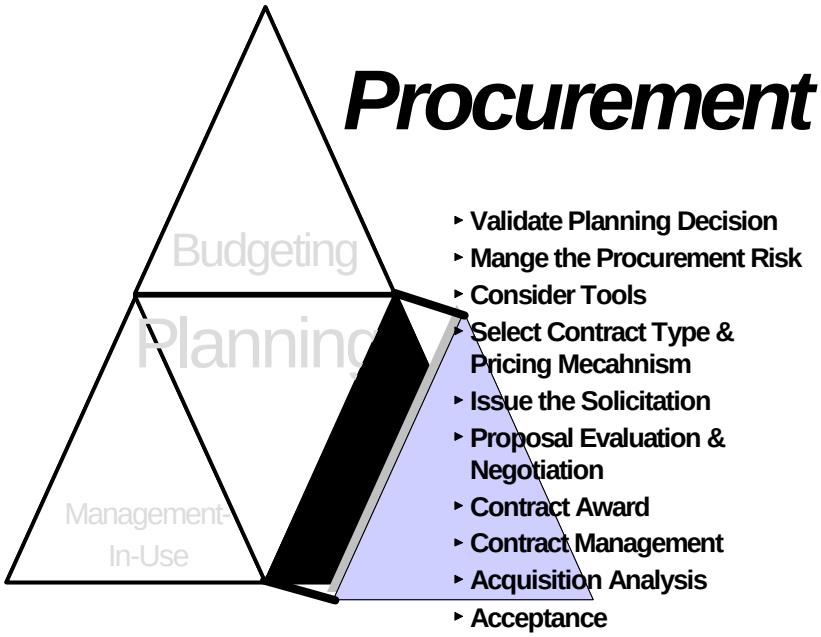
III. PROCUREMENT PHASE

Introduction. The Procurement Phase, for purposes of this Guide, begins after the agency has determined in the Planning Phase that a large expenditure for a capital asset is necessary and has received funding from Congress. Although this section of the Guide addresses issues that arise when the agency intends to satisfy its requirements using outside contractors, many of the principles are equally germane when the work will be performed in-house.



Depending on the results of the research into the capabilities of the market to provide the asset, the agency will begin the process to purchase the asset. In most cases, the purchase should be for a commercial item involving limited or no development work. When the risk inherent in development is offset by the high expected return, the purchase may begin with a development contract.

All projects involve risk, even those that seem ordinary and do not involve high technology. Nevertheless, agencies are expected to award contracts which have a high probability of achieving at least 90 percent of the cost, schedule and performance goals established in the Planning and Budgeting Phases. The requirements to establish realistic goals and manage the acquisition to meet those goals applies to all contracts, including both development and production contracts.

In most cases, the purchase should be for a commercial item involving limited or no development work.

Not every project will achieve the cost-benefit expectations of the Planning Phase. If the planning expectations are not realized during the Procurement Phase, agencies should undertake cost-benefit analysis to evaluate whether the benefits of completing the project are worth the additional costs, schedule delays, or performance reductions that would be incurred. Assuming the rebaselined project has an acceptable cost/benefit ratio, the agency must then compare that ratio with other projects within the agency's portfolio to

determine if the rebaselined project merits continued funding. If not, agencies should concede the sunk-costs and terminate the project.

Sound acquisition management requires holding managers accountable. By making the decision makers responsible for their decisions, there will be a greater emphasis in the long run on setting realistic goals and on seeing that they are met. Agencies should establish for the IPT, and others as appropriate, a system of incentives to encourage achievement of the project's baseline goals. These incentives should include rewards (including bonuses), recognition, and consideration in both personnel evaluations and promotion decisions, when performance of IPT personnel contributed to achieving or exceeding the cost, schedule and performance goals of the acquisition.

If planning expectations are not realized during the Procurement Phase such that the costs for completing the project outweigh the benefits and the return on investment and risk are less advantageous in comparison to alternative projects, agencies should concede the sunk-costs and terminate the project.

STEP III.1. VALIDATE PLANNING DECISION

At the beginning of the Procurement Phase, the IPT should re-examine the mission need. It should also re-assess the market capabilities to verify the conclusions reached in the Planning Phase as to whether a commercially available asset can be acquired or limited (or full-scale) development work is needed. The amount of development is usually the greatest risk factor. Therefore, this validation will have a significant impact on what types of risk treatment and mitigation will be necessary. The IPT should review any prior decisions that development work would be necessary, because technical advances that have occurred since the Planning Phase (or even pre-existing capabilities that were overlooked) could render development work unnecessary.

Alternatively, the IPT may determine that a decision in the Planning Phase for direct purchase is no longer valid and development is necessary. When such a determination is made, the analysis and recommendations to change direction should be considered and approved through the portfolio planning process, before the IPT proceeds with the procurement.

The IPT should also re-examine how it can make the most effective use of competition and financial incentives. For instance, if full-scale development was originally planned, but now only limited development will be necessary, more commercial firms may be willing to compete. Also, it is generally appropriate to use fixed-price or incentive contracts if the development is limited or nonexistent. Of course, the re-examination of the contracting method will also lead the IPT to re-examine what type of acquisition management system is necessary to ensure adequate progress and accountability.

