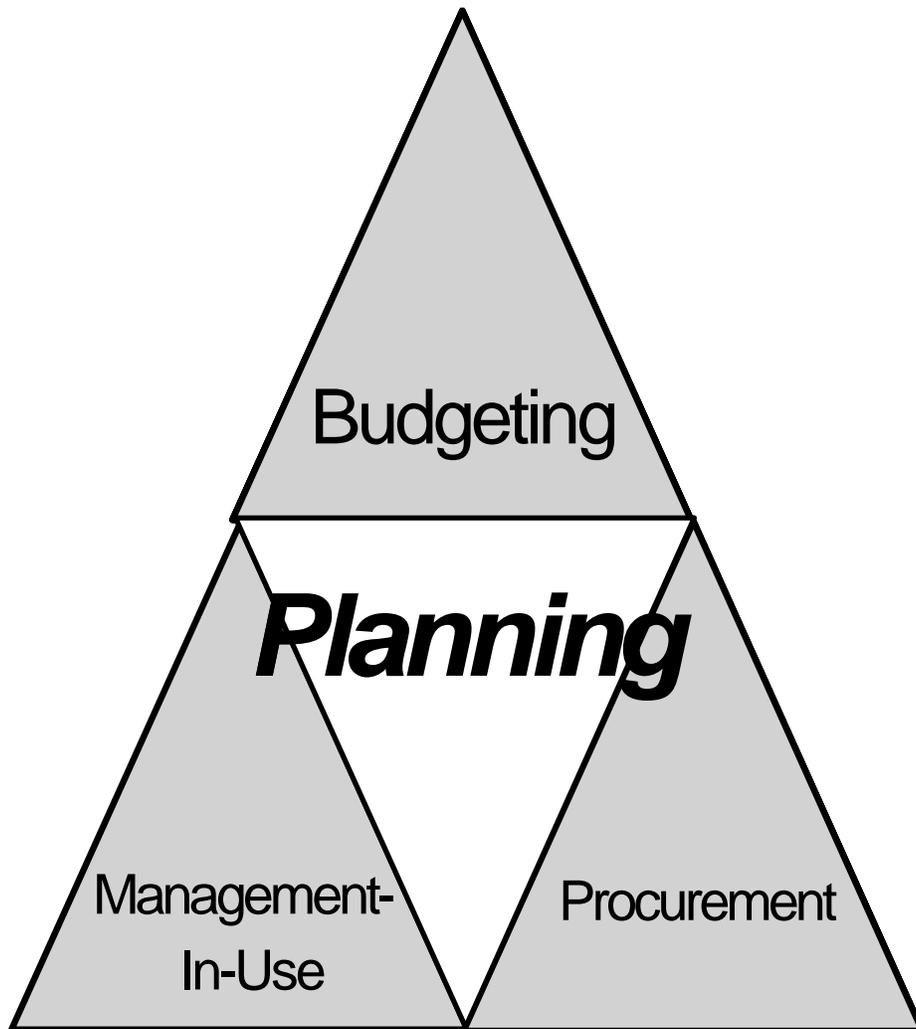


CAPITAL PROGRAMMING GUIDE

VERSION 1.0



SUPPLEMENT TO
OFFICE OF MANAGEMENT AND BUDGET CIRCULAR A-11, PART 3:
PLANNING, BUDGETING, AND ACQUISITION OF CAPITAL ASSETS

JULY 1997

The Guide has been developed by the Capital Programming Guide Group, made up of over 80 staff representing 14 agencies, and chaired by John Koskinen, Deputy Director for Management at the Office of Management and Budget (OMB). G. Edward DeSeve, Controller, Office of Federal Financial Management-OMB, and Philip R. Dame, Deputy Assistant Director, Budget Analysis and Systems Division-OMB, have served as the Group's conveners.

The Guide is organized to reflect four phases of capital programming -- Planning, Budgeting, Procurement, and Management-In-Use. The chapters have been developed by inter-agency working groups, led by Scott Quehl, David Muzio, Larry Hush, Larry Magid, and Kathleen Turco. Especially significant contributions were provided by Robert Anderson, Mark Blace, Les Bloom, Allan Brown, David Childs, Wendy Comes, Walter Groszyk, Michele Heffner, Richard Kellet, Robert Kilpatrick, Bruce McConnell, Bernie Martin, Rusty Moran, M. Jane Morgan, Gay Morris, Michael O'Brien, Justine Rodriguez, Diane Savoy, Robyn Seaton, Jasmeet Seehra, Marlon H. Sellow, Justin Sullivan, Nathan Tash, Cindy Veneziano, and Victoria Viets. Margaret Christian and Mary Chuckerel have provided administrative support.

