DOC Scalable Acquisition
Project Management Guidebook

31 August 2015

Version 1.2

CHANGE LOG

The following table lists the changes to the Guidebook following its initial posting.

Revision Number	Date	Log of Changes Made and Description of Reason Changes	Approved By
1.1	31 Oct 13	Incorporated Nov 12 policy, making additions and changes as necessary	S. Vannucci, OAM
1.2	31 Aug 15	Incorporated cost estimation and ICE policy and DAO 208-16 reference	S. Vannucci, OAM

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1. OVERVIEW

1.1. BACKGROUND

The Department of Commerce (DOC)-directed Acquisition Improvement Study (AIS) of 2010 investigated issues contributing to problems in several high-profile acquisitions. The results of the study identified the need for a more comprehensive and corporate approach for overseeing and managing acquisitions, particularly with regard to requirements development and management, and acquisition project management processes.

A follow-on Department-wide Acquisition Improvement Project (AIP) was aimed at creating the approaches and infrastructure to correct the issues identified in the AIS and sustain a healthy acquisition system, with special emphasis on high-profile projects that merit Department-level oversight. The AIP developed the Scalable Acquisition Project Management Framework (the Framework) for use in managing future acquisition projects. This Guidebook describes the Framework and provides Department and Bureau-level project managers specific "how to" guidance on how to implement principles and processes enumerated in the Framework, which is described in more detail in Section 2, *Scalable Acquisition Project Management Framework.*

The AIP effort culminated with the signing of the *Policy on Commerce Acquisition Project Management* ("the Policy") by the Deputy Secretary on November 6, 2012. The companion policy, *Policy on Commerce Cost Estimation and Independent Cost Estimates for High-Priority Programs and Projects,* was signed by the Deputy Secretary on June 24, 2014. These two policy memoranda were combined and issued as Department Administrative Order 208-16, *Acquisition Project Management*, on May 28, 2015 ("the DAO"). The DAO prescribes the policy, procedures and responsibilities of implementing the Framework on all acquisition programs and projects with particular emphasis on high-profile programs and projects and is contained in Appendix F. DAO policy is flagged in this Guidebook by the use of the words "shall" and "must", where appropriate, and is mandatory for those programs and projects designated as high-profile.

1.2. FRAMEWORK PURPOSE AND DESCRIPTION

This guidance document provides the information needed by Department and Bureau project managers to conduct cost effective and efficient acquisitions by implementing the Scalable Acquisition Project Management Framework. The Framework prescribes a disciplined, repeatable and comprehensive acquisition management process by which the Department manages hig- profile projects. To date, Departmental acquisition guidance has largely focused on procurement or contract related activities. This Guidebook supplements that existing Departmental policy and guidance to address what is described as 'Big A' acquisition, shown visually in Figure 1.
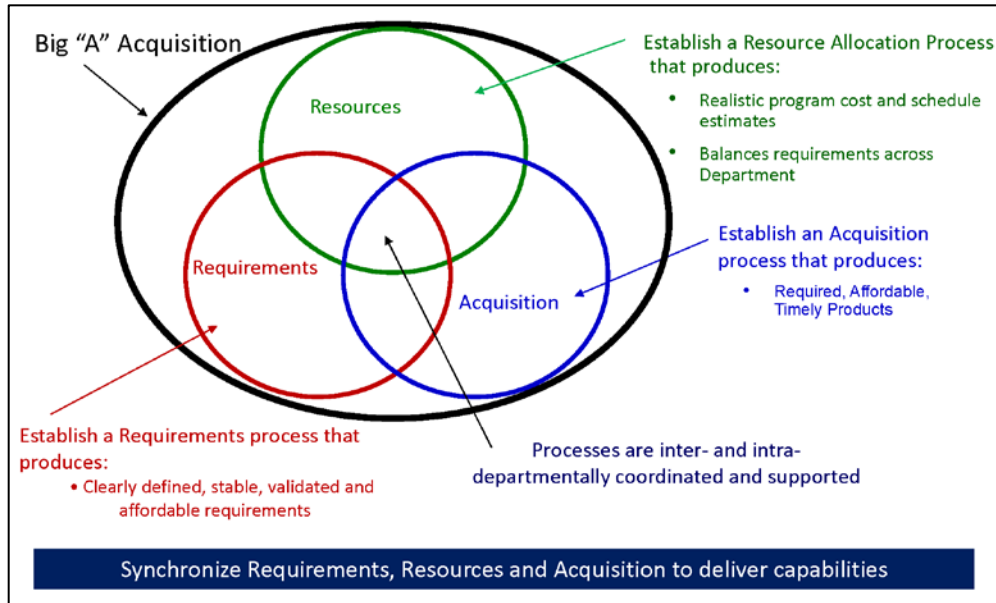
Figure 1. Big "A" Acquisition Model