STEP III.2. MANAGE THE PROCUREMENT RISK

The most important aspect of the Procurement Phase is *managing the risk*. Risk management limits the number of projects that will not meet the established goals. Before starting any procurement, the IPT should update the acquisition plan to ensure that the risk management techniques considered in the Planning Phase remain appropriate. Appendix Six further describes the risk management process.

There are three key principles for managing risk when procuring capital assets. They are:

1. Avoiding or limiting the amount of development work;

2. Making effective use of competition and financial incentives; and

3. Establishing a performance-based acquisition management system.

III.2.1 Limiting Development

Probably the greatest risk factor to successful contract performance is the amount of development that is planned for the procurement. Projects requiring full scale development have the greatest potential to experience cost and schedule overruns and not meet performance goals. Therefore, agencies should purchase, to the maximum extent practicable, commercial and non-developmental items to satisfy needs.

Projects requiring full scale development have the greatest potential for cost and schedule overruns. Agencies should purchase commercial items to the maximum extent practicable.

When commercial or non-developmental items are not available, agencies should consider pursuing limited development work. Although limited development still poses more risk to successful contract completion than needing no development, it does not endanger the success as much as full-scale development. Full-scale development should normally only be considered when it promises exceptionally high returns for achievement of strategic goals if it is successful. Full-scale development should not be used if it will cause the agency to reduce service or increase costs if it is not successful.

There are several ways of mitigating risk, especially the risk that limited or full development presents. One method is to make use of the Nation's integrated industrial base (i.e., companies with facilities, design and manufacturing processes, and technologies capable of servicing both commercial and government needs). When limited development is necessary, agencies should make maximum use of commercial assembly lines, technology, components, and processes.

Even when full scale development is required, the commercial marketplace has established processes for development work (e.g., design, quality control, and technologies) that the agency can use in its development effort. Furthermore, there are significant advantages if the contractor establishes a market for the product of the development effort beyond the current need. This approach creates the need for the contractor to plan for future maintenance. In many large, full scale development efforts, cost precludes selecting other than the original developer to maintain the custom solution. Maintenance planning, therefore, is necessary to address the risk of having to pay excessive amounts for future maintenance.

III.2.2 Using Competition and Financial Incentives

The effective use of competition and financial incentives is another means to reduce the risk to successful contract completion. In the earliest stages of the acquisition process, the agency should still be looking for innovative solutions to meet its needs. If given the opportunity, industry can be helpful in proposing innovative solutions. Requirements in solicitations should be written not as detailed design specifications, but rather as broad based statements of objectives (or targets) for asset function and performance, including long term O&M costs, that allow sources to propose various alternative solutions to meeting the agency's needs. Additionally, making effective use of competition and financial incentives will help the agency obtain better cost, schedule, and performance goals at contract inception.

A major barrier to taking advantage of the Nation's integrated industrial base can be the burdens and risks imposed by the government's demands, in order to ensure price reasonableness, for offerors to submit certified cost data and/or to comply with the government's cost accounting standards. Agencies can avoid this problem by using acquisition strategies that rely on competition and fixed-price contracts to ensure that reasonable value is received for the price paid.[1]

Creating a monopoly can create problems far beyond an increased purchase price in the current acquisition. Whenever the government lacks viable alternative sources of supply the agency may lack a realistic means of enforcing contract cost, schedule, and performance goals. Additionally, the lack of viable alternative sources of supply increases the agency's risk of being unable to obtain spare parts and operation and maintenance services at reasonable prices.

Agency acquisition plans should attempt to avoid monopolies through mitigation techniques such as multi-sourcing and using commercial standards (e.g., interfaces and footprints that allow for the use of alternative components). Sometimes (e.g., in an extremely large development effort) the nature of an acquisition effectively precludes competition for the foreseeable future. In such circumstances, an agency must take precautions to mitigate the negative effects of the monopoly (e.g., long term pricing arrangements for system upgrades and maintenance with source code or technical data in escrow in case of a violation).

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[1] Firmed-fixed price and fixed-price with economic price adjustment contracts are exempt from cost accounting standards coverage, provided that they are awarded without the submission of cost data to determine the reasonableness of price and that the economic price adjustment is not dependent on the contractor's actual costs.

Financial incentives may also reduce risk by motivating contractors to meet cost, schedule, and performance goals. Financial incentives can take the form of additional profit for improved performance such as in fixed-price and incentive fee contracts. Past performance evaluations that will affect the company's ability to obtain further business are also an effective motivation for superior performance.

NASA recently selected a firm other than the incumbent for a maintenance contract at one of its 10 Centers, based largely on the incumbent's poor performance. Soon after, the other 9 Centers' maintenance contract administrators reported an immediate increase in the level of contractor performance.

III.2.3 Establishing a Performance-Based Acquisition Management System

The third key principle of risk management in the procurement phase is acquisition management. Good acquisition management requires contractors to use management systems that provide good management visibility into the status of the project's prospects for success. By using and relying upon adequate systems in to make program decisions, contractors and agencies can more easily and quickly take corrective actions when problems arise. The sooner corrective action is taken, the less damage is caused to the program. If corrective action cannot bring a project to within 90% of its cost, schedule, and performance goals, agencies will need to consider what other action is appropriate (e.g., rebaselining the contract, terminating the contract).

