract performance.

That sounds like money well spent!

Analyzing Profit or Fee CHAPTER 11

Chapter Vignette

What Is a Reasonable Profit/Fee?

What is a reasonable profit/fee for this job? Andrew is gaining in confidence in analyzing costs, but who is to say what profit/fee is reasonable? Kay tells him that "FAR requires a structured approach for profit/fee analysis." Andrew has heard other buyers talk about rewarding performance and contractor acceptance of risk, but he does not have a feel for what constitutes a reasonable reward. Kay tells him to "go back to the books" to study the Government guidelines for developing a reasonable profit/fee position.

Learning Objectives

At the End of This Chapter

At the end of this chapter, you will be able to:

Classroom Learning Objective 11/1
Identify the general factors affecting profit/fee analysis as part of cost analysis.

Classroom Learning Objective 11/2
Develop a profit/fee objective using the appropriate structured approach to profit/fee analysis.

11.0 Chapter Introduction

In This Chapter

This chapter will identify points that you should consider as you analyze contract profit/fee.

SECTION	DESCRIPTION	SEE PAGE
11.0	Chapter Introduction	11-3
11.1	Identifying the General Factors Affecting Contract Profit/Fee	11-5
	11.1.1 Identifying the Need for an Agency Structured Approach	11-6
	11.1.2 Considering Contractor Profit Motivation	11-7
	11.1.3 Identifying Factors to Consider	11-9
11.2	Using the DoD Weighted Guidelines	11-12
	11.2.1 Applying the DoD Weighted Guidelines	11-13
	11.2.2 Identifying Exempted Contract Actions	11-30
11.3	Applying the NASA Structured Approach	11-31
	11.3.1 Using the NASA Structured Approach	11-33
	11.3.2 Identifying Exempted Contract Actions	11-44

Requirement for Profit/Fee Analysis

FAR 15.900(b)
FAR 15.903(a)

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.

11.0 Chapter Introduction (cont)

Actual Profit/Fee May Vary

FAR 15.901(a)

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;
- Incurrance of unallowable costs; and
- Contract type.

11.1 Identifying the General Factors Affecting Contract Profit/Fee

Section Introduction

In This Section

This section will the present the general factors that you must consider when analyzing profit/fee as part of a contract cost analysis.

TOPIC	SEE PAGE
11.1.1 Identifying the Need for an Agency Structured Approach	11-6
11.1.3 Considering Contractor Profit Motivation	11-7
11.1.3 Identifying Factors to Consider	11-9

11.1.1 Identifying the Need for an Agency Structured Approach

Each Agency Must Prescribe a Structured Approach

FAR 15.902(a)

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 15.902(a)
FAR 15.905-1

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	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 15.901(b)	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	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 Ceilings FAR 15.901(c) FAR 15.903(d)	FAR prohibits administrative profit/fee ceilings and the use of administrative procedures that could be interpreted by contractors as *de facto* ceilings. Administrative limits on profit/fee are inconsistent with contractor motivation and the structured approach to profit/fee analysis.

11.1.2 Considering Contractor Profit Motivation (cont)

Profit/Fee Ceiling (cont)

FAR 15.903(d)

However, contract fee cannot exceed applicable statutory limits 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

FAR Subpart 1.4

The above limits also apply to the maximum fees on cost-plus-incentive-fee (CPIF) contracts and cost-plus-award-fee (CPAF) contracts. However, you may request a deviation to the maximum fee limitations for a specific CPIF or CPAF contract in accordance with the procedures for requesting a FAR deviation.

11.1.3 Identifying Factors to Consider

Factors That Must Be Considered

FAR 15.905-1

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** managerial and technical effort necessary to obtain materials, given the: • Complexity of items purchased; • Number of purchase orders/subcontracts required; • Need for source development; and • Complexity of purchase orders/ subcontracts.
		Direct Labor contribution to contract performance, given the: • Diversity of labor types required; and • Amount and quality of supervision and coordination needed.
		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.

11.1.3 Identifying Factors to Consider (cont)

Factors That Must Be Considered (cont)

PROFIT/FEE FACTOR	PROVIDE GREATER PROFIT/FEE OPPORTUNITY TO CONTRACTORS WHO:	AS YOU DEVELOP YOUR PROFIT/FEE OBJECTIVE CONSIDER:
Cost Risk	Assume a proportionately greater degree of cost responsibility and associated risk.	Contractor cost responsibility and associated risk as a result of: • Contract type; • 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 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 on efficient and economical contract performance.
Cost Control and Other Past Accomplishments	Have demonstrated an ability to perform similar tasks effectively and economically.	Contractor: • 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.	Contractor: • Independent development efforts; • Relevance of the effort to the contract end item; and • 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.

11.1.3 Identifying Factors to Consider (cont)

Other Profit/Fee Considerations

FAR 15.903

The factors identified above form the basis for agency structured approaches to profit/fee analysis. There are two other elements that must consider as you develop 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 (whether allowable or not) before applying profit/fee factors.

- **Consider Base 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 changes. When you negotiate contract modifications, you may use the base-contract profit/fee rate as the negotiation as your objective rate if both of the following conditions are met:
  - ◊ The contract modification is for the **same type and mix of work** as the base 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 Using the DoD Weighted Guidelines

Section Introduction

In This Section

This section covers the DoD structured approach to profit/fee analysis—the Weighted Guidelines.

TOPIC	SEE PAGE
11.2.1 Applying the DoD Weighted Guidelines	11-13
11.2.2 Identifying Exempted Contract Actions	11-30

Different Approaches for Different Products

DFARS Subpart 215.9
DFARS 215.971-2(c)
DFARS 215.971-4(c)

The basic DoD weighted guidelines profit/fee analysis emphasizes incentives for firms to invest in additional production facilities. This emphasis is particularly important for contracts that require item production.

Many contracts do not require substantial facilities investment, including most contracts for services and research and development (R&D). For these contracts, DFARS provides you with two methods of adjusting the weight guidelines to reduce the emphasis on contractor facilities investment:

- DFARS provides an alternative that increases emphasis on performance risk and eliminates profit/fee consideration of contractor facilities investment. This method is used for service and R&D contracts with firms that have limited facilities investment.
- DFARS provides another alternative that permits normal emphasis on performance risk and reduced emphasis on contractor facilities investment. This method is used for contracts with highly facilitated manufacturing firms that are contracting for services or R&D contracts that do not require significant investment.

11.2.1 Applying the DoD Weighted Guidelines

Examining the Weighted Guidelines Form

The DD Form 1547, 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-P&L(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

		ITEM	COST CATEGORY	OBJECTIVE
5. CONTRACTING OFFICE CODE				
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 18)	PROFIT OBJECTIVE
21.	TECHNICAL	%			
22.	MANAGEMENT	%			
23.	COST CONTROL	%			
24.	PERFORMANCE RISK (COMPOSITE)				
25.	CONTRACT TYPE RISK				
26.	WORKING CAPITAL	Costs Financed	Length Factor	Interest Rate	
				%	
	CONTRACTOR FACILITIES CAPITAL EMPLOYED		ASSIGNED VALUE	AMOUNT EMPLOYED	
27.	LAND				
28.	BUILDINGS				
29.	EQUIPMENT				
30.	**TOTAL PROFIT OBJECTIVE**				

NEGOTIATION 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 *(YYMMDD)*

OPTIONAL USE

96.	97.	98.	99.