'Big A' encompasses more than what is often considered acquisition—the procurement or contracting side of an acquisition (or 'little a'). Instead, Big A focuses on the entire set of decisions and processes that must occur in order to properly synchronize requirements, resources, and procurement to deliver required capabilities. The Framework's integrated, structured approach is the process developed specifically for the Department's high-profile projects (defined in Section 1.3.2, *Criteria for Department-Level Review—Defining "High Profile"*), but its principles can and should be applied to any other project to a scale appropriate to the magnitude of the project.

Figure 2. The Framework

The Framework, as shown in Figure 2, depicts the lifecycle of a project, from the initial concept to its operational use and final disposal (see Section 2, *Scalable Acquisition Project Management Framework* for more detailed descriptions). The lifecycle begins with the identification of mission requirements to support strategic goals and objectives, proceeds with the determination of the best solution for meeting those requirements, and then directs the acquisition of that solution in the most appropriate, efficient and effective way. In essence, first "determining the right thing to do," and then "doing it the right way." The concepts presented in the Framework apply to all DOC projects. However, the required formality, depth, and level of reviews and documentation depend upon the designation as high profile or the guidelines established by individual DOC entities. Further information on determining the criticality of a project and applying the Framework can be found in Guidebook Section 1.3, *Applicability*. The Framework defines the acquisition project management phases and major decision milestones required to manage the progression of those phases. The Framework:

- Describes the minimum standard of processes and reviews at project milestones to which all high-profile projects must adhere and provides for a Milestone Review Board (MRB) to approve those projects at each milestone
- Is a scalable process, dependent on the project's size, complexity, and risk
- Describes the principles of a lifecycle approach to managing acquisition projects
- Defines the project milestones when formal reviews will be performed

The Framework is specific on what activities need to be accomplished during acquisition management phases and what information is required at decision milestones. However, the Framework leaves it up to the sponsoring Bureau to define how they will accomplish each acquisition management phase and develop required milestone information. Additionally, there may be specific functional requirements from areas such as the IT or facilities/real property communities that may be applicable to meet the unique requirements of those disciplines.

NOTE: The focus of the Framework and its implementing policy is on the early phases of the process (the blue box in Figure 2). In the past, many of the early processes were ignored, leading to problems found later in project execution. While the final two phases are also critical, focusing on the early phases prevents a multitude of later problems. When the processes included in the current Framework become part of the Department's normal practices and culture, the Framework will be expanded to include more detail on project execution and operations/disposal.

1.3. APPLICABILITY

1.3.1. APPLICABILITY TO PROJECTS AND PROGRAMS

The principles outlined in the Framework apply to all DOC projects that may result in a procurement, but special emphasis is placed on high-profile projects (described in Section 1.3.2, *Criteria for Department-Level Review—Defining "High Profile"*). The Policy defines a project as a collection of discrete activities, acting as a system, with specific output that achieves a clearly defined objective and supports an overall program goal. Projects have a finite duration with a clearly defined start and end. It is a defined effort with a beginning and an end and requires dedicated management to ensure its success. It is viewed within the context of a "system," such that the project entails the end-to-end capability to meet an identified need. A project could be focused on developing a new capability within the Department, or it could be the modernization or upgrade of an existing capability.

Although the term "project" is used throughout this document, the Framework may also apply to "programs" in the same manner as a project. The DAO defines a program as ". . . a consolidated effort to achieve a defined goal and includes a collection of ongoing activities, as well as finite projects, with objectives that achieve a specific purpose or outcome of a Departmental strategic goal or as required by statute or regulation."

The Framework, both through its DAO and this Guidebook, does not specifically apply to level-of-effort activities although many of the program management principles discussed here may also be applied to them. The Policy defines a level-of-effort activity as a funded activity that does not meet the definition of a program or project. It may have some of the characteristics of a project or program, but not all. These

activities are usually the on-going efforts of an organization. An example would be routine, recurring headquarters management activities.

For ease of reading, this document will use the term "project;" however the tenets of the Framework may also apply to programs. See Section 3.2, *Integrating High-Profile Projects into the Framework Process*, for further details on applying the Framework to a program.

