

Ch 1 - Establishing And Monitoring Contract Type

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1.0 Chapter Introduction

When used in this chapter, the terms "contract type" and "type of contract" refer to the contract compensation arrangement. The contract compensation arrangement is the method of determining the dollars due to the contractor under the contract. In this chapter, you will learn about the development and application of common compensation arrangements:

1.1 Matching Contract Type To Contract Risk

Points to Consider ([FAR 16.103](#)). Contract type selection is the principal method of allocating cost risk between the Government and the contractor. There is no single contract type that is right for every contracting situation. Selection must be made on a case-by-case basis considering

contract risk, incentives for contractor performance, and other factors such as the adequacy of the contractor's accounting system. Your objective should be to select a contract type that will result in reasonable contractor risk with the greatest incentive for efficient and economical contract performance. Selecting the proper contract type will make the work more attractive to more potential offerors, thereby increasing competition.

As you match contract type to contract risk, consider the following:

- Identify available contract types;
- Consider acquisition method;
- Consider commerciality of the requirement;
- Consider cost risk associated with the contract action;
- Consider appropriate performance incentives;
- Consider the accounting system adequacy; and
- Document the selection decision.

Identify Available Contract Types. The table on the following pages compares the most common compensation arrangements. Most of those arrangements fit into two general categories fixed-price and cost-reimbursement, but labor-hour and time-and-materials contracts have characteristics of both:

- **Fixed-Price** ([FAR Subpart 16.2](#)). Under a fixed-price contract, the contractor agrees to deliver the product or service required at a price not in excess of the agreed-to maximum. Fixed-price contracts should be used when the contract risk is relatively low, or defined within acceptable limits, and the contractor and the Government can reasonably agree on a maximum price. Contract types in this category include:
 - Firm fixed-price (FFP)
 - Fixed-price economic price adjustment (FPEPA)
 - Fixed-price award-fee (FPAF)
 - Fixed-price incentive firm (FPIF)
 - Fixed-price incentive with successive targets (FPIS)
 - Fixed-price contract with prospective price redetermination (FPRP)
 - Fixed-ceiling-price contract with retroactive price redetermination (FPRR)

- Firm fixed-price level of effort term contract (FFPLOE)
- **Cost-Reimbursement** ([FAR Subpart 16.3](#)). Under a cost-reimbursement contract, the contractor agrees to provide its best effort to complete the required contract effort. Cost-reimbursement contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract. These contracts include an estimate of total cost for the purpose of obligating funds and establishing a ceiling that the contractor cannot exceed (except at its own risk) without the approval of the contracting officer. Contract types in this category include:
 - Cost (CR)
 - Cost-sharing (CS)
 - Cost-plus-fixed-fee (CPFF)
 - Cost-plus-award-fee (CPAF)
 - Cost-plus-incentive-fee (CPIF)
- **Labor-Hour and Time-and-Materials** ([FAR Subpart 16.6](#)). There are two other types of compensation arrangements that do not completely fit the mold of either fixed-price or cost-reimbursement contracts. Labor-hour and time-and-materials contracts both include fixed labor rates but only estimates of the hours required to complete the contract. They are generally considered to most resemble cost-reimbursement contracts because they:
 - Do not require the contractor to complete the required contract effort within an agreed-to maximum price; and
 - Pay the contractor for actual hours worked,.

Comparison of Major Contract Types					
	Firm Fixed-Price (FFP)	Fixed-Price Economic Price Adjustment (FPEPA)	Fixed-Price Incentive Firm (FPIF)	Fixed-Price Award-fee (FPAF)	Fixed-Price Prospective Redetermination (FPRP)
Principal Risk to be Mitigated	None. Thus, the contractor assumes all cost risk.	Unstable market prices for labor or material over the life of the contract.	Moderately uncertain contract labor or material requirements.	Risk that the user will not be fully satisfied because of judgmental acceptance criteria.	Costs of performance after the first year because they cannot be estimated with confidence.
Use When..	The requirement is	The market prices at risk are severable	A ceiling price can be established	Judgmental standards can be fairly	The Government needs a firm commitment from

	<p>well-defined.</p> <p>Contractors are experienced in meeting it.</p> <p>Market conditions are stable.</p> <p>Financial risks are otherwise insignificant.</p>	<p>and significant.</p> <p>The risk stems from industry-wide contingencies beyond the contractor's control. The dollars at risk outweigh the administrative burdens of an FPEPA.</p>	<p>that covers the most probable risks inherent in the nature of the work. The proposed profit sharing formula would motivate the contractor to control costs to and meet other objectives.</p>	<p>applied by an Award-fee panel. The potential fee is large enough to both:</p> <p>Provide a meaningful incentive.</p> <p>Justify related administrative burdens.</p>	<p>the contractor to deliver the supplies or services during subsequent years. The dollars at risk outweigh the administrative burdens of an FPRP.</p>
Elements	<p>A firm fixed-price for each line item or one or more groupings of line items.</p>	<p>A fixed-price, ceiling on upward adjustment, and a formula for adjusting the price up or down based on:</p> <p>Established prices.</p> <p>Actual labor or material costs.</p> <p>Labor or material indices.</p>	<p>A ceiling price</p> <p>Target cost</p> <p>Target profit</p> <p>Delivery, quality, and/or other performance targets (optional)</p> <p>Profit sharing formula</p>	<p>A firm fixed-price.</p> <p>Standards for evaluating performance.</p> <p>Procedures for calculating a fee based on performance against the standards</p>	<p>Fixed-price for the first period.</p> <p>Proposed subsequent periods (at least 12 months apart).</p> <p>Timetable for pricing the next period(s).</p>
Contractor is Obligated to:	<p>Provide an acceptable deliverable at the time, place and price specified in the contract.</p>	<p>Provide an acceptable deliverable at the time and place specified in the contract at the adjusted price.</p>	<p>Provide an acceptable deliverable at the time and place specified in the contract at or below the ceiling price.</p>	<p>Perform at the time, place, and the price fixed in the contract.</p>	<p>Provide acceptable deliverables at the time and place specified in the contract at the price established for each period.</p>
Contractor Incentive (other than maximizing goodwill)	<p>Generally realizes an additional dollar of profit for every dollar that costs are</p>	<p>Generally realizes an additional dollar of profit for every dollar that costs are</p>	<p>Realizes a higher profit by completing the work below the ceiling</p>	<p>Generally realizes an additional dollar of profit for every dollar that costs</p>	<p>For the period of performance, realizes an additional dollar of profit for every dollar</p>

	reduced.	reduced.	price and/or by meeting objective performance targets.	are reduced; earns an additional fee for satisfying the performance standards.	that costs are reduced.
Typical Application	Commercial supplies and services.	Long-term contracts for commercial supplies during a period of high inflation	Production of a major system based on a prototype	Performance-based service contracts.	Long-term production of spare parts for a major system.
Principal Limitations in FAR Parts 16, 32, 35, and 52	Generally NOT appropriate for R&D.	Must be justified.	Must be justified. Must be negotiated. Contractor must have an adequate accounting system. Cost data must support targets.	Must be negotiated.	MUST be negotiated. Contractor must have an adequate accounting system that supports the pricing periods. Prompt redeterminations.
Variants	Firm Fixed-price Level of Effort.		Successive Targets		Retroactive Redetermination

¹ Goodwill is the value of the name, reputation, location, and intangible assets of the firm.

Comparison of Major Contract Types					
	Cost-Plus Incentive-Fee (CPIF)	Cost-Plus Award-Fee (CPAF)	Cost-Plus Fixed-Fee (CPFF)	Cost or Cost-Sharing (C or CS)	Time & Materials (T&M)
Principal Risk to be Mitigated	Highly uncertain and speculative labor hours, labor mix, and/or material requirements (and other things) necessary to perform the contract. The Government assumes the risks inherent in the contract -benefiting if the actual cost is lower than the expected cost-losing if the work cannot be completed within the expected cost of performance.				
Use When..	An objective relationship can be established between the fee and such measures of	Objective incentive targets are not feasible for critical aspects of performance.	Relating fee to performance (e.g., to actual costs) would be	The contractor expects substantial compensating benefits for absorbing	No other type of contract is suitable (e.g., because costs are

	performance as actual costs, delivery dates, performance benchmarks, and the like.	Judgmental standards can be fairly applied. ¹ Potential fee would provide a meaningful incentive.	unworkable or of marginal utility.	part of the costs and/or foregoing fee or The vendor is a non-profit entity	too low to justify an audit of the contractor's indirect expenses).
Elements	Target cost Performance targets (optional) A minimum, maximum, and target fee A formula for adjusting fee based on actual costs and/or performance	Target cost Standards for evaluating performance A base and maximum fee Procedures for adjusting fee, based on performance against the standards	Target cost Fixed fee	Target cost If CS, an agreement on the Government's share of the cost. No fee	A ceiling price A per-hour labor rate that also covers overhead and profit Provisions for reimbursing direct material costs
Contractor is Obligated to:	Make a good faith effort to meet the Government's needs within the estimated cost in the Schedule.				Make a good faith effort to meet the Government's needs within the ceiling price.
Contractor Incentive (other than maximizing goodwill)¹	Realizes a higher fee by completing the work at a lower cost and/or by meeting other objective performance targets.	Realizes a higher fee by meeting judgmental performance standards.	Realizes a higher rate of return (i.e., fee divided by total cost) as total cost decreases.	If CS, shares in the cost of providing a deliverable of mutual benefit	
Typical Application	Research and development of the prototype for a major system.	Large scale research study.	Research study	Joint research with educational institutions.	Emergency repairs to heating plants and aircraft engines.
Principal	The contractor must have an adequate accounting				Labor rates

Limitations in FAR Parts 16, 32, 35, and 52	system. The Government must exercise surveillance during performance to ensure use of efficient methods and cost controls. Must be negotiated. Must be justified. Statutory and regulatory limits on the fees that may be negotiated. Must include the applicable Limitation of Cost clause at FAR 52.232-20 through 23.			must be negotiated. MUST be justified. The Government MUST exercise appropriate surveillance to ensure efficient performance.
Variants			Completion or Term.	Labor Hour (LH)

Consider Acquisition Method ([FAR 14.104](#), [16.102](#), and [DFARS 216.403-70](#)). The acquisition method selected for a particular acquisition may limit the available choice of contract type:

- **Simplified Acquisition.** When using simplified acquisition procedures purchase orders are normally firm fixed-price. You may use an unpriced order in certain situations when it is impossible to obtain firm pricing prior to issuing the purchase order. Whenever you use an unpriced order, the order must include a dollar limit on the Government's obligation and the contracting officer must follow-up to assure timely pricing.
- **Sealed Bidding.** When using sealed bidding procedures:
 - You will normally use a firm fixed-price contract.
 - You may use a fixed-price contract with economic price adjustment if the contracting officer determines (in writing) what type of contract is necessary to protect the contractor and the Government against significant fluctuations in labor or material costs or to provide for contract price adjustments in the event of changes in the contractor's established prices.
 - You must not use any other contract type.
- **Negotiation.** When using the negotiation procedures prescribed in FAR Part 15:
 - You may use any contract type or combination of contract types that will promote the best interests of the Government, as long as you meet the specific limitations in FAR Part 16.