Contributions by the General Accounting Office (GAO) have greatly enriched the Guide. GAO will undertake a series of case studies on promising capital programming practices among private industry and State and local governments to complement this effort.

The measuring stick of the Guide's "success" is the extent to which agency staff find it useful -- in defining why a capital asset is necessary, what it will do, how it will be paid for and acquired, and how the asset will be managed well. We ask for your support in distributing this Guide widely in your agency, including program, budget, procurement, financial management, and information resource staff. Please direct any comments to David Muzio, Office of Federal Procurement Policy, OMB (phone: 202-395-6805; fax: 202-395-5105; E-mail: muzio_d@a1.eop.gov).



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, DC 20503

July 22, 1997

THE DIRECTOR

M-97-18

MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

FROM:

Franklin D. Raines
Director

A handwritten signature in black ink, appearing to read "Franklin D. Raines", written over a horizontal line.

SUBJECT:

Capital Programming Guide, Supplement to A-11, Part 3

Managing the stock of Federal capital assets and planning, budgeting and acquiring assets is important work. Large sums of taxpayer funds are involved and the performance of the assets determines, to a large extent, how well the agencies are able to achieve their missions and provide service to the public.

The National Performance Review and recent legislation suggest widespread concern in the agencies and Congress that the Government must improve its performance in this area. Many programs have not had a clear sense of mission, and life-cycle costs have not been given sufficient consideration. It is important that agencies do not underinvest in new projects or maintenance of existing assets that support high priority agency missions and services to the public. Agencies must have an effective process for making investment decisions that puts funds in the right places. A recurring theme in many asset acquisitions is that risk management is not central to the planning, budgeting, and acquisition process. Failure to analyze and manage the risk inherent in capital asset acquisition has too often resulted in cost overruns, schedule delays, and assets that fail to perform as expected.

Agencies need to have a disciplined capital programming process that addresses the project prioritization, risk management and other difficult challenges posed by asset management and acquisition. The purpose of this guide is to provide guidance for a disciplined capital programming process. At the same time, agencies are provided flexibility in how they implement the key principles and concepts discussed. We expect the Guide to be revised as agencies gain experience and develop improved best practices. However, the key principles and importance of thorough planning, risk management, full funding, portfolio analysis, performance-based acquisition management, accountability for meeting goals, and cost effective life-cycle management will not change. As a general presumption, OMB will only consider recommending for funding in the President's budget, priority capital asset investments that comply with good capital programming principles.

This Guide is the result of an effort by many talented Federal employees to improve how the Government manages and acquires capital assets. The group brought its expertise to the project and sought out best practices from State and local governments and from industry leaders. The common theme of the group was a desire for the Government to gain the reputation of good management of capital assets in our quest to provide a Government that works better and costs less.

LIST OF ABBREVIATIONS

ACP	Agency Capital Plan
CI	Commercial Items
COTS	Commercial-off-the-shelf
GPRA	Government Performance and Results Act of 1993
FAR	Federal Acquisition Regulation
FARA	Federal Acquisition Reform Act (Clinger-Cohen Act) of 1996 ¹
FASA	Federal Acquisition Streamlining Act of 1994
IPT	Integrated Project Team
ITMRA	Information Technology Management Reform Act (Clinger-Cohen Act) of 1996 ¹
NDI	Non-Developmental Item
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OFPP	Office of Federal Procurement Policy, Office of Management and Budget
PIR	Post-implementation Review
RMO	Resource Management Office, Office of Management and Budget
SFFAC	Statement of Federal Financial Accounting Concepts
SFFAS	Statement of Federal Financial Accounting Standards
SSA	Source Selection Authority
SST	Source Selection Team

¹ These two Acts together are known as the Clinger-Cohen Act.