STEP III.3. CONSIDER TOOLS

Various tools permit agencies to manage risk in the procurement phase. Three such tools are modular contracting, two-phase acquisitions, and competitive demonstrations/prototyping. All of these tools can be used in combination with each other.

III.3.1. Modular Contracting

Agencies should, to the maximum extent possible, consider breaking large acquisitions into smaller, more manageable segments or modules. Each module should be an economically and programmatically viable (i.e., useful) segment, as defined in the Glossary. A module should include whatever design, development, prototyping, testing, and production are necessary to obtain the identified functionality. Each module should be fully funded (see Step II.1.1.2). As technology advances and

MODULAR CONTRACTING Reduces Risk by:
- **increasing competition among firms**
- **facilitating fixed-price contracting**
- **accommodating changing technology and agency priorities**

agency priorities change, the design of subsequent modules may incorporate these improvements. Modular contracting, therefore, is appropriate even in commercial or non-developmental item procurements. Although modular contracting is generally thought of in terms of contracts for information technology, the concept can also be used for other types of capital assets.

In addition, in limited or full-scale development efforts, if program progress falls short of expectations, it usually is easier and less expensive to make adjustments using modular contracting. A modular approach allows the agency to attack risk incrementally, thereby making it easier to manage. Projects may include successive modules, where each module depends upon already completed modules. Projects may also be composed of several parallel modules, provided that, if one fails, the others will still provide a cost-beneficial service.

The parameters of a module will vary depending upon the type of asset being acquired or the nature of the asset being developed. The following factors, however, should be considered:

- ***Separability***. A module should be an economically and programmatically separable segment. The module should be fully funded, have substantial programmatic use that is not dependent on any subsequent module, and be capable of performing its principal functions even if no subsequent modules are acquired.

- ***Interoperability***. Each module should comply with a common architecture or commercially acceptable technology standards. Increments should be compatible and capable of being integrated with other modules. By using common or commercially acceptable standards, agencies make competition for subsequent modules a more viable option. Modules should also conform to the agency's master information technology architecture regarding interoperability.

- ***Performance requirements***. The performance requirement of each module should be consistent with the performance requirements of the completed, overall system and should address interface requirements with other increments.

In acquiring the first module, the agency should plan for the acquisition of subsequent modules. Contracts should be structured to ensure that the government is not required to procure additional modules. The following list provides examples of contracting techniques that may be used to acquire subsequent modules:

- ***Include Modules in Initial Contract***. This technique is most appropriate when product integration may be a problem, subsequent modules can be clearly defined at contract inception, and options can be exercised shortly after contract award. If there is going to be other than a minimal amount of delay in awarding the subsequent modules, it may not be prudent to include subsequent modules in the initial contract, because agencies would want the flexibility of taking advantage of technology improvements or changes in agency priorities.

- ***New Solicitation***. An agency can issue a new solicitation and award a new contract for subsequent modules. This approach is most appropriate when integration will be relatively easy and the availability of streamlined procedures makes conducting a competition cost effective.

- ***Issue Task and Delivery Orders***. Agencies may provide for follow-on modules in the original contract by entering into task and delivery order contracts. Task and delivery order contracts have a broad statement of work in the initial contract and provide for the issuance of task and delivery orders with more defined scopes as modules are acquired. This technique is most appropriate when subsequent modules cannot be clearly defined at the award of the initial contract or when there will be a lag time between the acquisition of the first module and subsequent modules. Task order contracts allow an agency to take advantage of advances in technology and changing agency priorities. Where possible, agencies should enter into multiple award contracts to maintain effective competition throughout the system acquisition.

- ***Sole Source***. When the original contract does not provide for follow-on modules and it is determined that follow-on modules should be awarded to the original source (see FAR 6.302-1(a)(2)(ii)), an agency may issue a sole source award for subsequent modules to the supplier of a previous module. This approach is appropriate when the benefits of having the incumbent contractor continue the work outweigh the benefits of competition (e.g., contractor continuity is necessary to ensure good system integration).

With modular contracting, agencies are better able to manage developmental risk. Accordingly, agencies are more likely to be able to use a fixed-price contract for the acquisition of each module. As discussed more thoroughly in Step III.4.1., using a fixed-price contract is usually best for the agency. In a fixed-price contract the agency and contractor have agreed that the project risks are manageable within the goals of the contract and risk of contract failure falls on the contractor. Modules can often be acquired on a firm fixed-price basis when a large developmental program could not, because modules reduce the risk to cost, schedule, and performance goals that a large developmental program would otherwise have. Modules also can limit the government's exposure when contracting on a cost reimbursement basis because the task is smaller and more likely to be accomplished within goals by the contractor and because the government may terminate the acquisition with smaller sunk costs if it becomes apparent that the threshold goals will not be met.