- o You must not use any contract type not prescribed in the FAR unless authorized by agency regulation or a FAR deviation.

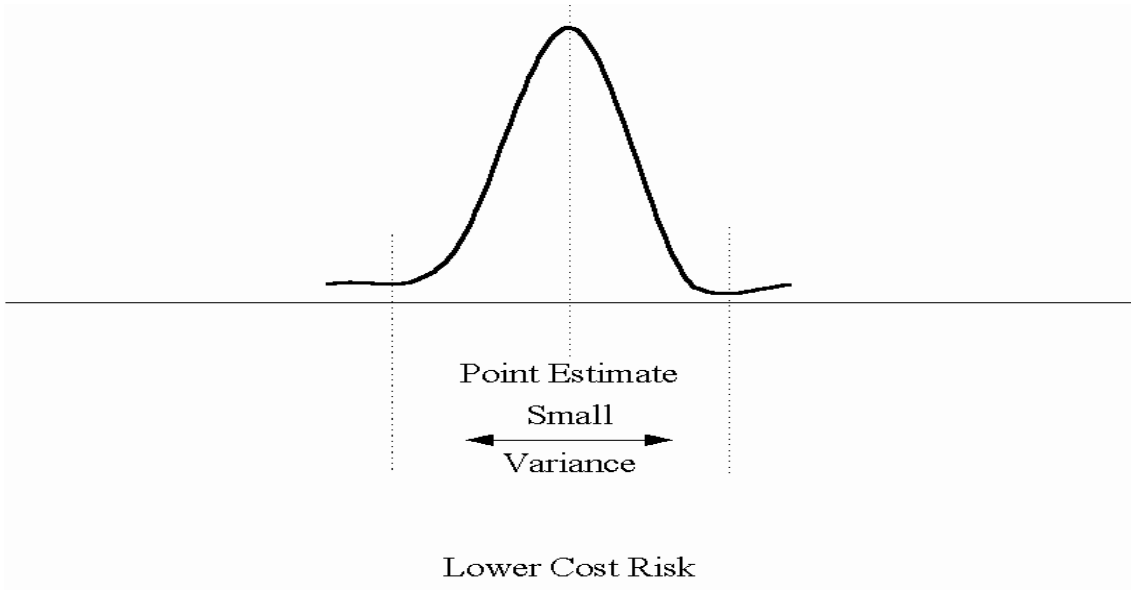
Consider Commerciality of the Requirement ([FAR 12.207](#)).

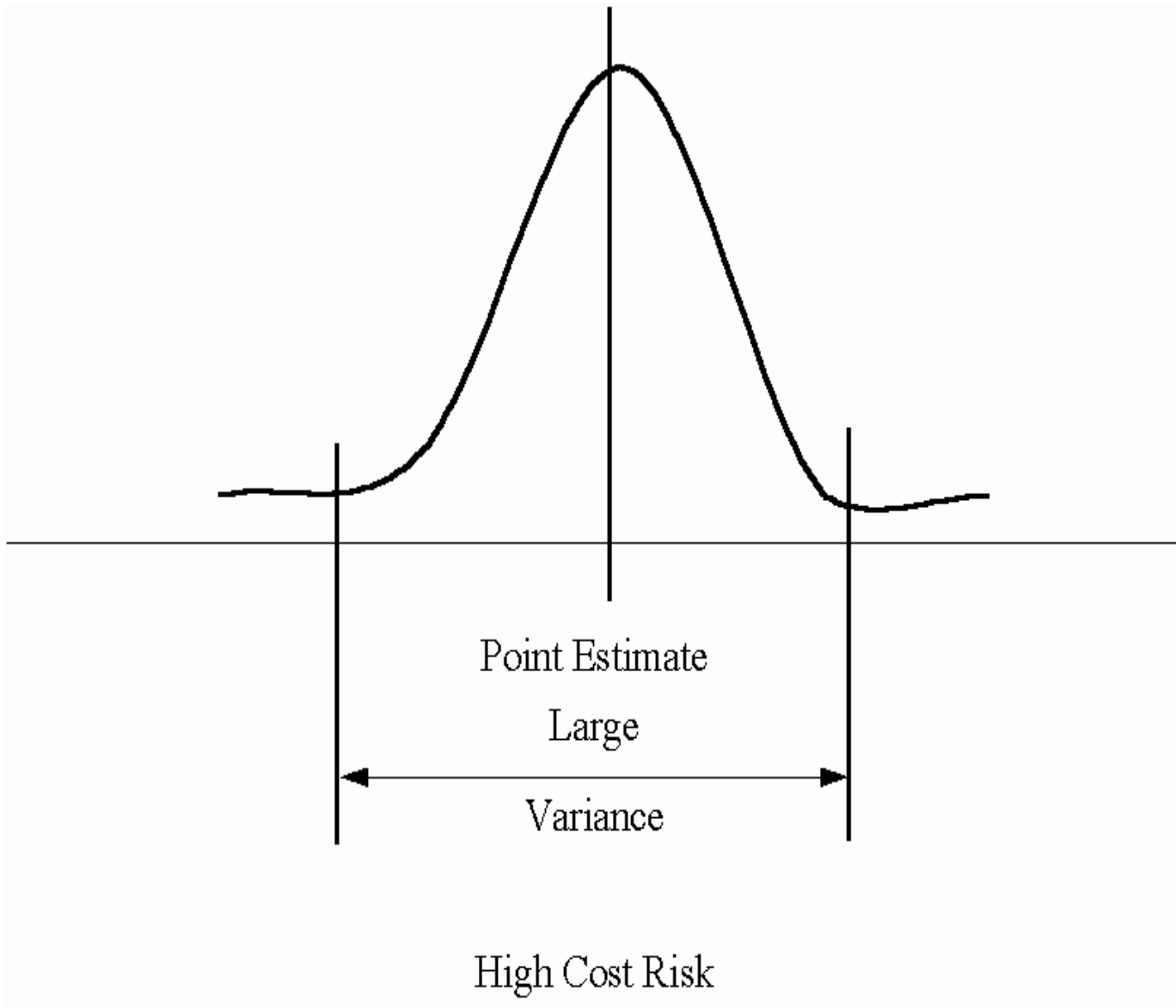
When acquiring a commercial item:

- You normally should use a firm fixed-price contract.
- You may use a fixed-price contract with economic price adjustment if the contracting officer determines (in writing) what type of contract is necessary to protect the contractor and the Government against significant fluctuations in labor or material costs or to provide for contract price adjustments in the event of changes in the contractor's established prices.
- You must not use any other contract type in acquiring commercial items.

Consider Cost Risk ([FAR 16.103\(a\)](#)). Encourage contractors to accept reasonable cost risks of contract performance. However, requiring contractors to accept unknown or uncontrollable cost risk can endanger contract performance, substantially reduce competition, and/or substantially increase contract price. To realistically choose the proper contract type to meet a specific contract situation, you must consider the proper allocation of cost risk.

Cost estimates, whether they are the offeror's proposed or the Government's recommended, are point estimates. In all contracts involving forward pricing, the point estimate is a projection of what the estimator believes is most likely to happen. Since things rarely happen exactly as predicted, there is usually some variation between projected and actual cost. The greater the potential variability between the projected and actual cost, the greater the cost risk.





Quantitative analysis techniques can provide invaluable information about the distribution of values around the most likely future cost. For example, consider the confidence interval when your estimate is based on sampling analysis and the prediction interval when your estimate is based on regression analysis. However, use this information wisely. If the variance is large, attempt to determine why the interval is so large and what can be done to narrow it, before you select a contract type to share the risk.

As a minimum, your appraisal of cost risk should consider two areas of particular concern, contract performance risk and market risk.

- **Performance Risk.** Most contract cost risk is related to contract requirements and the uncertainty surrounding contract performance. The lower the uncertainty the lower the risk. Therefore, your appraisal of cost risk should begin with an appraisal of performance risk. For larger more complex contracts, you will likely need assistance from other members of the Government Acquisition Team (e.g., representatives from the requiring activity, engineering staff, contracting, and program/project management).
 - Areas that you consider should include:
 - Stability and clarity of the contract specifications or statement of work;
 - Type and complexity of the item or service being purchased;
 - Availability of historical pricing data;
 - Prior experience in providing required supplies or services;
 - Urgency of the requirement;
 - Contractor technical capability and financial responsibility; and
 - Extent and nature of proposed subcontracting.
 - The figure below depicts what happens as the contract requirement becomes better defined.

COST RISK AND CONTRACT TYPE						
Cost Risk	High					Low
Requirement Definition	Vague				Well-defined	
Production Stages	Concept Studies & Basic Research	Exploratory Development	Test/ Demonstration	Full-scale Development	Full Production	Follow-on Production
Contract Type	Varied	CPFF	CPIF, FPIF	CPIF, FPIF, or FFP	FFP, FPIF, or FPEPA	FFP, FPIF, or FPEPA

- Performance risk should be reduced from a high to a relatively low level, as the requirement progresses from vague to well-defined and experience with the product increases.
- Research and development contracts generally have a rather high performance risk. This is due to

the factor of ill-defined requirements that arise from the necessity to deal beyond, or at least very near, the upper limits of current technology (i.e., "the state of the art").

- Follow-on production contracts generally have a relatively low performance risk. Requirements are well known, there is a cost history to draw on, contractors have experience producing the product, etc.
- As performance risk changes, so should contract type. Note that cost-reimbursement, time & materials, or labor-hour contracts are generally associated with higher-risk requirements and fixed-price contracts are generally associated with lower-risk requirements.
- **Market Risk.** Changes in the marketplace will also affect contract costs. Preferred acquisition practice calls for forward pricing of contract efforts, because forward pricing provides a baseline which you and the contractor can use to measure cost or price performance against contract effort.
 - Forward pricing requires the contracting parties to make assumptions about future changes in the marketplace. A volatile market will increase the cost risk involved in contract pricing, particularly when the contract period will extend several years. What will material and labor cost two years from now? Will material shortages occur two years from now? In cases where these unknown costs are significant, contract period risk becomes an important consideration in selection of contract type.
 - Fixed-price contracts with economic price adjustment, for example, are designed specifically to reduce this risk for contractors.

Consider Appropriate Performance Incentives ([FAR 16.103\(b\)](#)). Select the contract type (or combination of types) that will appropriately motivate contract performance.

- When the risk involved is minimal or can be predicted with an acceptable degree of certainty, use a firm fixed-price contract, because it best utilizes profit to motivate efficient contract performance and cost control.

- When there is no reasonable basis for firm pricing, consider other contract types. Using a firm fixed-price contract may limit competition, encourage inflated contract pricing, and efforts to control costs may actually hamper effective contract performance.

Consider Accounting System Adequacy ([FAR 16.104\(h\)](#)).

Before agreeing on a contract type other than firm fixed-price, you must ensure that the contractor's accounting system will permit timely development of all necessary cost data in the form required for the proposed contract type. A careful account system review is particularly important when the contractor's only experience has been with firm fixed-price contracts.