KEY INTERNET ADDRESSES

The *Capital Programming Guide* and *OMB Circular A-11, Part 3*, can be found at:
<http://www.whitehouse.gov/WH/EOP/omb>

The *Principles of Budgeting for Capital Asset Acquisitions: FY 1998 Budget*, can be found with other *FY 1998 Budget* documents at:http://www.access.gpo.gov/su_docs/budget/index.html
The Principles also appear as Appendix Seven to this Guide.

The *Federal Acquisition Reform Act and the FAR Implementation of the Federal Acquisition Streamlining Act*, can be found at the reference library for Acquisition Reform (ARNET) at:
<http://www.arnet.gov>

The *Information Technology Management Reform Act (now known as the Clinger-Cohen Act)*, can be found on the Chief Information Council Working Group web site at:
<http://www.cio.fed.gov>

Three IT Investment Guides are available:

Office of Information and Regulatory Affairs - Evaluating Information Technology Investments, (November 1995) can be found at:
<http://www.whitehouse.gov/WH/EOP/OMB/infotech/infotech.html>

GAO - Assessing Risk and Returns: A Guide for Evaluating Federal Agencies IT Investment Decision Making, February 1997 can be found at:
<http://www.gao.gov/policy/itguide/index.htm>

GSA - Performance Based Management -- Eight Steps To Develop and Use Information Technology Performance Measures Effectively, (December 1996) can be found at: <http://www.itpolicy.gsa.gov/mkm/pathways/pathways.htm>

The *Government Performance and Results Act*, can be found on FinanceNet
<gopher://pula.financenet.gov:70/00/docs/legis/gpra93.gop>

Many GPRA-related documents can be downloaded from
<ftp://ftp.fedworld.gov/pub/results/results.htm>

Government CFO Council, GPRA Implementation Committee documents can be found at:
<http://www.financenet.gov/financenet/fed//cfo/gpra/gpra.htm>

OMB Circulars, can be found on the OMB Homepage at:
<http://www.whitehouse.gov/WH/EOP/omb>

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CAPITAL PROGRAMMING GUIDE

INTRODUCTION

The Guide's Purpose

The purpose of this Guide is to provide professionals in the Federal Government a basic reference on principles and techniques for planning, budgeting, procurement, and management of capital assets. The Guide should help Federal agencies to achieve “world class” recognition for these activities and achieve the maximum return on these investments. The guidance integrates the various Administration and statutory asset management initiatives (including GPRA, Clinger/Cohen Act, FASA, and others) into a *single, integrated* capital programming process to ensure that capital assets contribute to the achievement of agency strategic goals and objectives.

Agencies should use this Guide to help establish a capital programming process in each agency. Effective capital programming uses long range planning and a disciplined budget process as the basis for managing a portfolio of capital assets to achieve performance goals with the lowest life-cycle costs and least risk. This process should provide agency management with accurate information on acquisition and life-cycle costs, schedules, and performance of current and proposed capital assets. This information will help agencies make decisions on the best use of available funds to achieve strategic goals and objectives.

While agencies are provided flexibility in how they implement the key principles and concepts of the Guide, they are, expected to comply with existing statutes and guidance (cited in the text where appropriate) for planning and funding new assets, achieving cost, schedule and performance goals, and managing the operation of assets to achieve the asset's performance and life-cycle cost goals. This Guide does not discuss the entire strategic planning process, only that portion that pertains to the contribution of capital assets.

Definition of Capital Asset

Capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government and have an estimated useful life of two years or more. Capital assets exclude items acquired for resale in the ordinary course of operations or held for the purpose of physical consumption, such as operating materials and supplies. The cost of a capital asset is its full life-cycle costs, including all direct and indirect costs for planning, procurement (purchase price and all other costs incurred to bring it to a form and location suitable for its intended use), operations and maintenance, including service contracts, and disposal. Capital assets may or may not be capitalized (i.e., recorded on an entity's balance sheet) under Federal accounting standards. Appendix One defines capital assets more fully.