DD FORM 1547, AUG 87 *Previous editions are obsolete.*

11.2.1 Applying the DoD Weighted Guidelines (cont)

Examining the Weighted Guidelines Form (cont)

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 9-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 - 24
4	Contract Type Risk	25
5	Working Capital Adjustment	26
6	Facilities Capital Employed	27 - 29
7	Total Profit/Fee Objective	30
8	Negotiation Summary	31 - 35
9	Contracting Officer Approval	36 - 39

Acquisition Identification Information

These items 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

This part of the form details 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.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Cost Objective by Cost Category (cont)

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 215.971-2

The purpose of this portion of the profit/fee analysis is 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 three types: technical, management, and 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	• Contractor's management and control systems • Management involvement required on the contract • Resources applied and value added by the contractor • Contractor support for Federal socioeconomic programs
Cost Control	• Expected reliability of cost estimates • Cost reduction initiatives • Cost control and schedule management • Other factors affecting contractor's ability to meet cost targets

11.2.1 Applying the DoD Weighted Guidelines (cont)

Performance Risk Profit/Fee Analysis (cont)

Consider the relative importance of each of the three types of risk and the contract risk involved.

- **Performance Risk Importance Weight.** In the "Assigned Weighting" column of the DD Form 1547, you to weight each of the three elements of performance risk, considering its relative importance to proposed contract performance. The total of all weights must always equal 100 percent of performance risk.

  Example 1: For a development contract, you might assign the following weights:

Technical	50 %
Management	30 %
Cost Control	20 %
	100 %

  Example 2: For a production contract, you might assign the following weights:

Technical	20 %
Management	30 %
Cost Control	50 %
	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 each of the three 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.

    Designated Value Range: 2% to 6% Normal Value: 4%
  - ◊ **Alternate Value Range.** You may use the alternate value range for research and development and service contracts when the contractors require relatively low capital investment in buildings and equipment when compared to the defense industry overall. **If you use the alternate value range, do not give any profit/fee for facilities capital employed**.

    Designated Value Range: 4% to 8% Normal Value: 6%

11.2.1 Applying the DoD Weighted Guidelines (cont)

Performance Risk Profit/Fee Analysis (cont)

Note that the normal value in each range is the midpoint of the range. Once you select the appropriate range of values (standard or alternate), assign the normal value from that range, unless you have a specific justification for a lower or higher value. The following three tables identify conditions that may justify assignment of above or below normal values for technical, management, or cost control risk.

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	• 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; • Contractor's independent development and investment has reduced the Government's risk or cost; • Contractor has accepted and accelerated delivery schedule to meet DoD requirements; or • 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.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Performance Risk Profit/Fee Analysis (cont)

ASSIGNING A PROFIT/FEE VALUE FOR MANAGEMENT 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	• Contractor's value-added is both considerable and reasonably difficult; • Contract effort involves a high degree of integration or coordination; or • Contractor has a substantial record of active participation in Federal socioeconomic programs.
Below Normal Weight	• Program is mature and many end item deliveries have been made; • Contractor adds minimum value to an item; • Contract effort is routine and requires minimal supervision; • Contractor provides poor quality, untimely proposals; • Contractor fails to provide an adequate analysis of subcontractor costs; or • Contractor does not cooperate in the evaluation and negotiation of the proposal.
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.

ASSIGNING A PROFIT/FEE VALUE FOR COST CONTROL RISK	
Consider …	**When …**
Above Normal Weight	• Contractor provides fully documented and reliable cost estimates; • Contractor has an aggressive cost reduction program that has demonstrable benefits; • Contractor uses a high degree of subcontract competition (e.g. aggressive dual sourcing); or • Contractor has a proven record of cost tracking and control.
Below Normal Weight	• Contractor's cost estimating system is marginal; • Contractor has made minimal effort to initiate cost reduction programs; • Contractor's cost proposal is inadequate; or • Contractor has a record of cost overruns or other indication of unreliable cost estimates and lack of cost control.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Performance Risk Profit/Fee Analysis (cont)

- **Calculate Composite Performance Risk Value.** The "Performance Risk (Composite) Assigned Value" (Item 24), is the weighted average -- calculated using the weight assigned and the value assigned to each of the three 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	20%	4.0	.8%
Cost Control	40%	3.8	1.5%
Composite Value			4.1%

- **Identify Performance Risk Profit/Fee Base.** Enter the value from Item 18 as the "Performance Risk (Composite) Base," Item 24. Remember that the value in Item 18 is the total contract cost excluding G&A expenses, contractor independent research and development and bid and proposal expenses, and facilities capital cost of money.
- **Calculate Performance Risk Profit/Fee Objective.** To calculate the "Performance Risk (Composite) Profit Objective," Item 24, multiply the "Performance Risk (Composite) Assigned Value," by the "Performance Risk (Composite) Base" as shown in the example below:

Weighted Guidelines Profit/Fee Factors					
Item	**Contractor Risk Factors**	**Assigned Weighing**	**Assigned Values**	**Base (Item 18)**	**Profit/fee Objective**
21.	Technical	40%	4.5		
22.	Management	20%	4.0		
23.	Cost Control	40%	3.8		
24.	Performance Risk Composite		4.1	$700,000	$28,700

11.2.1 Applying the DoD Weighted Guidelines (cont)

Contract-Type Risk Profit/Fee Analysis

DFARS 215.971-3

The factor 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 Financing	(2)	3.0%	2.0% to 4.0%
Fixed-Price Incentive			
No Financing	(1)	3.0%	2.0% to 4.0%
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 that the contract either does not provide progress payments or provides them only on a limited basis (e.g., financing of first articles). Do not compute a working capital adjustment in Item 26.
(2) "With financing" means progress payments. When progress payments are present, compute a working capital adjustment in Item 26.
(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-plus 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 26. However, they may receive higher than normal values within the designated range to the extent that portions of cost are fixed.

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.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Contract-Type Risk Profit/Fee Analysis (cont)

- **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 consider should 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),
    - – Contract ceilings and incentives, and
    - – Risks associated with contracts for foreign military sales (FMS) which are not funded by U.S. appropriations.
  - ◊ 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%, 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.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Contract-Type Risk Profit/Fee Analysis (cont)

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.
Below Normal Weight	• Contract is for a very mature product with extensive cost history; • Contract is for a relatively short term; • Contractual provisions substantially reduce the contractor's risk; or • Incentive provisions place a low degree of risk on the contractor.

- **Contract-Type Risk Profit/Fee Base.** Enter the value from Item 18 as the "Contract Type Risk Base" (Item 25).
- **Calculate Cost Risk Profit/Fee Objective**. To calculate the "Contract Type Risk Profit Objective" (Item 25), multiply the "Contract Type Risk Assigned Value," by the "Contract Type Risk Base" 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 18)	PROFIT/FEE OBJECTIVE
25.	Contract Type Risk	3.0%	$700,000	$21,000

11.2.1 Applying the DoD Weighted Guidelines (cont)

Working Capital Profit/Fee Adjustment

DFARS 215.971-3

This factor 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 period of performance).
    - – Some costs are covered by special financing provisions such as advance payments.
    - – The contract is multiyear 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 26) is related to the period of time that the contractor will have a working capital investment in the contract.
  - ◊ The period 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.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Working Capital Profit/Fee Adjustment (cont)

– Should not, for multiyear contracts, include periods of performance beyond that required to complete the initial program year's requirements.