Modular contracting, especially when using an open architecture, can also increase the effective use of competition. The contract base for large development efforts tends to be limited to those large companies that have the government as their major, if not only, buyer. By breaking the acquisition into smaller pieces, the agency is able to make better use of the Nation's integrated industrial base by making the competition more attractive to smaller as well as firms that do predominantly commercial work. This increases both the quantity and quality of the competition.

III.3.2. Two-Phase Acquisition

Like modular contracting, a two-phase approach has advantages regardless of the amount of development necessary. In a two-phase approach, the agency asks for limited information in the first

phase. The requested information typically consists of information about past performance and experience, a conceptual outline of the proposed technical approach (versus a particular technical solution), and a rough order of magnitude pricing. Detailed technical and cost proposals are not received in the first phase. After requesting and evaluating the limited information submitted by potential offerors in the first phase, agencies can then advise each potential offeror whether or not it is a realistic contender for award. In general, when the agency does issue the actual solicitation, in the second phase, all responsible sources, even those sources that participated in the first phase but were advised that they were unlikely to be realistic contenders, as well as sources who did not participate at all in the first phase, are allowed to submit proposals and have those proposals fully considered.[2]

The type and amount of information the IPT requests in the first phase depends on the type of acquisition. In commercial and non-developmental item acquisitions with limited or no development, the information requested in the first phase can focus on past performance references and commercial catalogs**.** Such information would give the IPT a good sense of which offerors are realistic contenders for award. In acquisitions where full-scale development is required, agencies can request that offerors demonstrate their success in applying their capabilities to address similar projects.

TWO-PHASE ACQUISITIONS Reduce Risk by:

- **allowing efficient and effective communication to identify the best fit between government needs and marketplace capabilities**
- **attracting more firms to compete**
- **increasing the intensity of competition**
- **facilitating the use of fixed-price contracts**

Advising prospective offerors, in the first phase, of their competitive viability should limit the number of full technical and cost proposals the IPT receives**.** Limiting the number of full proposals received should save valuable resources for both the agency and prospective contractors. Prospective offerors' up-front expenditures will be reduced, and they need not expend more resources until after they have been advised of their likelihood of receiving the award. A two-phase process may, therefore, encourage more participation by firms that have successfully performed in the private sector, but because of the high cost, have not previously chosen to compete for government contracts.

Regardless of whether or not development is required, a two-phase approach allows the acquisition to benefit substantially from the efficient and effective communication between sources and agency personnel**.** These communications will foster the development of requirements and evaluation criteria that allow the best fit between agency needs and marketplace capabilities. Sources that are advised,

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[2] See footnote 3.

based on the first phase review, that they are strong competitors should be encouraged to participate in such a due diligence effort. As a general matter, however, because the interchange occurs before issuance of the solicitation for proposals in the second phase, all interested sources will have the opportunity to participate. Agencies that are not bound by the requirement in the Office of Federal Procurement Policy Act and the Small Business Act that all responsible sources be allowed to submit offers, can restrict participation in the due diligence effort to those offerors selected in the first phase, making it even more beneficial.[3]

Two-Phased acquisition provides incentives to bidders to invest more of their own resources to perform due diligence to learn about agency needs and develop innovative high value solutions.

The two-phase approach provides an incentive for offerors to invest resources in performing due diligence. Once an offeror has been told that, based on the first phase review, it is a leading contender to receive the award and it knows that only a limited number of other offerors are in that position, the offeror has a strong incentive to work with the IPT, end-users, and others to obtain good information about the agency's needs. Offerors will be able to asses well the gaps between the functionality and performance available using existing assets and the functionality and performance desired. There is also a strong incentive to understand what is expected by those who will have to use, maintain, and rely on the new system. This information and understanding can enhance substantially offerors' ability to submit high value proposals and avoid contract disputes.

It is not necessary in the two-phase process outlined above to include firm requirements or evaluation criteria for the second phase solicitation in the initial notice or before due diligence is complete. As a result, the dialogue between prospective offerors and agency personnel can contribute substantially to the development of requirements and evaluation criteria that yield very effective competition. The benefits of competition depend not only on the number of offers received, but also on how likely the offerors are to submit proposals that will meet the agency's needs and provide good value. It is better to receive three robust offers than ten mediocre ones. By accommodating and targeting marketplace capabilities that are suitable for meeting agency needs, the refined solicitation (that is produced by a two-phase approach) puts offerors in a good position to propose what the agency actually needs and wants and increases the probability of awarding a contract that represents the best value available in, or capable of being developed by, the marketplace.

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[3] Agencies that have the authority to limit consideration in the second phase to those offerors selected in the first phase to participate in the due diligence effort are in the position to get the most benefit from that effort because with fewer offerors participating, both the government and the offerors will be able to concentrate their resources. This will make for a more intense and worthwhile effort to identify the best fit between agency needs and marketplace capabilities. There is also a pending legislative proposal to amend the OFPP Solutions-Based test authority in the Clinger-Cohen Act of 1996 to permit, on a limited basis, selected agencies to use the two-phase approach and only consider proposals in the second phase from sources that participated in the first phase and were determined to be realistic competitors.

Of course, if the government believes it is appropriate (e.g., the development work will be substantial) to offer further incentives, the government may award competing prototype contracts with limits on the total costs to be reimbursed by the government (see III.3.3, Competitive Demonstrations/Prototyping).