Document the Selection Decision ([FAR 16.103\(d\)](#)). Assure that the contract file contains documentation showing why the particular contract type was selected, unless you are:

- Making a fixed-price acquisition using simplified acquisition procedures;
- Using a firm fixed-price contract for any requirement other than major systems acquisition or research and development; or
- Awarding the set-aside portion of a sealed bid partial set-aside for small business.

1.2 Utilizing Fixed-Price Economic Price Adjustment Contracts

This section will examine procedures for establishing a fixed-price economic price adjustment contract (FPEPA) and the procedures for making price adjustments using one type of FPEPA contract.

- 1.2.1 - [Establishing Terms And Conditions For Economic Price Adjustment](#)
- 1.2.2 - [Making An Economic Price Adjustment Using Cost Indexes](#)

General Characteristics ([FAR 16.203](#)). A fixed-price with economic price adjustment (FPEPA) contract is designed to cope with the economic uncertainties that threaten long-term fixed-price arrangements. The economic price

adjustment (EPA) provisions provide for both price increases and decreases to protect the Government and the contractor from the effects of economic changes.

Situations for Use ([FAR 16.203-2](#)). You may use an FPEPA contract in sealed bidding or negotiation when both of the following conditions exist:

- There is serious doubt concerning the stability of market or labor conditions that will exist during an extended period of contract performance.
 - Volatility of the markets for labor and material. The more volatile the market, the greater the benefits that can be derived from FPEPA utilization.
 - Projected contract period. The longer the contract, the greater the contractor's exposure to an uncertain market. FPEPA contracts are normally not used for contracts that will be completed within six months of contract award.
 - The amount of competition expected. If markets are truly volatile, many firms may be unwilling to submit an offer without EPA protection.
 - Dollar value of the contract. The greater the cost risk to the contractor, the greater the benefits that can be derived from an FPEPA contract. In the DoD, adjustments based on actual labor or material cost are generally not used for contracts of \$50,000 or less ([DFARS 216. 203-4\(c\)](#)).
- Contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract.

Limitations on Use ([FAR 16.203-3](#)). You must not use an FPEPA contract unless you have determined that it is necessary for one of the following reasons.

- To protect the contractor and the Government against significant fluctuations in labor or material costs.
- To provide for contract price adjustment in the event of changes in the contractor's established prices.

1.2.1 Establishing Terms And Conditions For Economic Price Adjustment

Establishing the Base for Adjustment ([FAR 16.203-2](#)). When establishing a base for adjustment, ensure that contingency allowances are not duplicated by inclusion in both the base price and the adjustment requested by the contractor under the EPA provision.

If you do not require cost or pricing data, obtain adequate information to establish the base level from which adjustment will be made. If necessary, you may require verification of the data submitted.

EPA Clauses in Negotiated Contracts ([FAR 16.203-4](#)). The key provision in an FPEPA contract is the EPA clause. FAR identifies the four types of economic price adjustment presented in the table below. In developing an FPEPA contract, you can choose from the FAR EPA clauses, use an agency-prescribed clause, or develop your own unique clause following agency guidelines. For commercial items, consider market research and commercial practice in clause development.

When you are contracting by negotiation and an FPEPA contract is appropriate:		
Consider adjustment based on:	When the following requirements are met:	And adjustment can follow the requirements of:
Established Prices for Standard Supplies	<ul style="list-style-type: none"> • A fixed-price contract is contemplated. • Contract is for standard supplies with an established catalog or market price. • If the contract unit price reflects a net price after applying a trade discount from a catalog or list price, you must document both the catalog or list price and the discount. 	<ul style="list-style-type: none"> • Economic Price Adjustment-Standard Supplies (FAR 52.216-2); or • An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate (e.g., DFARS 252.216-7000, Economic Price Adjustment-Basic Steel, Aluminum, Brass, Bronze, or Copper Mill

		Products).
Established Prices of Semistandard Supplies	<ul style="list-style-type: none"> • A fixed-price contract is contemplated. • The contract is for semistandard supplies with prices that can be reasonably related to the prices of nearly equivalent standard supplies with an established catalog or market price. • If the contract unit price reflects a net price after applying a trade discount from a catalog or list price, you can document both the catalog or list price and the discount. • Before contract award, you must reach agreement in writing with the contractor on the identity of the standard item related to each line item. • Note: If the supplies are standard, except for preservation, packaging, and packing, use the Standard Supplies provision, above. 	<ul style="list-style-type: none"> • Economic Price Adjustment-Semistandard Supplies (FAR 52.216-3); or • An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate.
Actual Cost of Labor or Material	<ul style="list-style-type: none"> • A fixed-price contract is contemplated. • No major design engineering or development is involved. • One or more identifiable labor or material cost factors is subject to change. • The contract Schedule must describe in detail: • Types of labor and materials subject to adjustment under the provision. • Labor rates, including fringe benefits that may be increased or decreased. • Quantities of the specified 	<ul style="list-style-type: none"> • Economic Price Adjustment-Labor and Material (FAR 52.216-4); or • An agency-prescribed EPA clause if you determine that use of the above provision is inappropriate (e.g., DFARS 252.216-7001, Economic Price

	<p>labor and materials allocable to each unit to be delivered under the contract.</p> <ul style="list-style-type: none"> • When negotiating adjustments under the contract, you must be able to: • Consider work in process and materials on hand at the time of changes in labor rates, including fringe benefits. • Not adjust any indirect costs except fringe benefits. • Consider only fringe benefits specified in the contract Schedule. 	Adjustment-Nonstandard Steel Items).
Price/Cost Indexes for Labor or Material	<ul style="list-style-type: none"> • The contract involves an extended performance period with significant costs beyond one year. • Contract amount subject to adjustment is substantial. • Labor and material prices are too unstable to permit reasonable division of risk between the contractor and the Government without an EPA clause. 	EPA clause prepared and approved following agency procedures.

EPA Provisions in Sealed Bidding ([FAR 14.408-4](#)). In sealed bidding, you cannot negotiate the terms of an EPA clause. When you prepare the invitation for bids (IFB), the contract clause must be established in a way that is compatible with the requirements of the sealed bidding process.

When an IFB contains an economic price adjustment clause and...	Then...
No bidder takes exception to the clause	Evaluate bids on the basis of the quoted prices without adding the allowable EPA.
A bidder increases the maximum percentage of EPA stipulated in the invitation or limits the	Reject the bid as nonresponsive.

downward EPA provisions of the IFB	
A bid deletes the EPA clause	Reject the bid as nonresponsive because downward adjustment is limited by the deletion.
A bidder decreases the maximum percentage of EPA stipulated in the invitation	<ul style="list-style-type: none"> • Evaluate bids at the base price. • If the bidder with the reduced ceiling is in position to receive award, the award must reflect the lower ceiling.

When an IFB does not contain an economic price adjustment clause, but a bidder proposes one...	Then...
With a ceiling that the price will not exceed	<ul style="list-style-type: none"> • Evaluate the bid on the basis of the maximum possible EPA of the quoted price. • If the bid is eligible for award, request the bidder to agree to the inclusion in the contract of an approved EPA clause subject to the same ceiling. • If the bidder will not agree to an approved clause, award may be made based on the original bid.
Without a ceiling that the price will not exceed	Reject the bid unless there is a clear basis for evaluation.

Developing an EPA Clause Based on Cost Indexes ([DFARS 216.203-4\(d\)](#)). When you develop an EPA clause based on cost indexes for labor or material, the clause must be prepared and approved in accordance with agency procedures. Assure that the clause:

- Is not unnecessarily complex.
- Accurately identifies the index(es) which will be used in making adjustments:

- Normally, you should not use more than two indexes, one for labor (direct and indirect) and one for material (direct and indirect).
 - The index should encompass a large sample of relevant items while still bearing a logical relationship to the type of contract costs being adjusted.
 - Commonly used indexes include the following series published by the U.S. Department of Labor, [Bureau of Labor Statistics \(BLS\)](#):
 - [Producer Price Index](#) for industrial commodities.
 - [Employment Cost Index](#) for wages and salaries, benefits, and compensation costs for aerospace industries.
 - Wages and Income Series by Standard Industrial Classification (SIC).
 - If no single index relates directly to the costs to be adjusted, you may need to develop a composite index.
- Clearly identifies a base index period comparable to the base contract period for adjustment.
- Clearly identifies events that will trigger price adjustments.
 - Adjustments should be frequent enough to afford the contractor appropriate economic protection without creating a burdensome administrative effort.
 - Normally, the adjustment period should range from quarterly to annually.
- States the percentage of the base price that is subject to adjustment. Normally, you should:
 - Not apply adjustments to the profit portion of contract price. Obtain adequate information from the contractor and other sources to assure that the baseline is reasonable.
 - Exclude any areas of cost that do not require adjustment, such as firm fixed-price subcontracts, areas of overhead that should remain relatively stable (e.g., depreciation), labor costs covered by a union agreement, and other costs not likely to be affected by changes in the economy.
 - Allocate the portions of contract price subject to adjustment to specific periods of time (e.g., quarterly) based on the most probable pattern of expenditure or commitment (expenditure profile).

- State that the portion of contract price subject to adjustment must not be modified except in the event of significant changes in contract scope.
- Reasonably provides for potential economic fluctuations within the original contract period, including options. Do not provide for an adjustment beyond the original contract period, including options.
- Clearly identifies any limits on adjustment, ceiling on upward adjustments or floor on downward adjustments. Normally, you should not include a ceiling or a floor for adjustment unless the adjustment is based on indexes below the four digit level of the BLS indexes identified above.
- Clearly identifies any minimum change required to trigger adjustment. For example, the contract could state that, "No adjustment will be made unless the index indicates a price change of 2 percent or more from base period prices. However, if the index does indicate an increase or decrease of more than 2 percent, the adjustment will consider the full amount of the change for the portion of contract price indicated in the contract."
- Clearly identifies any requirement for the prime contractor to extend EPA coverage to subcontractors to assure a proper allocation of risk.
- Clearly states how EPA adjustments will be considered in applying any cost incentives included in the contract. Normally, a contract which includes a cost incentive provision should provide that any sums paid to the contractor because of EPA provisions must be subtracted from the total allowable costs, for the purpose of establishing the total costs to which the provision applies.
- Clearly state how the pricing of contract modifications will be affected by the EPA provisions. Normally, modifications are priced as though the EPA provision did not exist.

1.2.2 Making An Economic Price Adjustment Using Cost Indexes

Steps for Making an Economic Price Adjustment. When you have developed and awarded an FPEPA contract based on cost index(es), you must administer the EPA provisions as

presented in the contract. In general, the adjustment process will follow a 5-step procedure:

Step 1. Identify the index(es) which will be used in making adjustments.

Step 2. Identify the base period and times or events that will trigger price adjustments.

Step 3. Identify the percentage of the base price subject to adjustment.

Step 4. Identify any limits on adjustment.