◊ 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.
- **Calculate Working Capital Profit/Fee Objective**. To calculate the "Working Capital Profit Objective" (Item 26), 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.

  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 8.0 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

11.2.1 Applying the DoD Weighted Guidelines (cont)

Working Capital Profit/Fee Adjustment (cont)

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:

8.0 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 .08

$7,717 (rounded from $7,716.80)

The figures in Item 26 of the form would appear as follows:

		COSTS FINANCED	LENGTH FACTOR	INTEREST RATE	PROFIT/FEE OBJECTIVE
26	WORKING CAPITAL	$148,400	.65	8.0%	$7,717

Facilities Capital Employed Profit/Fee Analysis

DFARS 215.971-4

This section recognizes contractor investment in buildings and 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 27 for land, Item 28 for buildings, or Item 29 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 building and equipment capital employed. Facilities investment in land is not rewarded in profit/fee analysis, because the Government does not benefit from investment in land. The following table shows the designated ranges and normal values for each:

11.2.1 Applying the DoD Weighted Guidelines (cont)

Facilities Capital Employed Profit/Fee Analysis (cont)

DFARS 215.971-4

PROFIT/FEE VALUES FOR FACILITIES CAPITAL EMPLOYED			
APPLICATION	ASSET TYPE	DESIGNATED RANGE	NORMAL VALUE
Standard --used for most contracts.	Land Buildings Equipment	N/A 10% to 20% 20% to 50%	0% 15% 35%
Alternate for highly facilitized companies performing R&D or service contracts.	Land Buildings Equipment	N/A 0% to 10% 15% to 25%	0% 5% 20%
Alternate for companies that require low facilities investment performing R&D or service contracts.	Land Buildings Equipment	N/A 0% 0%	0% 0% 0%

- **Assign Appropriate Profit/Fee Value.**
  - ◊ As you assign a profit/fee value to each category of facilities capital employed:
    - – Relate the usefulness of the facilities capital 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 facilities capital investment, including:
      - -- The economic value of the facilities capital, such as physical age, undepreciated value, idleness, and expected contribution to future defense needs; and
      - -- The contractor's level of investment in defense related facilities 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).
    - – Ensure that increases in facilities capital investments are not merely asset revaluations attributable to mergers, stock transfers, take-overs, sales of corporate entities, or similar actions.

11.2.1 Applying the DoD Weighted Guidelines (cont)

Facilities Capital Employed Profit/Fee Analysis (cont)

◊ In the range appropriate to your situation, 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; or • Contractor demonstration that the investments are over and above the normal capital investments necessary to support anticipated requirements of DoD programs.
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, home or group level administrative offices, corporate aircraft and hangars, 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

- **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/FEE OBJECTIVE
27	Land		$47,450	
28	Buildings	15%	$118,625	$17,794
29	Equipment	35%	$71,175	$24,911

11.2.1 Applying the DoD Weighted Guidelines (cont)

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:

Line	
24. Performance Risk (Composite)	$28,700
25. Contract Type Risk	$21,000
26. Working Capital	$7,717
28. Buildings Facilities Capital Employed	$17,794
29. Equipment Facilities Capital Employed	$24,911
30. Total Profit/Fee Objective	$100,122

Negotiation Summary

DFARS 215.975

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				
		Proposed	Objective	Negotiated
31.	Total Costs		$742,000	
32.	Facilities Capital Cost of Money		$18,980	
33.	Profit		$100,122	
34.	Total Price (Line 31 + 32 + 33)		$861,102	
35.	Markup Rate (line 32 + 33 divided by 31)		16.1 %	

Contracting Officer Approval

After completion of the negotiation, the DD Form 1547 must be signed and dated by the contracting officer.

The following page shows a completed DD Form 1547 using the same values illustrated above.

11.2.1 Applying the DoD Weighted Guidelines (cont)

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-P&L(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 18)	PROFIT OBJECTIVE
21.	TECHNICAL	40 %	4.5 %		
22.	MANAGEMENT	20 %	4.0 %		
23.	COST CONTROL	40 %	3.8 %		
24.	PERFORMANCE RISK (COMPOSITE)		4.1 %	$700,000	$28,700
25.	CONTRACT TYPE RISK		3.0 %	$700,000	$21,000
26.	WORKING CAPITAL	Costs Financed	Length Factor	Interest Rate	
		$148,400	.65	8.0 %	$7,717
	CONTRACTOR FACILITIES CAPITAL EMPLOYED		ASSIGNED VALUE	AMOUNT EMPLOYED	
27.	LAND			$47,450	
28.	BUILDINGS		15 %	$118,625	$17,794
29.	EQUIPMENT		35 %	$71,175	$24,911
30.				**TOTAL PROFIT OBJECTIVE**	$100,122

NEGOTIATION SUMMARY

		PROPOSED	OBJECTIVE	NEGOTIATED
31.	TOTAL COSTS		$742,000	
32.	FACILITIES CAPITAL COST OF MONEY *(DD FORM 1861)*		$18,980	
33.	PROFIT		$100,122	
34.	TOTAL PRICE *(Line 31 + 32 + 33)*		$861,102	
35.	MARKUP RATE *(Line 32 + 33 divided by 31)*	%	16.1 %	%

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 *(YYMMDD)*

OPTIONAL USE

96.	97.	98.	99.

DD FORM 1547, AUG 87 *Previous editions are obsolete.*

11.2.2 Identifying Exempted Contract Actions

Exemptions From Required Weighted Guidelines Use

DFARS 215.903(b)
DFARS 215.972
DFARS 215.974

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 215.972) for contract actions with nonprofit organizations.
- Must not use weighted guidelines or an alternate approach for cost-plus-award-fee contracts. Instead follow the guidelines presented in DFARS 215.974.

Using an Alternate Structured Approach

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.

11.3 Applying the NASA Structured Approach

Section Introduction

In This Section

The NASA structured approach is presented in this section as an example of similar structured approaches used by several agencies to evaluate profit on contracts with commercial firms.

TOPIC	SEE PAGE
11.3.1 Using the NASA Structured Approach	11-33
11.3.2 Identifying Exempted Contract Actions	11-44

NASA Structured Approach

NASA FAR Sup 18-15.970

The NASA Form 634, Structured Approach Profit/Fee Objective, contains the basic FAR factors identified in the previous section and assigns normal profit/fee weight ranges. The information on the form, along with implementing guidance, provide a sound basis for a structured profit/fee analysis. That analysis is divided into two major sections: contractor effort and other factors.