There is no generally preferred contract pricing mechanism for a two-phase acquisition. The pricing mechanism will depend on the type of acquisition. If the acquisition is for a commercial or non-developmental item or for a limited development effort, it should be a fixed-price effort;. If, however, the acquisition is for a full scale developmental system, a cost reimbursement contract may be necessary if the risk is too great for a fixed-price contract. For development efforts, however, thresholds should be established beyond which the project would not be cost-beneficial and should be considered for termination.

III.3.3. Competitive Prototyping

To mitigate the risk of full-scale or limited development, agencies may use competitive prototyping. In competitive prototyping, contractors offering alternative system design concepts are selected to develop prototypes of their products. In acquisitions with limited development, the development work can be completed as part of the prototyping effort. When limited development is done as part of the prototyping effort, the contractor would be ready to move to full-scale production after satisfactorily completing the prototype.

COMPETITIVE PROTOTYPES
Reduce Risk by:
- **proving concepts are sound**
- **allowing efficient and effective communication to identify the best fit between agency needs and marketplace capabilities**
- **providing for competition during the development effort**
- **where appropriate, ensuring development remains constrained**
- **facilitating firm fixed-price contracting for production**

Whether full-scale or limited development is contemplated, both contractors and the agency can use the competitive prototyping phase to exchange information. This opportunity gives the contractor a better idea of what the end-users need. Similarly, it allows the agency to learn what the marketplace can provide. As is the case with two-phase acquisitions generally, continuing needs definition and market research in a due diligence effort -- conducted with those sources selected to develop prototypes -- allows for an effective and efficient information exchange. This exchange will foster achieving the best fit between agency needs and market capabilities. Prototyping also allows the government to obtain enough information about the design and production to be able to determine the product's subsequent affordability. A goal of any prototyping and development effort is to get the project developed to the point that the agency can use firm fixed-price contract for production and/or implementation.

If full-scale development is contemplated, competitive prototyping can be used to verify that the chosen concepts are sound, to perform in an operational environment, and to provide a basis of selection of the system design concept to be continued into full-scale development, before the agency commits to large scale funding. Prototypes may range from a principal end item or critical subsystem, to a limited and less than complete development model. It is anticipated that the winning concept and contractor of the competitive prototyping evaluation will then move into full-scale development and initial production. In awarding the prototype contracts, agencies may provide different funding amounts to each contractor depending on several circumstances (e.g., particular design, the amount sought, and the concept's potential).

When using competitive prototyping in advance of full-scale development, the competitive prototyping contracts should provide for contractors to develop and submit proposals for full-scale development and initial production by the conclusion of the prototyping effort. When the agency is doing development after the prototyping effort, agencies can use fixed-price contracts in which the performance standards may vary to contain the development effort.

If only limited development is necessary, a commercial style approach can be used in which the development can be accomplished as part of a fixed-price prototype contract. This approach contains the development risk and is most appropriate in cases where the development is an extension of a commercial item or otherwise existing technology (e.g., for products that can be produced on a flexible manufacturing line).

Awarding at least two combined prototyping and development contracts provides a strong incentive for contractors to devise the highest value performance - cost tradeoff. In some cases, the contractor may choose to invest some of its own resources in development, particularly if the item has commercial as well as government use. As when prototyping is done in advance of development, agencies may provide different amounts of funding to each contractor. As an alternative to the award of multiple combined prototype and development contracts (i.e., when at least two awards are not feasible) an agency can consider whether an upgrade of the current system (presumably requiring no more than limited development) is a realistic option that would provide competitive pressure.

A major benefit of the commercial style approach that combines development with prototyping under competitively awarded fixed price contracts is that it can avoid any need for the submission of certified cost data or compliance with government cost accounting standards for the purposes of determining the initial price or supporting contract payments. Firms doing business in the commercial market view government demands for the submission of certified cost data, compliance with government accounting standards,[4] and the associated burdens and risks to be among the most significant barriers to their participation in government contracting. The commercial style approach, by avoiding the need for such data and accounting, provides increased access to the Nation's integrated industrial base and the commercial assembly lines, technology, components, and

[4] See footnote 1.

procedures that can serve as the basis for achieving an agency's functional and performance objectives with only limited development.

STEP III.4. SELECT CONTRACT TYPE AND PRICING MECHANISM

As presented in detail in FAR Part 16, the pricing mechanism in the contract is another tool for risk management. In terms of the discussion of risk management in Appendix Six, in selecting the pricing mechanism, the parties are establishing whether the risk will be transferred, assumed, or shared by the agency. The range of pricing mechanisms extend from firm fixed-price for low risk factor projects, which transfers most of the risk to the contractor, to cost-plus-fixed-fee for very high risk factor projects, in which the agency assumes most of the risk. There are many contract types between these two extremes. Agencies should use pricing mechanisms as incentives for efficient contract completion within established goals.

III.4 1. Fixed Price

When risk can be contained, agencies should use a firm fixed-price pricing arrangement.