Step 5. Calculate the adjusted price.

$$\text{Adjusted Unit Price} = \left[\frac{I_2}{I_1} \times S(P) \right] + [(1 - S)(P)]$$

Where:

I_1 = Index for Base Period

I_2 = Index for Adjustment Period

S = Percentage of Price Subject to Adjustment

P = Base Unit Contract Price

Example of an Economic Price Adjustment. The following example demonstrates the application of the above steps in making a contract price adjustment for a manufactured item. In the example, an EPA clause was included in the contract, awarded in December 19X1, for deliveries during calendar year 19X2. An estimated 25 percent of the contract price is related to the market price of silver and fluctuations in the market make it extremely difficult to estimate costs over the next year.

Step 1. Identify the index(es) which will be used in making adjustments. The contract states that price adjustments will be made using the Producer Price Index (PPI) for "silver bar, refined, .999 fine" (PPI 1022-0272).

Step 2. Identify the base period and times or events that will trigger price adjustments. The contract provides for

adjustment consideration using the April 19X2 index for scheduled second quarter deliveries, the July 19X2 index for scheduled third quarter deliveries, and the October 19X2 index for scheduled fourth quarter deliveries. The base period for adjustment purposes is December 19X1. The calculation presented below is for the 5,000 units scheduled for delivery during the second quarter of 19X2.

Step 3. Identify the percentage of the base price subject to adjustment. The EPA clause states that 25 percent of the contract unit price is subject to adjustment. The unadjusted contract unit price is \$200 per unit. That means that \$50 of the unit price is subject to adjustment and \$150 is not.

Step 4. Identify any limits on adjustment. Because of the extreme volatility of the silver market, the EPA clause does not include a limit on any adjustment.

Step 5. Calculate the adjusted price. Adjust the price using the index for April 19X2 when:

I_1 = Index for Base Period = 45.0 in December 19X1

I_2 = Index for Adjustment Period = 67.5 in April 19X2

S = Percentage of Price Subject to Adjustment = 25%

P = Base Unit Contract Price = \$200

$$\begin{aligned}\text{Adjusted Unit Price} &= \left[\frac{I_2}{I_1} \times S(P) \right] + [(1 - S)(P)] \\ &= \left[\frac{67.5}{45.0} \times .25(\$200) \right] + [(1 - .25)(\$200)] \\ &= (1.50 \times \$50) + \$150 \\ &= \$75 + \$150 \\ &= \$225\end{aligned}$$

The total price for the 5,000 units scheduled for delivery during the second quarter is \$1,125,000. The economic price adjustment is a \$125,000 increase.

1.3 Structuring And Applying Incentive Pricing Arrangements

This section examines procedures for structuring and applying incentive pricing arrangements.

- 1.3.1 - [Structuring A Cost Incentive Pricing Arrangement](#)
- 1.3.2 - [Applying A Cost Incentive Pricing Arrangement](#)

General Characteristics ([FAR 16.401](#) and [16.402](#)). Incentive contracts are designed to attain specific acquisition objectives by positively rewarding identified contractor achievements exceeding stated target(s) and negatively rewarding contractor failures to attain stated targets. Profit/fee will increase when target(s) are surpassed. They will decline when target(s) are not achieved. Changes in profit/fee will follow an agreed-to formula-type incentive arrangement.

Contracts may include:

- **Cost Incentives.** Most incentive contracts include only an incentive for controlling cost. You cannot provide for other incentives without also providing a cost incentive or constraint.
- **Performance Incentives.** Consider technical performance incentives in connection with specific product characteristics or other specific elements of contract performance. When a variety of specific characteristics contribute to the overall contract performance, you must balance the incentives so that no one of them is exaggerated to the detriment of overall contract performance.
- **Delivery Incentives.** Consider delivery incentives when improvement from a required delivery schedule is a significant Government objective. Delivery incentives should specify the application of the incentive structure in the event of delays beyond the control and without the fault or negligence of the contractor or subcontractor.

If you use multiple incentives, structure them in a manner that compels trade-off decisions among the incentive areas. Be careful to avoid using too many incentives. If there are too many incentives, it may be impossible for the

contractor to logically consider the trade-offs available and determine the effect on profit/fee.

Types of Incentive Contracts ([FAR Subpart 16.4](#)). There are three types of incentive contracts that provide for changes in profit/fee following an agreed-to formula-type incentive arrangement: the fixed-price incentive firm target (FPIF); fixed-price incentive successive targets (FPIS); and cost-plus-incentive-fee (CPIF). Because the FPIF and CPIF contracts are used much more frequently than FPIS contracts, the remainder of this section will concentrate on the development of those pricing arrangements.

There two other incentive contracts described in the FAR -- the cost-plus-award-fee (CPAF) contract and the fixed-price contract with award fee (FPAF). These contract types are not examined in this section, because award-fee incentives are not based on any type of formula arrangement. They are examined in a later section of the chapter.

Situations for FPIF Contract Use ([FAR 16.403](#) and [16.403-1\(b\)](#)). An FPIF contract is appropriate when:

- A firm fixed-price contract is not suitable;
- The nature of the supplies or services being acquired and other circumstances of the acquisition are such that the contractor's assumption of a degree of cost responsibility will provide a positive profit incentive for effective cost control and performance;
- The parties can negotiate (at the outset) a firm target cost, target profit, and profit adjustment formula that will provide a fair and reasonable incentive and a ceiling that provides for the contractor to assume an appropriate share of the risk.
- If the contract also includes incentives on technical performance and/or delivery, the performance requirements provide a reasonable opportunity for the incentives to have a meaningful impact on the contractor's management of the work.

Limitations on FPIF Contract Use ([FAR 16.403-1\(c\)](#)). Do not use an FPIF contract unless:

- The contractor's accounting system is adequate for providing data to support negotiation of final cost and incentive price revision; and

- Adequate cost or pricing information is available for establishing reasonable firm targets at the time of initial contract negotiation.

Situations for CPIF Contract Use ([FAR 16.405-1\(b\)](#)). A cost-plus-incentive-fee contract is appropriate for noncommercial service or development and test programs when:

- A cost-reimbursement contract is necessary;
- The parties can negotiate a target cost and a fee adjustment formula that are likely to motivate the contractor to manage effectively.
 - The fee adjustment formula should provide an incentive that will be effective over the full range of reasonably foreseeable variations from target cost.
 - If a high maximum fee is negotiated, the contract shall also provide for a low minimum fee that may be a zero fee or, in rare cases, a negative fee
- The contract may include technical performance incentives when it is highly probable that the required development of a major system is feasible and the Government has established its performance objectives, at least in general terms.

Limitations on CPIF Contract Use ([FAR 16.405-1\(c\)](#)). Do not use a CPIF contract unless:

- The contractor's accounting system is adequate for determining costs applicable to the contract; and
- Appropriate Government surveillance during performance will provide reasonable assurance that efficient methods and effective cost controls are used.

•

1.3.1 Structuring A Cost Incentive Pricing Arrangement

Basic Elements of Incentive Arrangement ([FAR 16.402-1\(b\)](#)). The basic elements of the cost incentives in CPIF contracts and the FPIF contracts are compared in the table below. Note that the first three elements are similar for both contract types.

Contract Elements	
FPIF Contract	CPIF Contract

Target Cost	Target Cost
Target Profit	Target Fee
Profit Adjustment Formula	Fee Adjustment Formula
Price Ceiling	Minimum Fee
	Maximum Fee

Target Cost. Both FPIF contracts and CPIF contracts have a target cost. If the contractor completes the contract at the target cost, there will be no positive or negative cost incentives applied.

What is a good target cost? The target cost should be the most likely contract cost. You and the contractor must reach agreement on target cost based on judgment and the facts available at the time of contract negotiation.

Target Profit/Fee. Profit is the difference between cost and price for the FPIF contract.

Fee is the difference between cost and price in the CPIF contract. Target profit/fee is the difference between cost and price at target cost.

Your profit/fee objective should be based on the results of your analysis using your agency's structured approach to profit/fee analysis.

Profit/Fee Adjustment Formula. The profit adjustment formula of the FPIF contract and fee adjustment formula of the CPIF contract have a similar purpose -- to adjust profit/fee as cost increases or decreases. A single contract can have one adjustment formula for all levels of cost or there may be more than one (e.g., one above target cost and one below target cost).

The adjustment formula represents the allocation of cost risk between the Government and the contractor. The adjustment formula is normally described as a share ratio written as:

$$S_G/S_C$$

Where:

S_G = Percentage of cost risk assumed by the Government

S_C = Percentage of cost risk assumed by the contractor

The two parts ($S_G + S_C$) of the ratio must always total 100 percent of the cost risk (e.g., 70/30). A 70/30 share ratio means that the Government accepts 70 percent of the cost risk and the contractor accepts 30 percent. A 60/40 share ratio means that the Government accepts 60 percent of the cost risk and the contractor accepts 40 percent.

Steps for Developing an Adjustment Formula. You should develop the contract adjustment formula based on an analysis of the reasonable changes in profit/fee over the range of probable costs. Consider the following steps as you develop the share ratio for adjustment calculations:

Step 1. Develop a target cost objective as described above.

Step 2. Develop a target profit/fee objective as described above.

Step 3. Develop a pessimistic cost estimate. The target cost is only one cost in the range of reasonable costs. The pessimistic cost should be an estimate of the highest cost that you would consider probable based on the information available at the time of contract negotiation.

- Quantitative analysis techniques can provide invaluable information for you to use in estimating the pessimistic cost. For example, consider the high side of the confidence interval when your estimate is based on sampling analysis and the high side of the prediction interval when your estimate is based on regression analysis.
 - If the pessimistic cost is very high relative to the estimate, the risk may be too great for an incentive contract. You may need to consider another contract type (e.g., a cost-plus-fixed-fee contract).

Step 4. Develop an estimate of an appropriate profit/fee if costs reached the pessimistic cost

estimate. In your analysis, consider the target profit/fee objective and the quality of contractor effort required to limit costs to the pessimistic cost estimate.

Step 5. Develop an optimistic cost estimate. The optimistic cost should be an estimate of the lowest cost that you would consider probable based on the information available at the time of contract negotiation.

- o Quantitative analysis techniques can provide invaluable information for you to use in estimating the optimistic cost. For example, consider the low side of the confidence interval when your estimate is based on sampling analysis and the low side of the prediction interval when your estimate is based on regression analysis.
- o There is no reason that the difference between target cost and the optimistic cost must be equal to the difference between target cost and pessimistic cost. In fact, the two will normally not be equal.

Step 6. Develop an estimate of an appropriate profit/fee if costs were limited to the optimistic cost estimate. In your analysis, consider the target profit/fee objective and the quality of contractor effort required to limit costs to the optimistic cost estimate.

Step 7. Calculate the under-target share ratio.

- o Calculate contractor share. Use the following formula to calculate the contractor's percentage share of cost risk:

$$S_{cu} = \frac{P_T - P_0}{C_T - C_0} \times (-100)$$

Where:

S_{cu} = Contractor percentage share of cost risk (This will be a negative number, indicating that profit/fee will go up as costs go down.)

P_T = Target profit/fee

P_O = Profit/fee at optimistic cost estimate

C_T = Target cost

C_O = Optimistic cost estimate

- o Calculate Government share. Calculate the Government share of cost risk by subtracting the contractor share from 100 percent:

$$S_{GU} = 100\% - S_{CU}$$

Where:

S_{GU} = Government percentage share of cost risk

S_{CU} = Contractor percentage share of cost risk

- o Write the under-target share ratio in the form S_G/S_C .