11.3 Applying the NASA Structured Approach (cont)

NASA
National Aeronautics and Space Administration

Structured Approach Profit/Fee Objective

Contractor	RFP/Contract No.
Business Unit	Contract Type
Address	

1. CONTRACTOR EFFORT

COST CATEGORY	GOVERNMENT'S COST OBJECTIVE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE ((a) * (c)) (d)
MATERIAL ACQUISITION		1% to 4%		
DIRECT LABOR		4% to 12%		
OVERHEAD		3% to 9%		
OTHER COSTS		1% to 3%		
GENERAL MANAGEMENT (G&A)		4% to 6 %		
1.A TOTAL				

2. OTHER FACTORS

FACTOR	MEASUREMENT BASE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE 1.A (a) * (c) (d)
COST RISK	TOTAL COST OBJECTIVE 1.A (a)	0% to 7%		
INVESTMENT		-2% to +2%		
PERFORMANCE		-1% to +1%		
SUBCONTRACT PROGRAM MANAGEMENT		-1% to +1%		
SOCIO-ECONOMIC PROGRAMS		-8% to +8%		
SPECIAL SITUATIONS				
2.A TOTAL OTHER FACTORS				
3. SUBTOTAL PROFIT/FEE LINES (1.A + 2.A)				
4. LESS FACILITIES CAPITAL COST OF MONEY				—
5. TOTAL PROFIT/FEE OBJECTIVE LINE (3) - (4)				

NASA FORM 634 SEP 91 PREVIOUS EDITION IS OBSOLETE.

11.3.1 Using the NASA Structured Approach

Consider Profit/Fee Related to Contractor Effort

FAR 15.905-1(a)
NASA FAR Sup 18-15.970-1

The NASA criteria for structured profit/fee analysis of contractor effort include the elements of contractor effort prescribed in FAR 15.905-1(a), plus one additional element -- other costs. Each element of contractor effort profit/fee analysis is identified in the table below along with information on the appropriate profit/fee calculation base and profit/fee weight range.

Note that the areas with greatest potential for contractor contribution to effective contract performance have the highest weight ranges. Material acquisition, for example, has a low weight range because the bulk of the contribution to contract performance is shifted to suppliers and subcontractors.

PROFIT/FEE CONSIDERATION OF CONTRACTOR EFFORT

Contractor Effort Category	Profit/Fee Cost Base	Profit/Fee Weight Range	Weight Range Midpoint
Material Acquisition	Material Costs	1% to 4%	2.5%
Direct Labor	Direct Labor Costs	4% to 12%	8.0%
Overhead	Overhead Costs	3% to 8%	5.5%
Other Costs	Other Direct Costs	1% to 3%	2.0%
General Management (G&A)	General & Administrative Expense	4% to 8%	6.0%

Your profit/fee analysis of contractor effort should consider contractor resources needed to complete the contract and the contractor effort required to meet contract performance requirements.

- **Material Acquisition.** As you assign the profit/fee weight for material (subcontracted items, purchased parts, and other material) acquisition contract effort:
  - ◊ Consider the managerial and technical efforts necessary for the prime contractor to select subcontractors and administer subcontracts, including efforts to introduce and maintain competition. Also consider whether the contractor's purchasing program makes a substantial contribution to the performance of a contract through the use of subcontracting programs involving many sources, new complex components and instrumentation, incomplete specifications, and close surveillance by the prime contractor.

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Contractor Effort (cont)

- ◊ If you accept interorganizational transfers at price, consider them as material for profit/fee analysis. Analyze interorganizational transfers at cost based on the cost elements involved (e.g., evaluate material as material and direct labor as direct labor).

- **Direct Labor.** As you assign the profit/fee weight for direct labor (engineering, service, manufacturing, and other labor) contract effort:
  - ◊ Evaluate the comparative quality and level of the engineering talents, service contract labor, manufacturing skills, and experience to be employed in contract performance.
    - – In evaluating engineering labor, consider the amount of notable scientific talent or unusual or scarce engineering talent needed, in contrast to journeyman engineering effort or supporting personnel.
    - – In evaluating service contract labor, assign higher weights to engineering, professional, or highly technical skills and lower weights to semiprofessional or other skills required for contract performance.
  - ◊ Evaluate the variety of engineering, manufacturing and other types of labor skills required and the contractor's manpower resources for meeting contract requirements.
  - ◊ Include subtypes of labor (e.g., quality control, and receiving and inspection labor) proposed separately from engineering, service, or manufacturing labor with the most appropriate labor type for evaluation and apply the same profit/fee evaluation criteria.

- **Overhead and General Management (G&A).** As you assign the profit/fee weight for overhead and general management (overhead and G&A expenses):
  - ◊ Analyze individual items of cost within each pool including the:
    - – Expenses that make up the pool;
    - – Contribution of the pool to contract performance; and
    - – Degree of substantiation provided for rates proposed in future years.

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Contractor Effort (cont)

- ◊ Use the composite of the weights assigned to the individual elements of each overhead pool as the profit weight for the pool as a whole.
- ◊ When evaluating the overhead rate of a contractor using a single indirect cost rate, break out the applicable sections of the composite rate (e.g., costs which could be classified as engineering overhead, manufacturing overhead, other overhead pools, or G&A expenses) and apply the appropriate profit/fee weight.

- **Other Costs.** Include all other direct costs associated with contractor performance under this item (e.g., travel and relocation, direct support, and consultants). As you assign the profit/fee weight for these other costs, consider:
  - ◊ The nature of the costs involved; and
  - ◊ The contribution of each cost element to contract performance.

Using the NASA Form 634 for Profit/ Fee Analysis of Contractor Effort

Section 1 of the NASA Form 634 (presented on the next page) documents a profit/fee analysis performed using the following 7-step procedure:

- Develop the Government objective for each element of contract cost using cost analysis.
- Enter the title of each element of your cost objective under the appropriate "Cost Category" identified on the form.
- For each cost element, enter the related dollar objective in the "Government's Cost Objective" column (Section 1(a))of the form. **Remember that the cost base for profit/fee analysis must not include any facilities capital cost of money.**
- Perform your profit/fee analysis of each cost category using the criteria described above and the prescribed "Weight Range" (Section 1(b)) for that cost category. Assign an average weight for average contractor effort, an above average weight for above average effort, a below average weight for a below average effort, etc.

11.3.1 Using the NASA Structured Approach (cont)

NASA
National Aeronautics and Space Administration

Structured Approach
Profit/Fee Objective

Contractor	RFP/Contract No.
Business Unit	Contract Type
Address	

1. CONTRACTOR EFFORT

COST CATEGORY	GOVERNMENT'S COST OBJECTIVE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE ((a) * (c)) (d)
MATERIAL ACQUISITION		1% to 4%		
Material	$90,000		2.5%	$2,250
DIRECT LABOR		4% to 12%		
Direct Engineering Labor	$74,000		11.0%	$8,140
Direct Manufacturing Labor	$150,000		9.0%	$13,500
OVERHEAD		3% to 9%		
Material Overhead	$4,500		4.0%	$180
Engineering Overhead	$37,000		7.0%	$2,590
Manufacturing Overhead	$322,500		6.0%	$19,350
OTHER COSTS		1% to 3%		
Other Direct Cost	$22,000		2.0%	$440
GENERAL MANAGEMENT (G&A)	$42,000	4% to 6 %	5.5%	$2,310
1.A TOTAL				$48,760

2. OTHER FACTORS

FACTOR	MEASUREMENT BASE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE 1.A (a) * (c) (d)
COST RISK	TOTAL COST OBJECTIVE 1.A (a)	0% to 7%		
INVESTMENT		-2% to +2%		
PERFORMANCE		-1% to +1%		
SUBCONTRACT PROGRAM MANAGEMENT		-1% to +1%		
SOCIO-ECONOMIC PROGRAMS		-.5% to +.5%		
SPECIAL SITUATIONS				
2.A TOTAL OTHER FACTORS				
3. SUBTOTAL PROFIT/FEE LINES (1.A + 2.A)				
4. LESS FACILITIES CAPITAL COST OF MONEY				—
5. TOTAL PROFIT/FEE OBJECTIVE LINE (3) - (4)				