The feasibility of using firm, fixed-price contracts depends on whether the contractor can effectively manage the risk imposed. A firm fixed-price contract puts the greatest amount of risk on the contractor for contract success. When purchasing commercial or nondevelopmental items, the entire risk can rest with the contractor because there is very little chance of technical failure. It is also appropriate to award a firm, fixed-price contract putting all of the risk on the contractor when the development is sufficiently contained such that the risk of failure can be managed by the contractor within economically reasonable bounds. Fixed-priced, competitively awarded contracts can be negotiated without certified cost or pricing data or cost accounting standards[5] coverage reducing impediments that discourage firms that do predominantly commercial work from competing for government business.

III.4.2. Cost Reimbursement

Where a large amount of development effort is anticipated, and the agency is willing to accept the risk of failure within budget limitations a cost reimbursement contract type may be most appropriate. It is usually not cost effective for the agency to use fixed-price contracts, as the contractor will have to include large contingencies in the proposed price. Cost reimbursement contracts, however, put the largest amount of risk for technical failure and cost overruns on the agency.

III.4.3. Incentives

Incentive mechanisms should be used in all cost-reimbursement contracts to encourage contractors to meet or exceed the cost, schedule, and performance goals. Specific incentives for cost, schedule,

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5 See footnote 1.

and performance achievement should be used along with other incentives, such as value engineering and past performance ratings based on achievement of, or deviation from, goals.

III.4.4. Combinations

In large scale development contracts, there may be several different pricing mechanisms in one contract. For instance, the development effort may be cost reimbursement and the production phase may be fixed-price. Each segment of the contract should have an appropriate performance-based management system in use to provide information on the achievement of, or deviation from, goals.

III.4.5. Share-In-Savings

Another mechanism for containing risk on new systems while encouraging offerors to make the new systems as efficient as possible, is a share-in-savings approach. Using share-in-savings, offerors propose arrangements, whereby they charge less for their product or service in exchange for a government obligation to pay an agreed upon percentage of future savings generated by the new product or service.

As an example, consider an agency could be prepared to pay $10 million for a new system to track and pay contractor invoices. The current system is very labor intensive, slow, and often requires interest payments under the Prompt Pay Act. Using share-in-savings, one offeror can propose to provide the new system for $5 million and 50 percent of the savings generated from such things as decreased labor or lack of interest payments over the next five years. Another offeror might offer the new system without charge, but request 90 percent of the savings generated over the next five years. Other offerors could propose different formulas.

A major benefit of share-in-savings is that it provides incentives for the contractor to design and field an efficient system. The more savings the contractor generates for the government, the more profit it makes.

To the extent that the award of share-in-savings contracts require special budgetary mechanisms, agencies can work with their OMB RMO in obtaining the appropriate authority.

STEP III.5. ISSUE THE SOLICITATION

Solicitations should make the most effective use of competition. Generally, increased public exposure to agency functional and performance objectives will increase not only the quantity of solicitation, but also the quality of the curement.[6] Solicitation exposure is important, especially when trying to expand the supplier base for major asset acquisitions beyond those few firms that regularly sell only to the government (sometimes so dependent on government business that a monopsony exists) to include firms with significant commercial sales. In addition to notices in the *Commerce Business*

[6] In a two-phase acquisition the first phase notice will be a broad statement of the agency's anticipated requirements. The solicitation which will be more refined than the first phase notice, but still allow for innovation in offerors' proposals, is issued in the second phase.

Generally, increased public exposure to agency functional and performance objectives will elevate not only the quantity of firms responding to the solicitation, but also the quality of the procurement.

Daily and alternative electronic means when available, the IPT should make sure that upcoming or recently released solicitations get announced in trade journals and at related conferences.

The solicitation should explain the mission need in terms of functional and performance objectives (i.e., capability targets versus equipment needs), schedule, and operating constraints. Offerors should be free to propose their own technical approach, main design features, sub-systems, and alternatives to schedule, cost, and functional and performance capability goals.

In developing the evaluation factors to be considered for award, agencies should make allowances for trade-offs among technical features and between technical features and cost. Market analysis, as discussed in the Planning Phase, can help an agency better understand the general capabilities and the state-of-the-art available in the marketplace.

However, the IPT should not limit competition unduly by making trade-offs between price and technical factors too early in the solicitation and evaluation process. Targets should be considered for inclusion in solicitations in place of mandatory minimum requirements.

Market research continues until contract award. It need not be completed prior to issuing the solicitation; in fact, it may be counterproductive to do so if it results in the adoption of minimum requirements in the solicitation that severely limit the range of possible best value tradeoffs. Market research includes the information that members of the Source Selection Team and IPT gain after receipt of offers, but prior to award, as a result of reviewing offers and communications with offerors.

In issuing the solicitation, agencies should consider as an evaluation factor the manner in which the offeror proposes to deal with the various risk considerations. For example, the evaluation strategy in the solicitation should prefer proposals that offer limited or no development over those that offer full-scale development.

If an agency wanted to buy a VCR, it might try to discover every capability available in the market place and then, before issuing the solicitation, establish which capabilities it wants. A better way is to solicit for a VCR, including any particular target performance capabilities the agency wants, and wait for the various bids to come in before making trade-offs.