Step 8. Calculate the over-target share ratio.

- o Contractor share. Use the following formula to calculate the contractor's percentage share of cost risk:

$$S_{CO} = \frac{P_T - P_P}{C_T - C_P} \times (100)$$

Where:

S_{CO} = Contractor percentage share of cost risk (This will be a negative number, indicating that profit/fee will go up as costs go down.)

P_T = Target profit/fee

P_P = Profit/fee at pessimistic cost estimate

C_T = Target cost

C_P = Pessimistic cost estimate

- o Government share. Calculate the Government share of cost risk by subtracting the contractor share from 100 percent:

$$S_{GO} = 100\% - S_{CO}$$

Where:

S_{GO} = Government percentage share of cost risk

S_{CO} = Contractor percentage share of cost risk

- o Write the over-target share ratio in the form S_{GO}/S_{CO} .

Example of Sharing Arrangement Formula Development. You have analyzed a contractor's proposal considering all available information. As a result of your analysis, you have completed Steps 1 through 6 of adjustment formula development and prepared the three positions presented in the table below. You must now use this information to calculate the under target and over-target share ratios.

Prenegotiation Estimates			
Element	Optimistic	Most Likely (Target)	Pessimistic
Direct Material Cost	\$250,000	\$300,000	\$320,000
Direct Labor Cost	\$320,000	\$400,000	\$600,000
Indirect Cost	\$230,000	\$300,000	\$380,000
Total Cost	\$800,000	\$1,000,000	\$1,300,000
Profit/Fee	\$150,000	\$100,000	\$10,000
Total Price	\$950,000	\$1,100,000	\$1,310,000

Step 7. Calculate the under-target share ratio.

- o Contractor share.

$$\begin{aligned}
S_{CU} &= \frac{P_T - P_0}{C_T - C_0} \times (-100) \\
&= \frac{\$100,000 - \$150,000}{\$1,000,000 - \$800,000} \times (-100) \\
&= \frac{-\$500,000}{\$200,000} \times (-100) \\
&= 25\%
\end{aligned}$$

- o Government share.

$$\begin{aligned}
S_{GU} &= 100\% - S_{CU} \\
&= 100\% - 25\% \\
&= 75\%
\end{aligned}$$

- o Write the under-target share ratio as 75/25.

Step 8. Calculate the over-target share ratio.

- o Contractor share.

$$\begin{aligned}
S_{CO} &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\
&= \frac{\$100,000 - \$10,000}{\$1,000,000 - \$1,300,000} \times (-100) \\
&= \frac{\$90,000}{-\$300,000} \times (-100) \\
&= 30\%
\end{aligned}$$

- o Government share.

$$\begin{aligned}
S_{GO} &= 100\% - S_{CO} \\
&= 100\% - 30\% \\
&= 70\%
\end{aligned}$$

- o Write the over-target share ratio as 70/30. Note that the over-target share ratio and the under-target share ratio are not the same. That is not unusual.

Final Steps for Developing a CPIF Arrangement. As you learned above, the basic elements of the CPIF contract and the FPIF contract are quite similar. Both have a target cost. CPIF target fee and FPIF target profit are both

developed using structured profit/fee analysis. Both have sharing arrangements for costs over and under target.

The differences between the CPIF and FPIF pricing arrangements occur when contract costs are substantially above or below target cost. The CPIF contract pricing arrangement must include a minimum fee and a maximum fee that define the contract range of incentive effectiveness (RIE). When costs are above or below the RIE, the Government assumes full cost risk for each additional dollar spent within the funding or cost limits established in the contract. Consider the following final steps when developing a CPIF pricing arrangement.

Step 9. Set the minimum fee. No matter what fee you calculate using the share ratio, the contractor's actual fee cannot be less than the minimum fee stated in the contract. In effect, you are telling the contractor that the Government will accept the risk of contract cost exceeding the cost at the point where minimum fee is reached.

- o The pricing arrangement should be structured so that the minimum fee is reached at the pessimistic cost estimate.
- o The minimum fee may be zero, but it should rarely be less than zero.

Step 10. Set the maximum fee. No matter what fee you calculate using the share ratio, the contractor's actual fee cannot be more than the maximum fee stated in the contract. Logically, the pricing arrangement should be structured so that the maximum fee is reached at the optimistic cost estimate.

Example of CPIF Arrangement Development. Use the proposal analysis in the following table to develop a contract pricing arrangement including: target cost, target fee, under-target share ratio, over-target share ratio, maximum fee, and minimum fee.

CPIF Contract Prenegotiation Estimates			
Element	Optimistic	Most Likely (Target)	Pessimistic

Direct Material Cost	\$250,000	\$300,000	\$350,000
Direct Labor Cost	\$320,000	\$400,000	\$600,000
Indirect Cost	<u>\$230,000</u>	<u>\$300,000</u>	<u>\$450,000</u>
Total Cost	\$800,000	\$1,000,000	\$1,400,000
Fee	<u>\$120,000</u>	<u>\$70,000</u>	<u>\$20,000</u>
Total Price	\$920,000	\$1,070,000	\$1,420,000

Steps 1-6 have been completed in the table above. Note that:

- Target cost should be the most likely cost -- \$1,000,000
- Target fee -- the \$70,000 in the "Most Likely Cost" column in above table -- was developed using structured fee analysis.

Step 7. Calculate the under-target share ratio.

- Contractor share.

$$\begin{aligned}
 S_{CU} &= \frac{P_T - P_0}{C_T - C_0} \times (-100) \\
 &= \frac{\$70,000 - \$120,000}{\$1,000,000 - \$800,000} \times (-100) \\
 &= \frac{-\$50,000}{\$200,000} \times (-100) \\
 &= 25\%
 \end{aligned}$$

- Government share.

$$\begin{aligned}
 S_{GU} &= 100\% - S_{CU} \\
 &= 100\% - 25\% \\
 &= 75\%
 \end{aligned}$$

- Write the under-target share ratio as 75/25.

Step 8. Calculate the over-target share ratio.

- o Contractor Share.

$$\begin{aligned} S_{co} &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\ &= \frac{\$70,000 - \$20,000}{\$1,000,000 - \$1,400,000} \times (-100) \\ &= \frac{\$50,000}{-\$400,000} \times (-100) \\ &= 12.5\% \end{aligned}$$

- o Government Share.

$$\begin{aligned} S_{go} &= 100\% - S_{co} \\ &= 100\% - 12.5\% \\ &= 87.5\% \end{aligned}$$

- o Write the over-target share ratio as 87.5/12.5.

Step 9. Set the minimum fee. Minimum fee should be the fee at the pessimistic cost. That fee is \$20,000.

Step 10. Set the maximum fee. Maximum fee should be the fee at the optimistic cost. That fee is \$120,000.

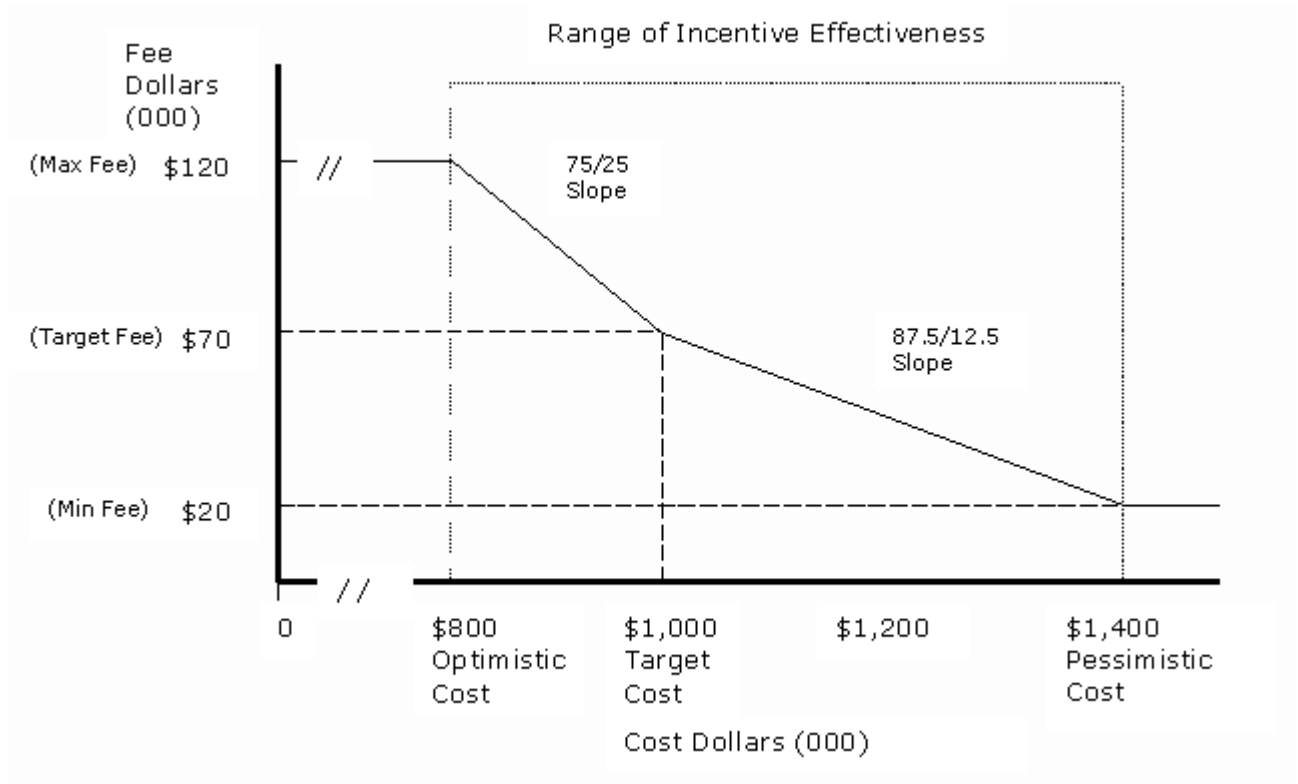
CPIF Range of Incentive Effectiveness. Whenever you develop a CPIF pricing arrangement, assure that you know the range over which the cost incentives are effective. The range of incentive effectiveness (RIE) is the range over which CPIF incentives can be expected to motivate contractor performance.

The RIE is not identified in the contract, but it is defined by the share ratio(s), minimum fee, and maximum fee. The cost incentive will be effective in the range between the cost point where the maximum fee is reached and the cost point where the minimum fee is reached -- the range between the optimistic cost estimate and the pessimistic cost estimate. Beyond these points, the contractor has no contract incentive to control cost, because fee is fixed.

In the example above, we developed the following pricing arrangement.