1.3.2. CRITERIA FOR DEPARTMENT-LEVEL REVIEW—DEFINING "HIGH PROFILE"

Those projects that meet the criteria listed in this section will be considered "high-profile" and have their milestone reviews performed at the department level. These project-oriented criteria are consistent with the Mission Critical Criteria developed for the DOC Enterprise Risk Management (ERM) methodology and provide the basis for identifying projects subject to department-level MRB oversight.

The Bureau initiating a project will evaluate it against these criteria to determine whether they are subject to department-level review. Additionally, senior leadership at the Department or members of the MRB may subsequently determine that a project is "high-profile" based on their evaluation of the project's characteristics.

Optimally, a project will be identified as high profile in the earliest stages of its development, before Milestone 1. However, circumstances may occur later, in a lower profile project, where it becomes apparent that the project has developed high-profile characteristics. It could be identified as high-profile at that time. Additionally, a project that is initially designated as high-profile based on the following criteria could later be removed from the high-profile list with approval from the Milestone Decision Authority (MDA) (defined in Section 1.4.8, *Milestone Decision Authority*.)   This could occur if a project is deemed low risk.

A program or project designated for oversight by the Milestone Review Board (MRB) or an Operating Unit thought delegation which meets one or more of the following criteria is defined by Policy as high-profile:

High Risk Considerations—any project that warrants special management attention or is deemed high risk due to meeting one or more of the following factors, regardless of dollar thresholds:

- Criticality—Key to mission goals and objectives and to achieving the objectives in the DOC Balanced Scoregic and Strategic Plan
    - o Will the organization be able to perform its mission without this project?
    - o What capability gap would the organization face without this project?
- Complexity—Multiple organizations' involvement and interfaces; complex and/or rare skills requirements; analogous characteristics to other challenged programs
    - o Are key project interfaces outside the DOC?
    - o Does the project involve organizations from multiple DOC Bureaus?
    - o Is the implementation of the project so complex that there is a high risk of failure?
    - o Are required skills available?
    - o Have similar projects in the past either failed or faced serious challenges?
- Technology—Challenges identified requiring probable research, development, and/or demonstration
    - o Is the technology needed for this project proven?
    - o Will the technology require extensive demonstration and testing?
    - o Is there a lot of development work needed before the technology can be used in this project

- Visibility—Subject to external review and extraordinary media or political attention; potential to damage the reputation of DOC if unsuccessful
    - Are there political sensitivities that senior leadership needs to be aware of?
    - Would a failure in this project result in scrutiny by the media or political leaders?
    - Would the media be interested in the project?

Dollar Thresholds—any project above the following thresholds are considered high-profile. Due to the nature of IT and real property/facilities projects, the dollar thresholds are different for those projects.

- For any program or project: Development costs, valued in current year dollars, of more than $75 million or lifecycle costs, valued in current year dollars, of more than $250M
- For information technology (IT) programs/projects: Lifecycle costs, valued in current year dollars, of more than $75 million or annual cost (all funding from all sources allocated to the project or program in a given fiscal year) exceeding $30 million
- For real property and facilities: Lifecycle costs, valued in current year dollars, of more than $40 million

Other – A project or program nominated as high-profile by an MRB member (see Figure 3), and such nomination is approved by the Deputy Secretary.

1.3.3. SCALABILITY

Scalable refers to the flexibility of the Framework processes and documentation to be tailored to suit a program or project's size, complexity, and risk. Programs and projects that are not identified as high-profile must nevertheless adhere to the Framework's *concepts* as interpreted by each Operating Unit (OU) to tailor the documentation and reporting according to project size and risk. This Guidebook describes the *minimum standard mandated* processes and reviews for high-profile projects, while other projects may use less formal processes and documentation. Section 1.3.2, *Criteria for Department-Level Review—Defining "High-Profile,"* lists the criteria for determining which projects fall into the high-profile category. Implementation of these processes for less-than-high-profile projects is left up to the Bureaus to manage.