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11.3.1 Using the NASA Structured Approach (cont)

Using the NASA Form 634 for Profit/ Fee Analysis of Contractor Effort (cont)

- Based on your analysis, enter a profit/fee weight in the "Assigned Weight" column (Section 1(c)).
- For each cost category, calculate the "Weighted Profit/Fee" (Section 1(d)) by multiplying the Government cost objective by the assigned weight.
- The Section 1A column totals represent the overall profit/fee analysis for contractor effort:
  - ◊ Calculate the "Government's Cost Objective" total by summing all elements of the cost objective (excluding any facilities capital cost of money included in the objective).
  - ◊ The total "Weighted Profit/Fee" is the sum of all weighted profit/fee in Section 1(d).
  - ◊ The "Assigned Weight" is the weighted average profit/fee for contractor effort. Calculate the assigned weight by dividing the "Weighted Profit/Fee" total by the "Government's Cost Objective" total.

Consider Profit/Fee Related to Other Factors

The NASA structured profit/fee analysis also requires you to consider the six "Other Factors" summarized in the table below. Note that the "Measurement Base" for each factor in is the Government's total cost objective, less facilities capital cost of money.

NASA FAR Sup 18-15.970-2

PROFIT/FEE CONSIDERATION OF OTHER FACTORS

Profit/Fee Analysis Factor	Measurement Base	Profit/Fee Weight Range	Weight Range Midpoint
Cost Risk CPFF CPIF Fixed-Price	Government's Cost Objective Total (Less Facilities Capital Cost of Money)	 0% to .5% .5% to 3% 3% to 7%	 0.0% 1.8% 5.0%
Investment (Facilities & Payments)		-2% to +2%	0.0%
Performance (Cost Control and Past Accomplishments)		-1% to +1%	0.0%
Subcontract Program Management		-1% to 1%	0.0%
Federal Socioeconomic Programs		-.5% to +.5%	0.0%
Special Situations		Unspecified	N/A

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Other Factors (cont)

- **Cost Risk.** This factor is one of the most important affecting prenegotiation profit objectives. The profit/fee weight assigned for this factor should be based on contractor assumption of cost-risk and the amount of cost risk associated with contract performance:
  - ◊ Contract-type is the key to determining which contracting party assumes the risk that costs will be different than contract estimates. Accordingly, your profit/fee analysis must consider the contractor cost risk acceptance associated with the projected contract type.
    - – Cost-plus-fixed-fee (CPFF) contracts rarely rate a profit/fee weight greater than 0.0 percent. CPFF contracts that include cost risk features may rate a weight of up to 0.5 percent. Cost-plus-incentive-fee (CPIF) weights typically range from 0.5 to 3.0 percent based on such factors as confidence in target cost, share ratios, and other elements of the contract pricing arrangement.
    - – Fixed-price contract weights should correspond with the price risk assumed by the contractor and the end item required. Normally firm fixed-price contracts rate profit weights on the higher end of the 3.0 to 7.0 percent range, and other fixed-price contracts rate ratings in the lower half of the range. For example, you might assign a weight of 7.0 percent to a firm fixed-price contract for production of a prototype infra-red sensor; you might assign a weight of only 3.0 percent for a fixed-price incentive contract for a follow-on full-rate production contract.
  - ◊ You must also consider the amount of cost risk assumed by the contractor.
    - – If the prime contractor has effectively transferred real cost risk to a subcontractor, you might consider a profit/fee cost risk weight below the range that would otherwise apply for the contract type proposed. However, do not lower the cost risk weight merely because a substantial portion of the contract effort has been subcontracted. Attempt to determine whether the subcontracting has resulted in a cost-risk transfer.

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Other Factors (cont)

- When definitizing a letter contract, unpriced change order, or unpriced order under a blanket ordering agreement (BOA), consider the effect on total contract cost risk that results from having partial performance before definitization. Under some circumstances, you may reason that the total amount of cost risk has been effectively reduced by partial performance. Under other circumstances, you may decide that the contractor's cost risk is substantially unchanged. To be equitable in your profit/fee analysis, consider the entire acquisition situation. Do not base your analysis solely on the portion of costs incurred, or percentage of work completed, before definitization.

- **Investment.** The purpose of this factor is to encourage contractor's to acquire and use their own resources for contract performance. Your profit/fee analysis should include an analysis of the contractor's facilities and the frequency of contract payments.
  - ◊ Your profit/fee analysis of facilities investment requires knowledge of the level of facilities utilization needed for contract performance, the source and financing of the required facilities, and the overall cost effectiveness of the facilities offered.
    - Contractors furnishing their own facilities that significantly contribute to lower total contract costs should be provided additional profit/fee.
    - Contractors that rely on the Government to provide or finance needed facilities should receive a lower profit/fee.
    - Cases between the above examples should be evaluated on their merits, with either a positive or negative adjustment, as appropriate, in the profit/fee objective. However, where a highly facilitized contractor is to perform a contract that does not benefit from this facilitization, or when a contractor's use of its facilities has a minimum cost impact on the contract, profit/fee need not be adjusted.
  - ◊ Your profit/fee analysis of the frequency of contract payments should consider the effect of the contract on contractor cash flow. Generally:

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Other Factors (cont)

- Give negative profit/fee consideration for payments more frequent than monthly, with maximum reduction being given as the contractor's working capital approaches zero.
- Give positive profit/fee consideration for payments less frequent than monthly.

- **Performance.** Evaluate the contractor's past and present performance based on performance in product quality, timely contract performance, efficiency in cost control (including the need for and reasonableness of costs incurred), accuracy and reliability of previous cost estimates, degree of cooperation by the contractor (both business and technical), timely processing of changes, and compliance with other contractual provisions. Generally:
  - ◊ Give positive profit/fee consideration for better than average performance.
  - ◊ Give negative profit/fee consideration for less than average performance.
- **Subcontract Program Management.** Profit/fee analysis of subcontract program management includes evaluation of the contractor's commitment to its competition program and its past and present performance in subcontract competition.
  - ◊ Give positive profit/fee consideration when a contractor has consistently achieved excellent results in these areas in comparison with other contractors in similar circumstances.
  - ◊ Give negative profit/fee consideration when a contractor has demonstrated a poor record in this area.
- **Federal Socioeconomic Programs.** Consider overall contractor performance under Government socioeconomic programs.
  - ◊ Give positive profit/fee consideration for unusual contractor initiative in supporting Government socioeconomic programs.
  - ◊ Give negative profit/fee consideration for contractor failure or unwillingness to support these programs.
- **Special Situations.** In profit/fee analysis of this factor, consider any special situations (e.g., inventive and developmental contributions, unusual pricing agreements, and additional factors) that apply to the acquisition.

11.3.1 Using the NASA Structured Approach (cont)

Consider Profit/Fee Related to Other Factors (cont)

- ◊ Positive profit/fee consideration may be appropriate when special contractor actions benefit the Government and the acquisition process. For example, give positive profit/fee consideration to a contractor that agrees to accept a lower profit or fee for changes or modifications within a prescribed dollar value.
- ◊ Negative profit/fee consideration may be appropriate when contractors receive other outside benefits from contract performance. For example, negative consideration may be appropriate when the contractor is expected to obtain spin off benefits as a direct result of the contract (e.g., products with commercial application).