Target Cost: \$1,000,000
 Target Fee: \$70,000
 Under-Target Share Ratio: 75/25
 Over-Target Share Ratio: 87.5/12.5
 Maximum Fee: \$120,000
 Minimum Fee: \$20,000

The range of incentive effectiveness would be between the optimistic cost (\$800,000) and the pessimistic cost (\$1,400,000) as shown in the figure below:



CPIF Pricing Arrangement. Note that the optimistic cost estimate and pessimistic cost estimate used to develop the pricing arrangement are not given in the terms of the pricing arrangement. If a contractor had presented an offer which included the elements above, you could calculate the offer RIE by using the following formulas to calculate the optimistic cost and pessimistic cost:

Optimistic Cost	Pessimistic Cost
$C_o = C_T - \frac{P_o - P_T}{S_{cu}}$	$C_p = C_T + \frac{P_T - P_p}{S_{co}}$
Where:	Where:
C_o = Optimistic cost	C_p = Pessimistic cost
C_T = Target cost	C_T = Target cost
P_T = Target fee	P_T = Target fee
P_o = Maximum fee (fee at the optimistic cost)	P_p = Minimum fee (fee at the pessimistic cost)
S_{cu} = Contractor under-target share	S_{co} = Contractor over-target share

Example of Calculating CPIF Range of Incentive Effectiveness. We can use the pricing arrangement above to calculate the optimistic and pessimistic costs used to develop the pricing arrangement.

Step 1. Calculate the optimistic cost that is consistent with the pricing arrangement.

$$\begin{aligned}
 C_o &= C_T - \frac{P_o - P_T}{S_{cu}} \\
 &= \$1,000,000 - \frac{\$120,000 - \$70,000}{25\%} \\
 &= \$1,000,000 - \frac{\$50,000}{25\%} \\
 &= \$1,000,000 - \$200,000 \\
 &= \$800,000
 \end{aligned}$$

\$800,000 is the optimistic cost estimate. Note that is the number we used in developing the pricing arrangement.

Step 2. Calculate the pessimistic cost that is consistent with the pricing arrangement.

$$\begin{aligned}
C_p &= C_T + \frac{P_T - P_P}{S_{co}} \\
&= \$1,000,000 + \frac{\$70,000 - \$20,000}{12.5\%} \\
&= \$1,000,000 + \frac{\$50,000}{12.5\%} \\
&= \$1,000,000 + \$400,000 \\
&= \$1,400,000
\end{aligned}$$

\$1,400,000 is the pessimistic cost estimate (Note that is the number we used in developing the pricing arrangement.)

Step 3. Use the calculated optimistic cost and the pessimistic cost to describe the RIE. The RIE in this example would be \$800,000 to \$1,400,000. Outside that range, the proposed incentive arrangement would not incentivize the contractor to control costs.

Example of FPIF Arrangement Development. Use the proposal analysis in the following table to develop a contract pricing arrangement including: target cost, target profit, under-target share ratio, over-target share ratio, and ceiling price.

FPIF Contract Prenegotiation Estimates			
Element	Optimistic	Most Likely (Target)	Pessimistic
Direct Material Cost	\$250,000	\$300,000	\$350,000
Direct Labor Cost	\$320,000	\$400,000	\$500,000
Indirect Cost	<u>\$230,000</u>	<u>\$300,000</u>	<u>\$450,000</u>
Total Cost	\$800,000	\$1,000,000	\$1,300,000
Profit	<u>\$150,000</u>	<u>\$100,000</u>	<u>\$25,000</u>
Total Price	\$950,000	\$1,100,000	\$1,325,000

Steps 1-6 have been completed in the table above. Note that:

- Target cost should be the most likely cost, \$1,000,000
- Target profit -- the \$100,000 in the "Most Likely Cost" column in above table -- was developed using structured profit analysis.

Step 7. Calculate the under-target share ratio.

- Contractor share.

$$\begin{aligned} S_{CU} &= \frac{P_T - P_0}{C_T - C_0} \times (-100) \\ &= \frac{\$100,000 - \$150,000}{\$1,000,000 - \$800,000} \times (-100) \\ &= \frac{-\$50,000}{\$200,000} \times (-100) \\ &= 25\% \end{aligned}$$

- Government share.

$$\begin{aligned} S_{GU} &= 100\% - S_{CU} \\ &= 100\% - 25\% \\ &= 75\% \end{aligned}$$

- Write the under-target share ratio as 75/25.

Step 8. Calculate the over-target share ratio.

- Contractor Share.

$$\begin{aligned} S_{CO} &= \frac{P_T - P_P}{C_T - C_P} \times (-100) \\ &= \frac{\$100,000 - \$25,000}{\$1,000,000 - \$1,300,000} \times (-100) \\ &= \frac{\$75,000}{-\$300,000} \times (-100) \\ &= 25\% \end{aligned}$$

- Government Share.

$$\begin{aligned}
S_{GO} &= 100\% - S_{CO} \\
&= 100\% - 25\% \\
&= 75\%
\end{aligned}$$

- o Write the over-target share ratio as 75/25.

Note that for this contract, the over-target and under-target share ratios happen to be the same, but the range of dollars between target cost and the pessimistic estimate of probable cost is much larger than the range of dollars between the target cost and the optimistic estimate of probable cost.

Final Steps for Developing a FPIF Arrangement. The FPIF contract does not have a maximum profit, the share ratio remains in effect throughout the range of under-target contractor's share of any costs over or under target as calculated in Step 3.

$$\begin{aligned}
P_F &= P_T + P_A \\
&= \$70,000 + (-\$12,500) \\
&= \$57,500
\end{aligned}$$

Step 5. If the fee calculated in Step 4 is more than the maximum fee or less than the minimum fee, adjust it to the appropriate fee.

No adjustment is required.

Step 6. Add the final fee to final cost to determine final contract price.

$$\begin{aligned}
K_F &= C_F + P_F \\
&= \$1,100,000 + \$57,500 \\
&= \$1,157,500
\end{aligned}$$

Step 7. Modify the contract, using a bilateral contract modification, to incorporate agreement on final cost and fee.

The final contract price is \$1,157,500.

Steps for FPIF Contract Final Pricing ([FAR 52.216-16](#)). Computation of the final price under an FPIF contract is very similar to computation of final price under a CPIF contract. The major differences are that there are no

limits on profit and total price cannot exceed the contract ceiling price.

Follow the steps below in calculating final FPIF contract price.

Step 1. Review the contractor's final cost proposal to develop a position on final contract cost.

- o Assure that the contractor's final cost proposal includes all data required by the contract.
- o Develop a negotiation position based on Government audit recommendations and other available information

Step 2. Calculate the contractor's share of any costs over or under target. Use the final contract cost calculated in Step 1, target cost, and the appropriate share ratio.

$$P_A = S_C (C_T - C_F)$$

Where:

P_A = Profit Adjustment

S_C = Contractor percentage share of cost risk

C_T = Target cost

C_F = Final cost

Step 3. Adjust contract profit considering the contractor's share of any costs over or under target as calculated in Step 2.

$$P_A = P_T + P_A$$

Where:

P_F = Final Profit

P_T = Target Profit

P_A = Profit Adjustment (Remember that the profit adjustment may be positive or negative.)

Step 4. Add the final profit to final cost to determine final contract price.

$$K_F = C_F + P_F$$

Where:

K_F = Final price

C_F = Final cost

P_F = Final profit

Step 5. If the price calculated in Step 4 exceeds the contract ceiling price, the final contract price will be the ceiling price.

Step 6. Negotiate final contract price.

- Use the results of Steps 1 through 5 as your objective in negotiating contract final cost. If the contractor provides additional support that leads you to modify your position on final cost, modify your position on final profit and price accordingly.
- When you reach a agreement on final contract price, modify the contract, using a bilateral contract modification, to incorporate agreement on final cost and profit.
- If you cannot reach a final price agreement, it may be necessary for you to issue a final decision under the contract Disputes clause

Step 7. Obtain a final invoice.

Apply any deductions or withholdings and process the invoice for final payment.

Example of FPIF Contract Final Pricing. You and the contractor agree that the final cost on a FPIF contract is \$1,310,000. Contract target cost is \$1,000,000; target profit is \$100,000; ceiling price is \$1,325,000; and the over-target share ratio is 75/25.

Step 1. Review the contractor's final cost proposal to develop a position on final contract cost.

The contractor proposed a final contract cost of \$1,310,000. Government review and your analysis did not identify any deficiencies.

Step 2. Calculate the contractor's share of any costs over or under target.

$$\begin{aligned} P_A &= S_C(C_T - C_F) \\ &= 25\%(\$1,000,000 - \$1,310,000) \\ &= 25\%(-\$310,000) \\ &= -\$77,500 \end{aligned}$$

Step 3. Adjust contract profit considering the contractor's share of any costs over or under target as calculated in Step 2.

$$\begin{aligned} P_F &= P_T + P_A \\ &= \$100,000 - \$77,500 \\ &= \$22,500 \end{aligned}$$

Step 4. Add the final profit to final cost to determine final contract price.

$$\begin{aligned} K_F &= C_F + P_F \\ &= \$1,310,000 + \$22,500 \\ &= \$1,332,500 \end{aligned}$$

Step 5. If the price calculated in Step 4 exceeds the contract ceiling price, the final contract price will be the ceiling price.

Since the price in Step 4 exceeds the contract ceiling price, the final contract price is the ceiling price \$1,325,000

Step 6. Negotiate final contract price.

In this example, negotiation should result in acceptance of the contractor's proposed cost.

Step 7. Obtain a final invoice.

Obtain a final invoice and process it for final payment.

1.4 Structuring And Applying Award-Fee Pricing Arrangements

In this section, we examine factors to consider in structuring and applying award-fee pricing arrangements.

- 1.4.1 - [Structuring An Award-Fee Pricing Arrangement](#)
- 1.4.2 - [Applying An Award-Fee Pricing Arrangement](#)

Award-Fee Concept ([FAR 16.405-2\(a\)](#)). An award-fee contract is a form of incentive contract. Unlike the FPIF or CPIF contract, the award-fee contract does not include predetermined targets and automatic fee adjustment formulas. Contractor performance is motivated by fee adjustments based on a subjective evaluation of contractor performance in areas such as quality, timeliness, technical ingenuity, and cost-effective management.

CPAF Contract Features ([FAR 16.405-2\(a\)](#)). The most common award-fee contract is the cost-plus-award-fee (CPAF) contract.

- A CPAF contract provides for a fee consisting of:
 - A base fee that is fixed at the time of contract award, and
 - An award-fee that the contractor may earn in whole or in part during contract performance. The award-fee must be large enough to motivate the contractor to excel in such areas as quality, timeliness, technical ingenuity, and cost-effective management.
- At established points during contract performance, the Government Fee Determining Official will evaluate contractor performance and determine the amount of award-fee that the contractor will receive from the available award-fee pool in accordance with criteria established in the contract. The determination is made unilaterally by the Fee Determining Official.

Situations for CPAF Contract Use ([FAR 16.405-2\(b\)\(1\)](#)). Consider a CPAF contract when the following conditions exist:

- It is neither feasible nor effective to devise predetermined objective incentive targets applicable to cost, technical performance, or schedule.

- The likelihood of meeting acquisition objectives will be enhanced by using a contract that effectively motivates the contractor toward exceptional performance and provides the Government with the flexibility to evaluate both actual performance and the conditions under which it was achieved.
- Any additional administrative effort and cost required to monitor and evaluate performance are justified by the expected benefits.