Threshold for Capital Programming

The capital programming process is useful for all long-term investments in capital assets. However, agencies should consider the materiality of the investment to the agency -- both its cost and its strategic significance -- in determining the level of effort devoted to capital programming. Full

analysis and management should be applied to capital assets (including major modifications or enhancements to existing systems) that meet the criteria for a “major acquisition” in OMB Circular A-11, Part 3, *Planning, Budgeting, and Acquisition of Capital Assets*. According to Circular A-11, Part 3, major acquisitions are capital assets that require special management attention because of their importance to the agency mission; high development, operating, or maintenance costs; high risk; high return; or their significant role in the administration of agency programs, finances, property, or other resources. Major acquisitions should be separately identified in the agency’s budget. For small dollar investments relative to the agency’s budget, the agency may wish to develop a less detailed programming process based on the basic tenets presented in this Guide. A stratified capital programming process involving more or less detail and review based on the size or strategic importance of proposed investments may be appropriate, particularly in large agencies.

Capital Asset Management Infrastructure

A formal capital asset management infrastructure is a best practice used throughout industry and by many government agencies to establish clear lines of authority, responsibility, and accountability for the management of capital assets. An executive review committee, acting for or with the Agency Head, should be responsible for reviewing the agency’s entire capital asset portfolio on a periodic basis and making decisions on the proper composition of agency assets to achieve strategic goals and objectives within the budget limits. This committee should be composed of the senior operations executives, and the chief information, financial, budget and procurement officers. An Integrated Project Team(s) (IPT) composed of a qualified program manager, and necessary personnel from the user community, budget, accounting, procurement, value management, and other functions should be formed, as appropriate, to: (1) establish a baseline inventory of existing capital assets; (2) analyze and recommend alternative solutions; (3) manage the acquisition if approved; and (4) manage the asset once in use. A sound financial management system is another key ingredient for sound decision making. Even if the Guide's other recommendations are followed, agencies may make poor decisions without this infrastructure.

Agencies may choose to plan for capital assets agency-wide or by bureau or functional area. A key principle of the Guide is that this planning should not be duplicated by more than one group, and that an executive review committee determine which of all the competing asset opportunities will be recommended for funding each year. Many agencies have started to redesign their long-range planning approach for information technology (IT) capital assets by establishing an IT capital asset infrastructure in accordance with the requirements of the Clinger/Cohen Act, Sec. 5122, *Capital Planning and Investment Control*. Agencies having IT resources investment boards, cross-functional review teams for IT investments, standardized qualitative and quantitative criteria for developing a net risk-adjusted return on investment, and other processes that identify and rank IT investments for comparison with other competing asset opportunities by the agency executive review committee, have an IT planning process consistent with the principles of this Guide.

Organization of the Guide

- This Guide is organized to reflect the four Phases of the capital programming process: Planning, Budgeting, Procurement, and Management-In-Use. Each Phase is composed of a number of Steps.

- Integration with guidance or source materials relevant to a particular Phase and Step, as well as a description of reporting requirements or formats, is also described.
- Also included are a Glossary and a list of Selected Capital Programming References.

Summary of Each Phase and Step

I. Planning Phase

The Planning Phase is the “core” of the capital programming process. Its products are applied throughout the remaining Phases, and information from the other Phases flows into the Planning Phase. Much as a road map allows a traveler to plan a preferred route while keeping alternatives in mind, good capital planning can help agencies develop, justify and carry out budget proposals, procurement, and operational responsibilities. Plans can expose “traffic jams” agencies invariably encounter and the alternate routes to avoid them. Planning should be undertaken because it results in better use of scarce resources and makes decision making and implementation easier, not merely for the sake of compliance.

Step I.1. Strategic and Program Performance Linkage. There is an unseverable link between planning and budgeting, a connection through which an agency decides what to do and how to do it well. The enactment of the Government Performance and Results Act (GPRA) of 1993 put into law the means for developing strategic plans and connecting them to resource requests. This Guide emphasizes the importance of linking capital asset planning, funding, and management, to agency strategic plans and annual performance plans. In turn, future revisions of strategic and annual performance plans should reflect the analysis and decisions of the Planning Phase.

Step I.2. Baseline Assessment and Identifying The Performance Gap. Using value management techniques (see appendix nine), the IPT should assess the extent to which existing capital assets are helping the program achieve its strategic goals and objectives. This assessment should evaluate the capacity of existing assets and those being acquired to achieve program goals, and identify any performance gap. The evaluation criteria include applicability to mission, affordability relative to future resource expectations, benefits, life-cycle costs, and agency capacity to manage the asset. The executive review committee should review this assessment and determine, within budget limits, at which level current and new assets should be funded to achieve strategic goals and objectives.