Using the NASA Form 634 for Profit/ Fee Analysis of Other Factors

NASA FAR Sup 18-15.970

Section 2 of the NASA Form 634 presented on the next page documents a profit/fee analysis performed using the following 5-step procedure:

- For each factor, use the "Government's Cost Objective" total from Section 1A(a) of the form as the "Measurement Base."
- Perform your analysis of each profit/fee factor using the criteria described above and the prescribed "Weight Range" (Section 2(b)) for that factor. Determine an appropriate weight using the decision criteria outlined above.
- Based on your analysis, enter a profit/fee weight in the "Assigned Weight" column (Section 2(c)).
- For each cost category, calculate the "Weighted Profit/Fee" (Section 2(d)) by multiplying the Government cost objective total by the assigned weight.

11.3.1 Using the NASA Structured Approach (cont)

NASA
National Aeronautics and Space Administration

Structured Approach
Profit/Fee Objective

Contractor	RFP/Contract No.
Business Unit	Contract Type
Address	

1. CONTRACTOR EFFORT

COST CATEGORY	GOVERNMENT'S COST OBJECTIVE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE ((a) * (c)) (d)
MATERIAL ACQUISITION				
Material	$90,000	1% to 4%	2.5%	$2,250
DIRECT LABOR				
Direct Engineering Labor	$74,000	4% to 12%	11.0%	$8,140
Direct Manufacturing Labor	$150,000		9.0%	$13,500
OVERHEAD				
Material Overhead	$4,500	3% to 9%	4.0%	$180
Engineering Overhead	$37,000		7.0%	$2,590
Manufacturing Overhead	$322,500		6.0%	$19,350
OTHER COSTS				
Other Direct Cost	$22,000	1% to 3%	2.0%	$440
GENERAL MANAGEMENT (G&A)	$42,000	4% to 6 %	5.5%	$2,310
1.A TOTAL	$742,000		0.066%	$48,760

2.A OTHER FACTORS

FACTOR	MEASUREMENT BASE (a)	WEIGHT RANGE (b)	ASSIGNED WEIGHT (c)	WEIGHTED PROFIT/FEE 1.A (a) * (c) (d)
COST RISK	TOTAL COST OBJECTIVE 1.A (a)	0% to 7%	6.0 %	$44,520
INVESTMENT		-2% to +2%	1.0%	$7,420
PERFORMANCE		-1% to +1%	0.5 %	$3,710
SUBCONTRACT PROGRAM MANAGEMENT		-1% to +1%	-0-	-0-
SOCIO-ECONOMIC PROGRAMS		-.5% to +.5%	-0-	-0-
SPECIAL SITUATIONS			-0-	-0-
2.A TOTAL OTHER FACTORS			0.065 %	$55,650

3. SUBTOTAL PROFIT/FEE LINES (1.A + 2.A)	14.1 %	$104,410
4. LESS FACILITIES CAPITAL COST OF MONEY		— $18,980
5. TOTAL PROFIT/FEE OBJECTIVE LINE (3) - (4)	11.5 %	$85,430

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11.3.1 Using the NASA Structured Approach (cont)

Using the NASA Form 634 for Profit/ Fee Analysis of Other Factors (cont)

- The Section 2A column totals represent the overall profit/fee analysis of other factors:
  - ◊ The total "Weighted Profit/Fee" (Section 2A(d))is the sum of all weighted profit/fee in Section 2(d).
  - ◊ The "Assigned Weight" (Section 2A(c)) is the weighted average profit/fee for other factors. Calculate the assigned weight by dividing the Section 2A(d) "Weighted Profit/Fee" total by the "Total Cost Objective."

NASA Form 634 Subtotal Profit/Fee

The Section 3 column subtotals represent the total profit/fee exclusive of any necessary facilities capital cost of money.

- To calculate the "Weighted Profit/Fee" subtotal (Section 3(d)), sum the values in Section 1A(d) and Section 2A(d).
- The "Assigned Weight" subtotal (Section 3(c)) is the weighted average profit/fee for contract unless there is an adjustment for facilities capital cost of money. To calculate the contract "Assigned Weight" subtotal sum the values in Section 1A(c) and Section 2A(c).

NASA Form 634 Total Profit/Fee

NASA FAR Sup 18-15.970-3

The difference between NASA Form 634 "Subtotal Profit/Fee" and "Total Profit/Fee" is an adjustment for any facilities capital cost of money allowed. When you allow facilities capital cost of money as a contract cost, the NASA structured approach requires that you reduce the profit/fee objective by the amount allowed.

- Enter the amount of any facilities capital cost of money allowed in Section 4(d).
- To calculate "Total Profit Objective" (Section 5(d)), subtract the Section 4(d) from Section 3(d).
- To calculate the total "Assigned Weight" (Section 5(c)), divide the "Total Profit Objective" by the "Total Cost Objective" (Section 1A(a)).

11.3.2 Identifying Exempted Contract Actions

Exempted Commercial Contract Actions

NASA FAR Sup 18-15.902

In NASA, you generally must use the NASA structured approach to profit/fee analysis for definitized contract actions that require cost analysis of cost or pricing data to determine price reasonableness. Use of the structured approach to profit/fee analysis may also be required when you perform cost analysis using cost information other than cost or pricing data.

However, the following contract actions are exempt from the use of the NASA structured approach to profit/fee analysis:

- Architect-engineer contracts;
- Management contracts for operation and/or maintenance of Government facilities;
- Construction contracts;
- Contracts primarily requiring delivery of material supplied by subcontractors;
- Termination settlements;
- Cost-plus-award-fee contracts (however, you may find it advantageous to perform a structured profit analysis as an aid in arriving at an appropriate fee arrangement);
- Contracts having unusual pricing situations when the approach is determined unsuitable and the exemption is:
  - ◊ Justified in writing and
  - ◊ Authorized by the procurement officer.

Letter Contract Exemption

NASA FAR Sup 18-15.971

NASA's policy is to pay profit/fee only on definitized contracts.

Educational Institution Exemption

NASA FAR Sup 18-15.970(f)(1)

It is NASA's policy to not pay profit/fee on contracts with educational institutions.

Nonprofit Organizations

NASA FAR Sup 18-15.970(f)

NASA requires use of a modified structured approach on contracts with nonprofit organizations (except educational institutions) when fees are involved. Guidelines are established in NASA FAR Sup 18-15.970(f)(2).

Chapter Vignette (cont)

Now Andrew Understands Profit/Fee Analysis!

Andrew has heard about contractors refusing to do business with the Government because of the low profits associated with complex Government contracts. Now he understands how important Government profit/fee policy is to:

- *Stimulating efficient contract performance;*
- *Attracting the best capabilities of large and small business concerns to Government contracting; and*
- *Maintaining a viable industrial base.*

The FAR sets forth principles forth the principles for profit/fee analysis, and each agency establishes a structure for analysis that is tailored to the needs of the agency. Now he must follow his agency's profit/fee structure.

Most of all, he realizes that any attempt to reduce contract prices by reducing contract profit/fee is not only a violation of Government policy, it is downright foolish.