Restrictions on CPAF Contract Use ([FAR 16.405-2\(c\)](#) and [DFARS 216.405-2\(c\)](#)). In addition to restrictions applicable to all cost-reimbursement contracts, FAR directs that CPAF contracts not be used unless the expected benefits are sufficient to warrant the additional administrative effort and cost involved.

Your agency may provide additional restrictions. For example, DoD personnel must not use a CPAF contract:

- To avoid establishing a CPFF contract when the criteria for a CPFF contract apply or developing objective targets so that a CPIF contract can be used.
- For either engineering development or operational development acquisitions which have specifications suitable for simultaneous research and development and production. However, you may use a CPAF contract for individual engineering development or operational system development acquisitions in support of the development of a major weapon system or equipment, where:
 - It is more advantageous to the Government, and
 - The purpose of the acquisition is clearly to determine or solve specific problems associated with the major weapon system or equipment.

Situations for FPAF Contract Use ([FAR 16.404\(a\)](#) and [DFARS 216.470](#)). You may use award-fee provisions in fixed-price contracts when the Government wishes to motivate a contractor and other incentives cannot be used because contractor performance cannot be measured objectively. Such contracts must:

- Establish a fixed price (including normal profit) for the effort. This price will be paid for satisfactory contract performance. Award fee earned (if any) will be paid in addition to that fixed price; and

- Provide for periodic evaluation of the contractor's performance against an award-fee plan.

Restrictions on FPAF Contract Use ([FAR 16.404\(b\)](#) and [DFARS 216.470](#)). Do not consider an FPAF unless the following conditions exist:

- The administrative costs of conducting award-fee evaluations are not expected to exceed the expected benefits;
- Procedures have been established for conducting the award-fee evaluation;
- The award-fee board has been established; and
- An individual above the level of the contracting officer approved the fixed-price-award-fee incentive.

1.4.1 Structuring An Award-Fee Pricing Arrangement

Base Fee Objective for CPAF Contracts ([FAR 15.404-4\(b\)\(1\)](#), [DFARS 215.404-74](#), and [216.404-2\(c\)\(2\)\(B\)](#)).

Most agencies (including the DoD) exempt CPAF contracts from the requirement for application of the agency's structured approach to fee analysis.

Accordingly, you must subjectively develop your base fee objective for each contract considering the following guidelines:

- The base fee must not exceed prescribed agency limits (e.g., three percent of contract cost for DoD contracts).
- The base fee should be large enough to provide the contractor with an adequate fee for rendering minimum acceptable performance, but small enough to provide an award-fee pool that will provide the contractor with an adequate incentive to improve performance above minimum requirements.

Award-Fee Objective. The award-fee pool is meant to provide the contractor with an incentive to provide more than the minimum level of performance required by the contract. Based on contract performance, the contractor may earn all, part, or none of the available award-fee pool.

As with base fee, you must subjectively develop your award-fee objective. The award-fee pool should be sufficient to motivate or reward the contractor at any level of performance above the minimum designated in the evaluation criteria. Normally, you should expect the sum of the base fee and the award-fee pool to exceed the fee objectives that would be provided under a CPFF contract.

Contract Award-Fee Clauses ([FAR 16.406\(e\)](#) and [52.216-7](#)).

FAR does not prescribe specific award-fee clauses, instead it requires you to insert an appropriate award-fee clause in solicitations and contracts when a CPAF contract is contemplated.

- FAR requires that the clause:
 - Be prescribed by or approved under agency acquisition regulations;
 - Be compatible with the Allowable Cost and Payment clause; and
 - Expressly exclude from the operation of the Disputes clause any disagreement by the contractor concerning the amount of the award fee. (However, this wording does not negate the authority of Courts and Boards to overturn a decision that is arbitrary or capricious (see *Burnside-Ott Aviation Training Center v. John H. Dalton, Secretary of the Navy*, US-CT-APP-FC, 41 CCF ¶77,043)).
- In preparing the clause, also consider the following:
 - Base Fee:
 - State the agreed-to amount.
 - State how the base fee will be paid (e.g., equal monthly installments).
 - Award-fee:
 - State the total agreed-to amount.
 - Include a provision for the prompt payment of contractor-earned award-fee after each determination.
 - Award-fee Determination Process:
 - The award-fee determination process need not be spelled out in the contract or in an appendix to the contract. Normally, it is preferable to delineate the award-fee determination process in a comprehensive Award-Fee Plan that is identified in the contract.

- State that the Fee Determining Official has the unilateral right to change the Award-Fee Plan, except for conditions that otherwise require mutual agreement under the contract.
 - State that the contractor must receive notice of any change to the Plan by a specified number of work or calendar days prior to the beginning of the evaluation period to which the change will apply.
- Award-Fee Evaluations. Award-fee evaluations should be timed so that the contractor will be periodically informed about performance quality and the areas in which improvement is expected ([FAR 16.405-2\(b\)\(3\)](#)). Tie the partial payment of fee to the evaluations.
 - If a program or project is involved, the award-fee evaluation points should be tied to key program decision points.
 - If the contract is for a continuing effort (e.g., facility operation and maintenance), the award-fee evaluation points should be established periodically throughout the contract.

Award-Fee Plan. The Award-Fee Plan should comprehensively delineate the award-fee determination process.

- **Organizational Structure for Award-fee Determination.** The plan should identify and define the responsibilities of personnel involved in the award-fee process. The structure should be tailored to fit the contract situation. However, a three-tier structure is common.
 - Fee Determining Official. The Fee Determining Official is responsible for:
 - Determining the award-fee earned and payable for each evaluation period.
 - Changing the matters covered by the Award-Fee Plan, as necessary.
 - Performance Evaluation Board. The Board is responsible for:
 - Conducting ongoing evaluations of contractor performance and making recommendations to the Fee Determining Official concerning award-fee.
 - Considering proposed changes in the Award-Fee Plan and recommending those that it determines are appropriate.

- Performance Monitor. Assign a performance monitor to each performance area which will be evaluated as part of the Award-Fee Plan.
 - **Performance Evaluation Criteria** ([FAR 16.405-2\(b\)\(2\)](#)). The plan should identify areas that will be evaluated and how they will be evaluated.
 - The number of evaluation criteria and requirements that they represent will differ widely among contracts.
 - The criteria and the rating plan should motivate the contractor to improve performance in the areas rated, but not at the expense of at least minimum acceptable performance in all other areas. Appendix A presents an example for a contract for shipyard support from [DFARS Table 16-1](#), Performance Evaluation Criteria.
 - **Performance Evaluation Report Format.** The plan should include a format for Performance Monitor evaluation of contractor performance. Appendix B presents an example for shipyard support from [DFARS Table 16-2](#), Contractor Performance Evaluation Report.
-

1.4.2 Applying An Award-Fee Pricing Arrangement

Award-Fee Determination Process. The award-fee determination is a subjective process that requires effective communication between all the parties involved. The process begins with the Award-Fee Plan and the individual Performance Monitors and follows the general process described below. The overall flow should be modified as necessary to meet agency requirements and the needs of each contracting situation.

Step 1. Performance Monitor orientation.

- Each Performance Monitor should be provided with the following documents:
 - A copy of the contract award-fee provisions.
 - A copy of the Award-Fee Plan.
 - A copy of specific instructions applicable to Performance Monitor assigned areas of evaluation cognizance.
- The Performance Evaluation Board Chairperson should conduct a discussion of the award-fee determination process in general and the

Performance Monitor's responsibilities in particular.

- o The Performance Evaluation Board Chairperson should consider scheduling periodic meetings with Performance Monitors to discuss ongoing contractor performance, general problems and solutions, and other contractual issues.

Step 2. Performance Monitors assess contractor performance throughout the performance period.

Step 3. At the end of each evaluation period, Performance Monitors submit Performance Management Reports to the Performance Evaluation Board. Each report should conform to the requirements of the Award-Fee Plan.

Step 4. The Performance Evaluation Board evaluates information obtained from the Performance Monitors and other available sources of information.

- o The Board may request contractor input concerning the reports provided by the Performance Monitors.
- o The Board may discuss any questions about the Performance Monitor Reports with the Performance Monitors. For example, a contractor's shortcoming identified in a Performance Monitor Report may have been occasioned by Government influences and decisions to which the contractor responded at the expense of certain aspects of otherwise prescribed contract work. Board members may be in a better position than the Performance Monitor to evaluate the contractor's response.

Step 5. The Board meets and summarizes preliminary findings and positions.

Step 6. After it reaches its preliminary decision, the Board meets with contractor top-management to provide a summary of its preliminary findings and position regarding the performance levels achieved in the areas evaluated.

Step 7. After the conference with the contractor, the Board should consider contractor input and, if appropriate, modify its preliminary findings and recommendations accordingly.

Step 8. The Board Chairperson submits the Performance Evaluation Board Report to the Fee Determining Official.

The Performance Evaluation Board Report should consider such matters as:

- o Recommended range of dollars within which the award-fee should fall.
- o Performance points assigned by the Board to each performance area and evaluation criterion, if applicable.
- o Bases of the performance points assigned.
- o Rationale for selecting the recommended award-fee range.

Step 9. The Fee Determining Official considers the recommendation of the Performance Evaluation Board and makes a decision regarding award-fee.

That decision may or may not be in accord with the Performance Evaluation Board recommendation. If it is not in accord with the Board recommendation, the Fee Determining Official must assure that reasons for any differences are fully documented.

Step 10. The Fee Determining Official sends the award-fee decision to the contractor.

1.5 Structuring Fixed-Price Redeterminable Pricing Arrangements

Redeterminable Contract Types ([FAR 16.205](#) and [16.206](#)). There are two types of fixed-price contracts that provide for price redetermination without an incentive arrangement, the fixed-price contract with prospective price redetermination (FPRP) and the fixed-ceiling-price contract with retroactive price redetermination (FPRR).

FPRP Description ([FAR 16.205-1](#)). A FPRP contract provides for a firm fixed-price for an initial period of contract deliveries or performance and prospective price redetermination at a stated time or times during contract performance for subsequent periods. It can probably be best described as a series of firm fixed-price contracts negotiated at stated times during performance.

Situations for FPRP Contract Use ([FAR 16.205-2](#)). You should consider an FPRP contract for acquisitions of quantity production or services for which you can negotiate a fair and reasonable firm fixed-price for the initial period, but not for subsequent periods of contract performance. In the DoD, FPRP contracts are frequently used for aircraft engine acquisition, where the nature of manufacture and resulting methods of accounting for costs lend themselves to periodic, plant-wide pricing on a prospective basis.

FPRP Elements ([FAR 16.205-2](#)). The FPRP contracts have two key elements:

- Firm fixed-price for an initial period of contract deliveries or performance.
- Stated time or times for price redetermination.

They generally also have a third element, a ceiling price. In negotiating a ceiling price you should consider the uncertainties involved in contract performance and their cost impact. This ceiling should provide for assumption of a reasonable proportion of the risk by the contractor and, once established, may be adjusted only by operation of contract clauses providing for equitable price adjustment or other revision of the contract price under stated circumstances.

FPRP Negotiation and Administration ([FAR 16.205-2](#), [16.205-3\(c\)](#), and [52.216-5](#)). Consider the following points when you negotiate and administer an FPRP contract.