Step I.3. Functional Requirements. If a gap between planned and actual performance is found, various options for addressing this “performance gap” -- both through capital assets and other means -- should be identified. Program staff may find that identifying more detailed program requirements than those established in the annual performance plan can help identify the proper size and scope of potential options. Detailed functional requirements for capital asset options also should be defined. These functional requirements should not be defined in equipment or software terms, but in terms of the mission, purpose, capability, agency components involved, schedule and cost objectives, and management capacity.

Step I.4. Alternatives to Capital Assets. Before planning to acquire new capital assets, managers should apply the “Three Pesky Questions” to ensure that: (1) the functions to be supported are mission critical; (2) no other governmental or private entity can do them better; and (3) agency business processes

have been reengineered to optimize performance at the lowest cost. Agencies should select alternatives over new capital assets to achieve the same programmatic goals whenever practicable and more cost-beneficial, including new program design (e.g., the use of grants, vouchers, or regulation) or operational improvements through such means as cross-servicing or short-term operating leases with commercial providers. Benefit-cost analysis is the primary method to compare alternatives and select the best solution, given budget constraints. (See OMB Circular A-94.)

Step I.5. Choosing the Best Capital Asset. If no cost-beneficial means for meeting program performance requirements other than a capital asset are available, the IPT should determine: (1) *Availability* - if the market can provide capital assets that meet detailed program and functional requirements; (2) *Affordability* - if the alternatives available to satisfy needs are affordable; and (3) *Feasibility* - if their costs and benefits merit their inclusion in the agency's portfolio of proposed assets to be considered for funding by the agency's executive review committee. This process starts with a strategy to review the market and ends with the development of an acquisition plan, outlining the best approach to acquire the recommended asset. There should be a risk analysis that identifies how risk for the different parts of the project will be isolated, minimized, monitored, and controlled. High risk should be accepted only insofar as it can be justified by high expected returns, and only if project failure can be absorbed by the agency without loss of service capability or significant effect on budget. Plans for asset evaluation, operation and maintenance, and disposal should also be developed, with the costs of their execution included in the feasibility analysis. If funding for the proposed asset is approved at the end of the Budgeting Phase, these plans will be executed in the Procurement and Management-In-Use Phases.

Step I.6. The Agency Capital Plan. The Agency Capital Plan (ACP) is the ultimate product of the Planning Phase and should be the result of an executive investment review process of the capital asset portfolio that reviews the work done in this Phase. The ACP should reflect trade-offs made between funding the operational expenses for an existing asset and the acquisition of a new one. If a proposed acquisition can outperform an existing one for less or equal cost, the existing asset may be disposed of before originally planned. The ACP should include a statement of the relevant agency strategic plans, an analysis of the portfolio of assets already owned by the agency and in procurement, the gap between planned and actual performance, justification for new acquisitions proposed for funding, and related information. Once the ACP is approved by the agency head, the agency may wish to include a summary to support its budget justification to OMB and Congress.

II. Budgeting Phase

Step II.1. Agency Submission for Funding in the Budget Year. This Step is the formal beginning of the Budgeting Phase, when the agency head has decided that the planning for the portfolio of acquisitions is complete and the budget proposal is ready for submission to OMB. Agency submissions should demonstrate that the asset request is justified primarily by benefit-cost analysis, including life-cycle costs; that all costs are understood in advance; and that cost, schedule, and performance goals for the procurement are clearly identified and will be measured using an earned value management system or similar system. Project risks and the probability of achieving project goals should be identified. Once submitted, the agency may be called upon to defend the proposal formally in OMB's agency hearings, or informally in many other ways. The proposal will undergo further scrutiny within OMB, including requests for more information from the agency, before the OMB Director makes a recommendation to the President regarding the proposal. The agency submission to OMB should be fully funded and consistent with the *Principles of Budgeting for Capital Asset Acquisitions*, published with the *FY 1998 Budget* and shown in Appendix Seven of this Guide.

Step II.2. Passback. In this Step, the agency is formally advised of the OMB Director's recommendation to the President regarding the acquisition. The recommendation may require considerable changes from the initial agency request, including different funding levels, different modules for full funding, changes in the performance goals, and alternatives for financing the proposal (e.g., user fees, account structure). In this Step, the agency can normally appeal to the President or his advisors to overrule or modify the OMB Director's recommendation.