Preparing For Negotiation CHAPTER 12

Chapter Vignette

Preparing a Negotiation Position

"If you have been documenting the results of your analysis so far, you are well on your way to preparing your pricing position for contract negotiation," Kay advises Andrew. "Now, go back to your desk and summarize your position. You need to document how you got to your pricing position and specifically address any differences between the proposal, evaluations by other members of the Acquisition Team, and your position. It is important that you do a thorough job of documentation. It will become part of the official contract file and will be used to evaluate the reasonableness of the Government pricing position and for post award reviews."

Andrew is anxious and excited. Finally, he is getting close to negotiating a contract, but, at the same time, he is concerned about how good a job he has done. Pulling his work together and documenting a negotiation position is getting down to what his job is all about!

Learning Objectives

At the End of This Chapter

At the end of this chapter, you will be able to:

Classroom Learning Objective 12/1
Develop a position on total contract price considering both cost analysis and price analysis.

Classroom Learning Objective 12/2
Develop a contract pricing position that considers cost drivers, cost risk, and available tradeoffs with contract requirements.

Classroom Learning Objective 12/3
Describe documentation required to support the Government's prenegotiation pricing position.

12.0 Chapter Introduction

In This Chapter

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.

SECTION	DESCRIPTION	SEE PAGE
12.0	Chapter Introduction	12-3
12.1	Evaluating Overall Price Reasonableness With Price Analysis	12-4
12.2	Performing Tradeoff Analysis	12-6
	12.2.1 Identifying and Considering the Effect of Cost Drivers	12-8
	12.2.2 Identifying Sources of Cost Risk	12-10
12.3	Documenting Your Rationale and Factual Support	12-13

12.1 Evaluating Overall Price Reasonableness With Price Analysis

Definition of Price Analysis

FAR 15.801

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

Cost analysis is not a substitute for effective price analysis. 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 purchase a custom-made automobile identical to a Pontiac Trans Am. You go to your neighborhood mechanic and ask her to build a car for you, and he agrees. In building the car, she gets competitive quotes on all the parts and necessary tooling. She pays minimum wage to all his workers. She asks only a very small profit because she enjoys the challenge.

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 15.805-2

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:

- Competitive offers under the solicitation
- Competitive published catalog or market prices
- Other prices obtained through market research [1]
- Historical offers and/or contract prices
- Rough yardsticks and cost estimating relationships
- Independent Government Estimates

[1] This base links two bases identified in the FAR "Competitive publishes catalog or market prices" and "Other prices obtained through market research" into a single category "Commercial prices." This was done, because the both are based on commercial prices and because the general considerations for using either one as a base for price analysis are similar.

12.1 Evaluating Overall Price Reasonableness With Price Analysis (cont)

Bases for Price Analysis (cont)

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 catalog, market, or regulated prices can be just as desirable as comparisons with competitive offers. After all, the prices of commercial products are defined by commercial market competition.

Independent Government estimates are normally considered to be the least desirable comparison base 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 instance, you would be well advised to consider the last price paid in addition to current competitive offers—especially if the prior contract was awarded last month and at a reasonable price.

Price Reasonableness Decision

Price analysis is a user evaluation; thus, 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 buyer/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 15.803(d)

If your price analysis does not support the findings of your cost analysis, you must reexamine your cost analysis result. Look for tradeoffs 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, your price negotiation memorandum must document the reasons that caused you to accept an unreasonable price.

12.2 Performing Tradeoff Analysis

Section Introduction

In This Section

Consider tradeoffs as you complete your analysis. Common tradeoffs affecting contract pricing involve changes in contract cost or cost risk that are related to changes in contract schedule or other performance requirements.

TOPIC	SEE PAGE
12.2.1 Identifying and Considering the Effect of Cost Drivers	12-8
12.2.2 Identifying Sources of Cost Risk	12-10

Focus on Tradeoffs

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 tradeoffs.

Team Effort

FAR 1.102-3
FAR 1.102-4
FAR 15.802

Take a team approach the tradeoff analysis. Other members of the Government Acquisition Team (e.g., technical personnel, the auditor, and the price analyst) can provide invaluable insight into contract requirements and their affect on contract cost and cost risk.

For example: On a large proposal for contract performance over an extended period of time, you will need a tradeoff analysis support from technical personnel to evaluate the effect of any proposed tradeoff on contract cost or cost risk. You will likely need analysis support from:

- Requiring activity personnel to determine the feasibility of proposed tradeoffs on delivery timing, production or performance methods, and materials;
- Technical personnel to consider the effect of proposed tradeoffs on contract labor and material requirements; and
- The cognizant auditor to consider the effect of the proposed change on labor rates, indirect cost rates, and material pricing.

12.2 Performing Tradeoff Analysis (cont)

Team Effort (cont)

FAR 1.102-3
FAR 1.102-4
FAR 15.802

It is highly unlikely that any one person would possess the expertise in all these areas; hence, a team approach is the only logical option.

However throughout tradeoff analysis, remember that the you are ultimately responsible for acquiring required supplies and services from responsible sources at fair and reasonable prices.

Caution About Tradeoffs

FAR 15.606(a)
FAR 15.610(e)

Before bringing a potential tradeoff (or any other change in terms and conditions) to the negotiation table, you must consider the:

- Costs to the Government affected by the proposed tradeoff;
- Terms and conditions affected by the proposed tradeoff (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 have to amend the RFP and notify other offerors as provided in the FAR. Also remember that technical transfusion and technical leveling are prohibited.

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 vendor 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 vendor has quoted a unit price of $5,000 for the twelve month delivery. At the same time, the vendor 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.

12.2.1 Identifying and Considering the Effect of Cost Drivers (cont)

Considering the Cost Driver Effect on Contract Price (cont)

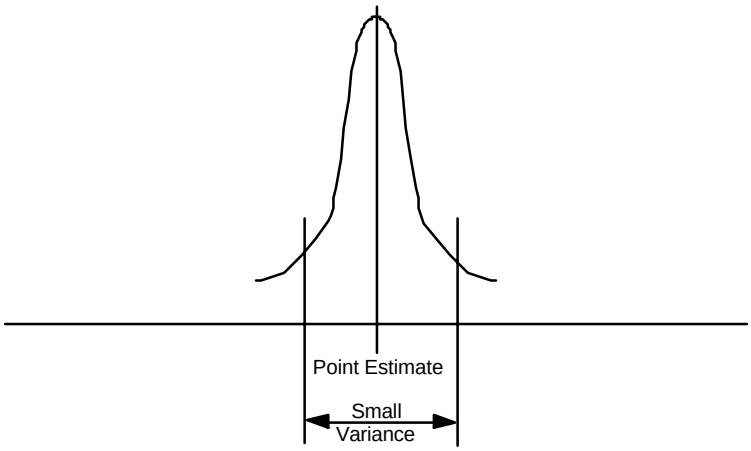
Example 3. The proposal calls for a delivery 36 months after receipt of an order. During the technical analysis, you determined that the offeror's shop loading schedule would allow for delivery in 24 months. The proposed part has been in continuous production for several years and is “well down the improvement 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 would actually reduce contract cost.