- The initial period for which the price is fixed at the time of contract negotiation should be the longest period for which it is possible to establish a fair and reasonable firm fixed-price.
- The length of the prospective pricing periods will depend on the circumstances of each contract but generally should be at least 12 months.
- The prospective pricing period(s) should conform with the operation of the contractor's accounting system. They can be described in terms of units delivered, or as calendar periods, but generally are defined to end on the last day of a month. The first day of the succeeding period must be the effective date for the price redetermination.

- At a specified time before the end of each redetermination period prior to the last, the contractor is required to submit:
 - Proposed prices for supplies or services to be delivered during the next succeeding period, and:
 - An estimate and breakdown of the costs of these supplies or services in a format that meets the requirements of the law and applicable regulations.
 - Sufficient data to support the accuracy and reliability of this estimate, and
 - An explanation of the differences between this estimate and the original (or last preceding) estimate for the same supplies or services.
 - A statement of all contract costs incurred through the end of the first month (or second if necessary to achieve compatibility with the contractor's accounting system) before submission of the proposed prices.
 - The data must be sufficient to disclose unit cost and cost trends for:
 - Supplies delivered and services performed, and
 - Inventories of work in process and undelivered contract supplies on hand (estimated to the extent necessary).
 - The data format must meet the requirements of the contract, the law, and applicable regulations.
- The contractor must also submit (to the extent that it becomes available before negotiations on price redetermination are concluded):
 - Supplemental statements of costs incurred after proposal submission, and
 - Any other relevant data that you may reasonably require.
- If the contractor fails to submit the data required within the time periods specified, the contracting officer may suspend contract payments until the data are submitted. If it is later determined that the Government overpaid the contractor, the contractor must repay the Government immediately. Unless repaid within 30 days after the end of the data submittal period, the amount of the excess must bear interest - computed from the date the data were due to the date of repayment - at the rate established in accordance with the Interest clause of the contract.

- Upon receipt of the data required, negotiate to redetermine fair and reasonable prices for the supplies and services that may be delivered in the period following the effective date of the price redetermination.
- Formalize each price redetermination in a bilateral contract modification.
- Pending execution of the bilateral contract modification, the contractor will submit invoices or vouchers in accordance with the billing prices established in the contract.
 - If at any time it appears that the then-current billing prices will be substantially different than the estimated prices, negotiate an appropriate change in the billing price.
 - Any billing rate adjustment must be reflected in a contract modification, but it must not affect price redetermination.
 - After price redetermination, adjust the total amount paid or to be paid on all invoices or vouchers to the agreed-upon price. Assure that any required payments or refunds are made promptly.
- If you and the Contractor fail to agree on redetermined prices for any price redetermination period within 60 days (or within such other period as the parties agree) after the date on which the above data are to be submitted, the contracting officer must promptly issue a decision in accordance with the Disputes clause. If the contractor fails to appeal, this decision must be treated as an executed contract modification, unless modified by agreement with the contractor.
- Quarterly -- during periods for which prices have not been established, costs have been incurred, and adjusted billing prices exceed the existing contract price -- the contractor must submit cumulative data showing:
 - Total contract price for all supplies and services delivered and accepted by the Government for which final prices have been established.
 - Total costs (estimated to the extent necessary) for supplies and services delivered and accepted by the Government for which prices have not been established.

- Interim profit for supplies and services delivered and accepted by the Government for which prices have not been established.
- The total amount of all invoices or vouchers for supplies or services delivered and accepted by the Government.

FPRR Description ([FAR 16.206-1](#)). An FPRR contract provides for a fixed ceiling price and retroactive price redetermination within the ceiling price after contract completion.

Situations for FPRR Contract Use ([FAR 16.206-2](#) and [16.206-3](#)). A FPRR contract is appropriate for research and development contracts estimated at \$100,000 or less when you establish at the outset that a fair and reasonable contract cannot be negotiated and that the amount involved and short performance period make the use of any other fixed-price contract impractical. Before use, obtain approval from the head of the contracting activity (or the higher level official designed by your agency).

FPRR Elements ([FAR 16.206-2](#) and [16.206-3](#)). The FPRR contract has three key elements:

- Ceiling price negotiated for the contract at a level that reflects a reasonable sharing of risk by the contractor. The established ceiling price may be adjusted only if required by the operation of contract clauses providing for equitable price adjustment or other revision of the contract price under stated circumstances.
- Billing price that is fair and reasonable as circumstances permit. The billing price may be adjusted during contract performance if circumstances warrant. Any billing price adjustment must be reflected in a contract modification and must not be the final price redetermination.
- Agreement to promptly negotiate a fair and reasonable price after contract completion.

FPRR Negotiation and Administration ([FAR 16.206-3\(d\)](#) and [52.216-6](#)). Contract requirements are similar to those for an FPRP contract except that price is not redetermined until all items are delivered. However, you should consider two additional points as you negotiate and administer an FPRR contract.

When you negotiate the contract, you should emphasize the importance of management effectiveness and ingenuity in contract performance will be considered during final pricing. This emphasis is important because this contract type does not provide the contractor with a calculable incentive for effective cost control, aside from the cost ceiling.

- Within a specified number of days after delivery of supplies or services, the contractor is required to submit:
 - Proposed prices.
 - A statement of all costs incurred during contract performance. The data format must meet the requirements of the contract, the law, and applicable regulations.
 - Any other relevant data that you may reasonably require.
- When you negotiate the redetermined contract price, you should give weight to the management effectiveness and ingenuity exhibited by the contractor during performance.

Appendix 1A: Performance Evaluation Criteria						
		Submarginal	Marginal	Good	Very Good	Excellent
A Time of Delivery	A-1 Adherence to Plan Schedule	Consistently late on 20% of plans	Late on 10% plans w/o prior agreement	Occasional plan late w/o justification	Meets plan schedule	Delivers all plans on schedule & meets prod. change requirements on schedule
	A-2 Action on Anticipated Delays	Does not expose changes or resolve them as soon as recognized	Exposes changes but is dilatory in resolution on plans	Anticipates changes, advises Shipyard but misses completion of design plans 10%	Keeps Shipyard posted on delays, resolves independently on plans	Anticipates in good time, advises Shipyard, resolves independently and meets production schedule
	A-3 Plan Maintenance	Does not complete interrelated systems studies concurrently	Systems studies completed but constr. plan changes delayed	Major work plans coordinated in time to meet product schedules	Design changes from studies and inter-related plans	Design changes, studies resolved and test data issued ahead of production

					issued in time to meet product schedules	requirements
B Quality of Work	B-1 Work Appearance	25% dwgs. not compatible with Shipyard repro. processes and use	20% not compatible with Shipyard repro. processes and use	10% not compatible with Shipyard repro. processes and use	0% dwgs. prepared by design agent not compatible with Shipyard repro. processes and use	0% dwgs. presented include. design agent, vendors, subcontr. not compatible with Shipyard repro. processes and use
	B-2 Thoroughness and Accuracy of Work	Is brief on plans tending to leave questionable situations for Shipyard to resolve	Has followed guidance, type, and standard dwgs.	Has followed guidance, type, and standard dwgs. questioning and resolving doubtful areas	Work complete with notes and thorough explanations for anticipated questionable areas	Work of highest caliber incorporating all pertinent data required including related activities
	B-3 Engineering Competence	Tendency to follow past practice with no variation to meet requirements job in hand	Adequate engrg. to use & adapt existing designs to suit job on hand for routine work	Engineered to satisfy specs., guidance plans and material provided	Displays excellent knowledge of constr. reqmts. considering systems aspect, cost, shop capabilities and procurement problems	Exceptional knowledge of Naval ship work & adaptability to work process incorporating knowledge of future planning in Design
B Quality of Work (continued)	B-4 Liaison Effectiveness	Indifferent to requirements of associated activities, related systems, and Shipyard advice	Satisfactory but dependent on Shipyard to force resolution of problems without constructive recommendations to subcontr. or vendors	Maintains normal contact with associated activities depending on Shipyard for problems requiring military resolution	Maintains independent contact with all associated activities, keeping them informed to produce compatible design with little assistance for Yard	Maintain expert contact, keeping Shipyard informed, obtaining info. from equip., supplies w/o prompting by Shipyard

	B-5 Independence and Initiative	Constant surveillance req'd to keep job from slipping	Requires occasional prodding to stay on schedule & expects Shipyard resolution of most problems	Normal interest and desire to provide workable plans with average assistance & direction by Shipyard	Complete & accurate job. Free of incompatibilities with little or no direction by Shipyard	Develops complete and accurate plans, seeks and resolves with assoc. act. ahead of schedule
C Effectiveness in Controlling and/or Reducing Costs	C-1 Utilization of Personnel	Planning of work left to designers on drafting boards	Supervision sets & reviews goals for designers	System planning by supervisor y, personnel, studies, checked by engineers	Design parameters established by system engineers & held in design plans	Mods. to design plans limited to less than 5% as result lack engrg. system correlation
	C-2 Control Direct Charges (except Labor)	Expenditures not controlled for services	Expenditures reviewed occasionally by supervision	Direct charges set & accounted for on each work package	Provides services as part of normal design function w/ extra charges	No cost overruns on original estimates absorbs service demands by Shipyard
	C-3 Performance to Cost Estimate	Does not meet cost estimate for original work or changes 30% of the time	Does not meet cost estimate for original work or changes 20% of the time	Exceeds original est. on change orders 5% time	Exceeds original est. on change orders 5% time	Never exceeds estimates of original package or change orders

Appendix 1B Contractor Performance Evaluation Report

Ratings	Period of _____ 19____
Excellent	Contract Number _____
Very Good	Contractor _____
Good	Date of Report _____
Marginal	
Submarginal	PNS Technical Monitor/s _____

Category	Criteria	Rating	Item Factor	Evaluation Rating	Category Factor	Efficiency Rating
A	Time of Delivery					
	A-1 Adherence to Plan Schedule	_____ x	.40	= _____		
	A-2 Action on Anticipated Delays	_____ x	.30	= _____		
	A-3 Plan Maintenance	_____ x	.30	= _____		
	Total Item Weighted Rating			_____ x	.30	= _____
B	Quality of Work					
	B-1 Work Appearance	_____ x	.15	= _____		
	B-2 Thoroughness and Accuracy of Work	_____ x	.30	= _____		
	B-3 Engineering Competence	_____ x	.20	= _____		
	B-4 Liaison Effectiveness	_____ x	.15	= _____		
	B-5 Independence and Initiative	_____ x	.20	= _____		
	Total Item Weighted Rating			_____ x	x .40	= _____
C	Effectiveness in Controlling and/or Reducing Costs					
	C-1 Utilization of Personnel	_____ x	.30	= _____		
	C-2 Control of All Direct Charges Other than Labor	_____ x	.30	= _____		
	C-3 Performance to Cost Estimate	_____ x	.40	= _____		

	Total Item Weighted Rating	_____	x .30	=
		x		_____
	Total Weighted Rating			

	Rated by:			

	Signature:			

Note: Provide supporting data and/or justification for below average or outstanding item ratings.