Step II.3. Agency Revision. In this Step the agency may have to redesign certain aspects of the proposal or cost, schedule, or performance measures if funding has been reduced or other changes have taken place as a result of passback.

Step II.4. Approved for the President's Budget. If the proposal has cleared the review process, it is ready for inclusion in the President's budget proposal to Congress.

Step II.5. Congressional Approval and OMB Apportionment. The proposal is likely to face critical questioning by Congress. The agency and others in the Executive Branch may be called upon to justify the request, much of which may be based on material in the ACP. The justification may take place in formal or informal hearings or presentations before authorizing or appropriations committees or staff. Additional revisions to the proposal may be required at various stages in the Congressional review process if Congress changes the funding levels or takes other actions. The Budgeting Phase ends when appropriations are enacted for the asset, OMB apportions the funds to the agency, and the acquisition is adopted into the agency's annual operating plan.

III. Procurement Phase

Step III.1. Validate the Planning Decision. Acquisition planning begins after the agency has determined, in the Planning Phase, that a large expenditure for a capital asset is necessary. The Procurement Phase formally begins once Congress has approved funding and OMB has apportioned it to the agency. The first action is to validate that the Planning Phase decision on direct purchase of the asset or the need for development is still appropriate. Because a year or more can lapse between the Planning Phase decisions and the time the Procurement Phase begins, the agency should review the mission need and the capabilities of the market to determine whether direct purchase of the asset can be made or if development work is needed.

Step III. 2. Manage the Procurement Risk. The most important aspect of the Procurement Phase is *managing risk* to limit 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 are still appropriate. There are three key principles for managing risk when procuring capital assets: (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 that provides for accountability and measurement of program successes and failures (e.g., earned value reporting).

Step III. 3. Consider Tools. There are three tools that agencies should consider using to mitigate risk, regardless of the amount of development work involved in the acquisition. The first, *modular contracting*, breaks large acquisitions into smaller, more manageable modules where complex requirements can be addressed incrementally in order to enhance the likelihood of achieving workable solutions within goals

while allowing for subsequent modules to take advantage of technological changes. The second, *two-phase acquisitions*, enables the agency to ask for limited capability information in the first phase, which allows many firms to offer solutions without large expenditures. The government may then select the most promising for the second phase of detailed cost and technical proposals. The third tool, *competitive prototyping*, reduces risk in development efforts by selecting contractors to produce prototypes of their product so that the agency may select the most cost-beneficial design concept for further development or production.

Step III.4. Select Contract Type and Pricing Mechanism. After an agency has determined the amount of development work -- if any -- that is anticipated for a given acquisition, the IPT should then choose an appropriate pricing mechanism. The range of pricing mechanisms extend from firm fixed price, which transfers all of the risk to the contractor, to cost-plus-fixed-fee, in which the government assumes all of the risk. Careful management of the risk factors by the government should result in most contracts being fixed price contracts.

Step III.5. Issue the Solicitation. Generally, increased exposure to agency functional requirements will increase not only the number of firms responding to the solicitation, but also the quality of the bids. The solicitation should explain the mission need (not equipment needs), schedule, cost, capability objectives and operating constraints. Offerors should be free to propose their own technical approach, main design features, sub-systems, and alternatives to schedule, cost and capability goals.

Step III.6. Proposal Evaluation and Negotiation. Based on evaluation criteria in the solicitation, a Source Selection Team (SST) of the IPT should evaluate proposals, and the contracting officer should negotiate with offerors to determine the comparative values of proposals in meeting the criteria included in the solicitation document. The SST should then prepare analyses and recommendations for presentation to senior management, specifically a Source Selection Authority (SSA).

Step III.7. Contract Award. The SSA should review the SST's comparative analysis and recommendations and selects the contractor to receive the contract. The SSA can also cancel the solicitation if cost, schedule or performance parameters proposed by the best value contractor do not achieve program objectives within funding limitations. If cancellation of the solicitation occurs, the project should return to the planning phase for review of other options.