12.2.2 Identifying and Ameliorating Sources of Cost Risk

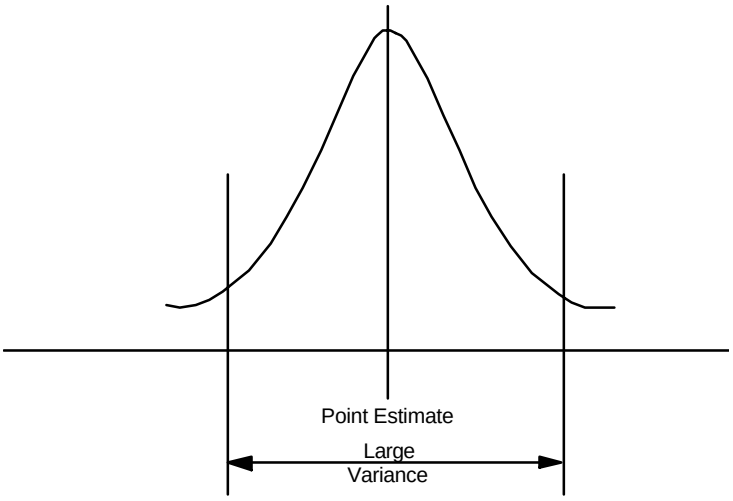
Identify Sources of Cost Risk

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 cost. Known to statisticians as an error probability distribution, the greater the potential variability between the projected and actual cost, the greater the cost risk.



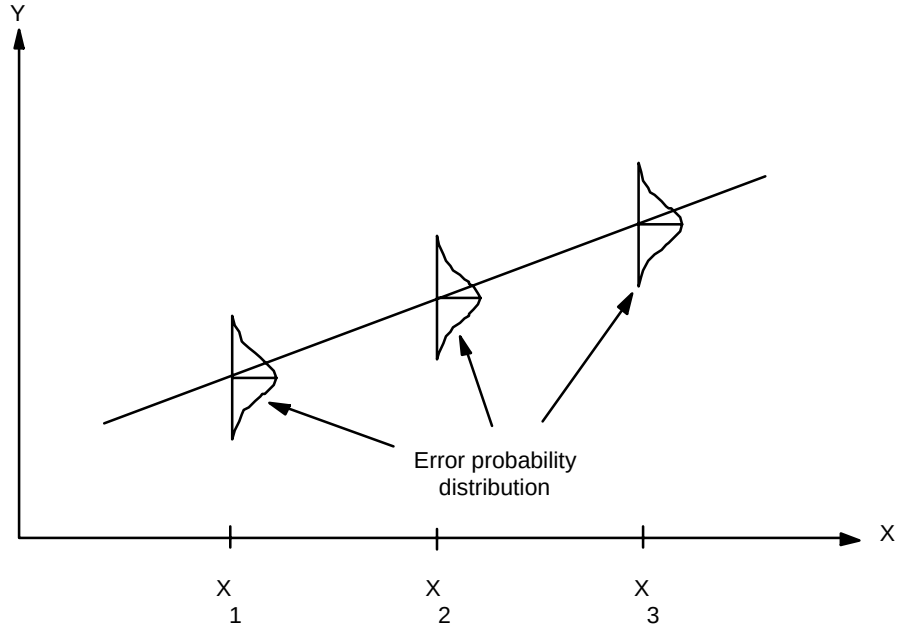
Lower Cost Risk



12.2.2 Identifying and Ameliorating Sources of Cost Risk (cont)

Identify Sources of Cost Risk (cont)

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.

12.2.2 Identifying and Ameliorating Sources of Cost Risk (cont)

Identify Means of Reducing or Controlling Contractor Cost Risk	Remember that there are a variety of methods that you should consider for reducing an 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 Documenting the Rationale and Factual Support Used In Analysis

Key Prenegotiation Documentation Requirements

FAR 15.808

The rationale and supporting documentation for a negotiation position are typically formalized in a prenegotiation document. While format and specific requirements vary from agency to agency, key requirements typically include the following:

- The procurement situation;
- Prenegotiation summary of the offeror's estimating rationale, Government pricing position, and key differences between the two positions; and
- Other Government positions developed to consider contract risk.

Overall prenegotiation documentation should provide a clear summary of contracting environment, the offeror's position, the Government's position(s), and key differences. This summary will serve as the basis for management review and approval, as well as post-negotiation review.

Documenting the Procurement Situation

In describing the procurement situation, include any outside influences and time pressures. If there are no unusual circumstances, so state. Show the delivery schedule and period of performance. If there is a difference between the Government schedule and the proposed schedule, discuss how it was resolved. Identify any previous buys of the same or similar items. Identify whether Government facilities or property will be furnished to the contractor as a result of the negotiation. Indicate the location(s) where the contract will be performed. Describe any unique features of the negotiation, and the appropriateness of the contract type.

Summarizing Prenegotiation Positions

As a minimum, a prenegotiation summary should outline the offeror's estimating rationale, the Government's pricing position, and key differences between the two positions. Commonly, 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 Overhead	$2,500,000	$2,025,000	$475,000	See Para B
Subtotal	$3,500,000	$2,925,000	$575,000	
G&A	$350,000	$292,500	$57,500	See Para C
Total Cost	$3,850,000	$3,217,500	$632,500	

12.3 Documenting the Rationale and Factual Support Used In Analysis (cont)

Summarizing Prenegotiation Positions (cont)

Using this type of tabular cost element summary, you can identify the areas and degree of differences and provide a general format 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, discuss the same subjects found in Paragraph A with one major exception. Since these are overhead and G&A 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 analysis below, you will see that the engineering overhead dollar reductions are a result of both reduced engineering labor dollars (the indirect cost base) and a reduced engineering overhead rate. For G&A, 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 * 250% = $2,500,000
Recommended	$900,000 * 225% = $2,025,000

GENERAL & ADMINISTRATIVE	CALCULATIONS
Proposed	$3,500,000 * 10% = $350,000
Recommended	$2,925,000 * 10% = $292,500

Consider Risk in Developing 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 individual agency guidance may vary, the classic approach to developing a negotiation position calls for three positions -- minimum, objective, and maximum.

12.3 Documenting the Rationale and Factual Support Used In Analysis (cont)

Consider Risk in Developing Range of Positions (cont)

- **Objective.** As you have already seen, 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 reapproval 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.

12.3 Documenting the Rationale and Factual Support Used In Analysis (cont)

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.

[1] Refer to your agency FAR supplement for specific requirements.

12.3 Documenting the Rationale and Factual Support Used In Analysis (cont)

PRICE PRENEGOTIATION MEMORANDUM CHECKLIST (CONT)

Procurement Situation

_____ 1. Identify type of negotiation action (new contract, etc).

_____ 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.

12.3 Documenting the Rationale and Factual Support Used In Analysis (cont)

PRICE PRENEGOTIATION MEMORANDUM CHECKLIST (CONT)

Prenegotiation Summary (cont)

_____ 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.

Chapter Vignette (cont)

That does it!

Andrew says "Now I see the forest. Since I started this cost analysis it seemed that I was always looking at trees, but I could never step back and see the forest. Putting these pricing positions together has given me a chance to look at the forest -- the overall contracting picture."

Kay agrees, "Sometimes we can get lost in the numbers of cost analysis and forget our true objective is to obtain required supplies and services from responsible sources at fair and reasonable prices. Price analysis and tradeoff analysis help to bring us back to that objective.

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