The solicitation should require the contractor to operate and maintain a performance-based management system, using "earned value" or a similar approach, as the means to manage the acquisition during its performance period. The system should provide periodic status reports to the agency IPT on the

achievement of, or deviation from, the cost, schedule, and performance goals established for the acquisition.

IPTs should conduct orientation briefings for industry and allow industry to comment on the acquisition strategy and a draft solicitation. The objectives are to clarify the solicitation requirements and remove inhibitors to innovative solutions.

STEP III.6. PROPOSAL EVALUATION AND NEGOTIATION

A Source Selection Team (SST) (whose members come from the IPT) should evaluate proposals based on the evaluation criteria in the solicitation. The SST should determine to what extent each proposal meets the criteria included in the solicitation and compare the proposals to each other based on those determinations. If appropriate, the SST should conduct negotiations with offerors to clarify and improve proposed technical solutions and costs. The team should prepare analyses and recommendations for presentation to senior management.

In selecting from competing alternatives, the reviewers, consistent with the solicitation, should consider:

- functional and performance capabilities of the proposed solutions in relation to the mission needs and program objectives, including resources required and benefits to be derived by trade-offs, where feasible, among technical performance, acquisition costs, ownership costs, and time to develop and field; and

- the competitors' relative accomplishment record (past performance).

STEP III.7. CONTRACT AWARD

The Source Selection Authority (SSA) selects the successful contractor. If a trade-off process is used, the award decision should ensure that any higher price paid is worth the perceived benefits, and is within the planned funding level for the project. However, if cost, schedule or performance parameters proposed by the contractor offering the best value to the government do not achieve program objectives within funding limitations, the project should be reviewed by the Executive Review Committee. The Executive Review Committee will then decide if the project's revised cost-benefit ratio, in comparison with other potential projects, remains large enough, given the new information, to warrant award of the contract. If not, the SSA should terminate the procurement and evaluate how and why the process failed.

STEP III.8. CONTRACT MANAGEMENT

The success or failure of capital asset acquisitions to achieve cost, schedule, and performance goals can significantly affect the agency's ability to maintain budget discipline and achieve its strategic plan. Program managers need visibility into a contract's progress to identify early any problems. This

allows time for contractors and the government to implement corrective actions before significant deviation from goals results.

If corrective actions cannot be implemented to maintain the expected return on investment, the contract can be terminated with limited loss, and planning for another solution may begin promptly. To achieve necessary visibility into contract performance, agencies should incorporate into all major capital asset acquisitions, both fixed-price and cost-reimbursement, a requirement for the contractor to implement a performance-based management system. Contractor systems should operate on an *earned value* or similar concept. Information from the contractor's management system should be incorporated in the agency's financial management and control system. The agency 's system should accumulate the actual costs of the project (including both contract costs and agency program management costs) and integrate them with performance indicators to give program managers a clear understanding of how resources are connected to results. Appendix Four provides an example of the earned value management system concept.

Performance-based management systems provide a framework for defining work, assigning work responsibility, establishing budgets, controlling costs, and summarizing, with respect to planned versus actual accomplishments, the detailed cost, schedule, and related technical achievement information for appropriate management review. The contractor's management control systems must meet criteria established by the agency in the contract. These criteria, at a minimum, should require a defined process and method of assigning organizational resources to achieve program and acquisition project objectives. The DOD/NASA *Joint Implementation Guide on Earned Value*, and the National Security Industrial Association's, *Industry Standard: Earned Value Management System Guidelines* (Draft) provide the criteria for acceptable performance-based management systems.

Under a performance based management system, the contractor plans its work using a contractually specified work breakdown structure as the baseline. The objectives, tasks, services, or deliverables that must be produced by the organization are described in the work breakdown structure. The IPT ensures that the contractor plans, budgets, and schedules the work effort in time-phased "planned value" increments constituting a performance measurement baseline (time-phased budget).

Agency financial management and control systems should accumulate the actual costs of the project and integrate them with performance indicators to give program managers a clear understanding of how resources are connected to results.

The contractor assigns the planned work for cost accumulation and individual responsibility to cost accounts and subsidiary work packages under the cost accounts. The sum of the budgets for all the work packages scheduled to be accomplished, plus the amount of indirect effort to be accomplished within the contract performance period, is the "planned value" of the effort. This is called the *Budgeted Cost for Work Scheduled*.

By integrating the responsible organization and the specific deliverables, the project manager can see the relationship between the work and the responsible resources. The program manager can pinpoint both where problems occur and the responsible party. Work that does not earn its planned value can be identified so that corrective actions can be taken and new estimates of budget needs made.

As work is completed in the work packages, it is "earned" on the same budget dollar basis as it was planned. The sum of the budgets for completed work packages and completed portions of open work packages, plus the applicable portion of the budgets for indirect effort is the "earned value." This is called the *Budgeted Cost for Work Performed*. The costs actually incurred and recorded in accomplishing the work performed within a given time period is called the *Actual Cost of Work Performed*.