Step III.8. Contract Management. Once the contract is awarded, the IPT is expected to manage the contract to achieve, on average, at least 90 percent of the cost, schedule and performance goals. The contractor should use a performance-based management system, as specified in the contract, to manage the contract and provide management information on the actual accomplishment of the goals compared to the baseline goals, throughout the acquisition life-cycle. Agency financial management and control systems should accumulate the actual costs of the project by the work breakdown structure, including both contract costs and government program management costs, to track costs by major element of the contract, and integrate them with performance indicators to give program managers a clear understanding of how resources are connected to results. Agencies should ensure that these systems have the capability of generating easily understood information that can be used by managers to make sound management decisions. Systems that generate reams of data, but little information that can be easily understood and used by management, are not good management tools.

Step III.9. Acquisition Analysis. The IPT should receive monthly status reports on the performance of the acquisition from the contractor-operated performance-based management system and the agency financial management and control system. Following FASA, Title V, if the acquisition is not achieving

at least 90 percent of its cost, schedule or performance goals, the IPT should determine the reasons for the deviations, the corrective actions planned by the contractor, and whether the corrective actions are likely to result in the acquisition achieving baseline goals by contract completion. If the acquisition will not be able to achieve baseline goals, the IPT must present an analysis with recommendations to the agency head for a determination on whether to continue the acquisition and seek additional funding through OMB, to restructure the acquisition with lower goals, or to cancel the acquisition and return the project to the Planning Phase to determine a new approach to achieving mission objectives. However, if the 10 percent deviation criteria is too great a deviation from goals to meet the agency's strategic goals and budget limitations the agency may establish a lesser threshold. In either case, the agency may need to have information about any deviations as early as possible so that corrective actions may be evaluated as soon as possible and management decisions on the viability of the project be made before there is a significant impact on the budget.

OMB's RMO staff should review acquisition status information from the acquisition's performance management system at least once a year, or as necessary, for acquisitions that are not achieving 90 percent of goals. OMB should review the reasons for the deviation from goals, the reasonableness of the proposed corrective actions, and the validity of increased cost estimates. Acquisitions that will not meet objectives in a cost-effective manner should be recommended for termination. OFPP is responsible for submitting to Congress an annual assessment of progress made by civilian agencies in achieving 90 percent of acquisition goals.

Step III.10. Acceptance. 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. Final acceptance will often depend on the successful outcome of testing. Agencies should invest adequate resources to ensure that there is a thorough functional test plan. Although a contractor will *design* to a specification, a contractor will *build* to the test plan -- successfully accomplishing the tests in the test plan determines if the contractor gets paid. Having established a thorough test plan, managers should ensure it is followed, that the tests are performed rigorously, and the contractor is not given an acceptable rating unless each item of the plan is fully met.

IV. Management-In-Use Phase

Step IV.1. Operational Analysis. Operational analysis involves the collection of information concerning a capital asset's performance and the comparison of this performance with an established baseline. Asset performance measures should include how well the asset supports customers and stakeholders and how well the asset is managed by the agency. The outputs of this process are recommendations to agency resource managers as to the asset's continued use, modification, improvement, or termination.

Step IV.2. Execution of Operation and Maintenance Plan. Even the best planned, budgeted and acquired asset will fail to adequately deliver to the public unless an operations and maintenance plan is incorporated into the asset's procurement process and properly executed. Proper maintenance can ultimately prove less expensive than more frequent asset replacement. Operational analysis should indicate when new technology can make the replacement of an asset less expensive than maintenance of the existing asset.

Step IV.3. Post-Implementation Review. Post-implementation Review is a diagnostic tool to evaluate the overall effectiveness of the agency's capital planning and acquisition process. The primary objective of a post-implementation review is to identify whether the asset is performing as planned and to

ensure continual improvement of an agency’s capital programming process based on lessons learned, thus minimizing the risk of repeating past planning and procurement mistakes.

Step IV.4. Execution of Asset Disposal Plan. Disposal of an asset is typically the end of the asset’s life cycle, and represents the culmination of the processes discussed earlier in this Guide. Issues to be considered include the action required to remove the asset from service, planning for transition to a replacement if required, and final removal of the asset from the agency’s property inventory. Disposal of complex assets or systems may involve a multi-year process requiring significant effort and funding to execute. In all cases, agency property specialists, guided by internal policy and applicable laws and regulations, must work closely with agency executives to ensure cost-effective and timely disposal of assets.