Measuring the amount of work accomplished against the original planned baseline and against actual costs provides critical management visibility on the achievement of, or deviation from, goals. Management systems that only track actual expenditures against planned expenditures fail to provide the key piece of management information -- amount of work actually accomplished -- needed to make appropriate decisions about the status of the contract. Milestones must be defined in terms of products or functions that are measurable through demonstration or observation such that the percentage of completion can be determined in terms of dollars expended for milestones at certain points in time.

Contractor accounting systems should accumulate actual costs of accomplished work, which is compared with earned value, providing a cost variance for the accomplished work and indicating whether the work is over-, or under-running its plan. Planned value, earned value, and actual cost data provide an objective measure of performance, enabling trend analysis and evaluation of cost estimated at completion at all levels of the acquisition.

The performance-based management system should provide useful information for all levels of the management team. Whatever system is adopted, it should have the following information available for analysis:

- Change control
- Cost variance
- Understanding of whether technical objectives are being achieved
- Variance analysis
- Performance variance
- Schedule variance
- Identification of problem areas at both the organization and work breakdown structure levels.
- Variance at completion analysis

STEP III.9. ACQUISITION ANALYSIS

III.9.1. Contract Performance Evaluation

The IPT should receive monthly, or more often if necessary, status reports from the contractor on the acquisition. If the acquisition is not achieving cost, schedule or performance goals, the IPT

should determine the reasons for the deviations and the corrective actions planned by the contractor. The corrective actions should be evaluated as to whether they are likely to be effective. If the corrective action cannot return the contract within goals before contract completion, it must at least ensure that the deviations will not continue to expand and that the current estimates to complete the contract are realistic.

Agencies should establish thresholds for deviation from goals that require Executive Review Committee notification when exceeded. FASA Title V requires agency head review if major acquisitions are projected not to achieve at least 90 percent of cost, schedule, and performance goals. Agencies may establish tighter thresholds. If the threshold goals will not be achieved at contract completion, the IPT should prepare an analysis of the estimated changes in cost, schedule, and performance goals and whether the acquisition would remain cost-beneficial and should continue to receive priority in comparison to other projects at the new funding levels.

The IPT's analysis and recommendations should be evaluated by the Executive Review Committee for a determination to:

1. continue the acquisition (by reallocating or seeking additional funds through OMB);

2. restructure the acquisition with lower goals (and not seek additional funding); or

3. terminate the acquisition.

Periodic status reports should be provided by the IPT to the Executive Review Committee on all major acquisitions, even if they are within goals. Because of changing technology, mandates, and mission, a project within goals may no longer provide the agency with the highest return on the use of the funds.

III.9.2. OMB RMO Review

OMB's RMO staff should review status information from major acquisitions at least once a year, or as necessary, for critical acquisitions and those other major acquisitions that are not projected to achieve 90 percent of goals. OMB should review the reasons for deviation from goals, the reasonableness of the corrective actions proposed, and the validity of increased cost estimates. OMB should consider approving a re-baseline proposal only when the agency has provided justification demonstrating the new goals have a high probability of success and that the acquisition will still have a benefit-cost result that justifies continued funding after comparison with other projects in the portfolio analysis and budget limitations. Acquisitions not meeting objectives (including cost objectives) that have no acceptable plan for fixing the problems should be recommended for termination and the agency instructed to return to the Planning Phase for consideration of alternative solutions.

III.9.3. OFPP Assessment

OFPP is responsible, under FASA Title V, for submitting an annual assessment to Congress on progress made by civilian agencies in achieving 90 percent of acquisition goals. The Secretary of Defense has the same requirement for Defense acquisitions.

STEP III.10. ACCEPTANCE

Acceptance is the final step in the Procurement Phase. Upon acceptance of the asset, the asset moves to the Management-in-Use Phase. The IPT should ensure the asset meets the requirements of the contract. Often this will be accomplished through an acceptance test plan. Acceptance testing can be performed during and/or at the end of contract performance.

FOR TESTING . . .
• Have a thorough test plan
• Be rigorous

Effective testing will determine whether the agency received the benefits it anticipated and whether the system is acceptable for use in accomplishing the agency's mission. Agencies should invest adequate resources to ensure that there is a thorough test plan. A thorough plan is one that will accurately determine if the contractor's product meets all of the requirements of the contract. The plan should also determine whether the asset is capable of meeting the program needs and providing the projected benefits which supported the project. If a commercial or non-developmental item is purchased, the IPT should consider using commercial quality standards or the contractor's quality system to ensure acceptability. Where appropriate, independent validation and verification, quality assurance processes, and regression testing should be required as part of testing for acceptance.

Having established a thorough test plan, managers should ensure it is followed, the tests are performed rigorously, and acceptance does not occur unless each item of the test plan is fully met. Properly conducted demonstrations evidencing the product's ability to meet the test plan and program needs and to provide the anticipated benefits are very important. Time should be planned in the contract schedule for such demonstrations.

Agencies should also ensure that unacceptable ratings with respect to contract requirements are effective disincentives to contractors. When appropriate, agencies should withhold payment or fee depending on the contract's payment mechanisms. Agencies should also make it a policy to use accurate performance ratings in subsequent contract award decisions.

If the agency accepts the asset with deviations from the contract requirement, these deviations should be documented, including any consideration (e.g., reduction in price) received from the contractor as required by the contract.