Projects that do not meet the dollar or other thresholds set in the criteria section, while not subject to departmental review, should adhere to the concepts established in the Framework at a level appropriate to their size and importance. Framework concepts are to be applied to all projects that may lead to procurement, regardless of size. Examples of how application of the Framework could be scaled can be found in Appendix A, *Scalability Examples.*

Heads of Operating Units shall identify to the MRB Executive Secretariat programs and projects in their purview which meet one or more of the threshold criteria or have the potential to do so. They shall adopt and/or tailor (scale) the Framework, as appropriate, for non-high-profile programs and projects in their purview and develop, tailor, and institute analogous acquisition review boards and processes to implement the Acquisition Framework for these non-high-profile programs and projects. The Bureaus should establish written procedures for handling projects that are not high-profile that are consistent with the Framework as described in the DAO and Guidebook. Those procedures should include that projects are managed in a manner which ensures there is a clear mission need related to the Bureaus' strategic goals, that real-world alternatives (including non-material solutions) are considered, that requirements are developed and refined throughout the project lifecycle, and that controls are in place to ensure high quality project management.

NOTE: There may be high-profile projects sponsored directly at the Department. In those cases, the DOC sponsoring organization will take on the roles and responsibilities assigned to the Bureaus for the purpose of this Guidebook.

1.4. ROLES AND RESPONSIBILITIES

1.4.1. DOC DEPUTY SECRETARY / MILESTONE DECISION AUTHORITY

The Deputy Secretary is responsible for approving the policies reflected in this guidance. The Deputy Secretary will, for certain high-profile projects, co-chair meetings of the Milestone Review Board.

The DOC Deputy Secretary is the Department's Milestone Decision Authority (MDA) for all designated high-profile programs and projects and is the Chair of the Milestone Review Board (MRB), with advice from the Board's members. The MRB Chair shall issue a Milestone Decision Memorandum at the conclusion of each milestone review (nominally within 15 calendar days) defining the program's or project's way ahead in the next phase including necessary procurement authorities, specific phase exit criteria, and other directed actions. The Chair may also direct that specific reviews and studies be undertaken to support a milestone review and may invite additional MRB participants as deemed appropriate to the program or project under review. The Deputy Secretary may delegate in writing, with rationale, MDA and management of any high-profile program or project to the Head of an Operating Unit. This does not exempt that program or project from adherence to the Acquisition Framework (and its minimum documentation) in this policy unless explicitly indicated in the delegation instrument.

1.4.2. DOC CHIEF FINANCIAL OFFICER/ASSISTANT SECRETARY FOR ADMINISTRATION

The Chief Financial Officer/Assistant Secretary for Administration (CFO/ASA) is responsible for business and administrative functions in the Department and for developing the policies reflected in the Framework Policy and this Guidebook. The CFO/ASA is a MRB principal.

1.4.3. DOC OFFICE OF ACQUISITION MANAGEMENT

The Director of the Office of Acquisition Management (OAM) and Senior Procurement Executive is responsible for the management and quality of all acquisition activity in the Department and for implementation of the Acquisition Framework Policy and Guidebook. This responsibility includes:

- Providing guidance and overseeing the overall management of the activities outlined in the Scalable Acquisition Project Management Framework
- Ensuring that the processes outlined in this Framework and directions prescribed in this Guidebook are consistent with the other components of a single, Department-wide integrated system that manages risk, budget, mission execution, and stewardship of dollars
- Providing coordination among senior management functions within DOC and securing appropriate membership of the Milestone Review Board
- Ensuring that Bureau-level processes are in keeping with the practices and protocols outlined in the Policy and Guidebook

- Keeping senior officials informed of the results of the review processes and the resulting acquisition activity
- Maintaining the Department of Commerce high-profile project inventory and updating it semi-annually
- Serving as the MRB Executive Secretariat
- Serving as the Department senior accountable official for VE (DOO 20-26, OMB Circular A-131, "Value Engineering") and for the incorporated VE principles within the disciplined DOC Acquisition Framework.
- Serving as the DOC organization responsible for Independent Cost Estimate (ICE) oversight, policy, training, and guidance in the Department.

The DOC Office of Acquisition Management is also responsible for the operation of the Framework. Details on the role of the Executive Secretariat can be found in Section 3, *Framework Procedures*.

1.4.4. MILESTONE REVIEW BOARD PRINCIPALS

MRB members (see Figure 3) bring the authorities inherent in their positions to the MRB. They shall apply approved evaluation criteria to inform their recommendations to the Chair and to ensure consistency. MRB members shall identify their staff to work with the MRB Executive Secretariat (Office of Acquisition Management (OAM)) to ensure that the documentation submitted in support of each milestone review is complete and ready for review, particularly when the program/project crosses subject-area-specific portfolios (e.g., Chief Information Officer for IT programs, the Director, Office of Facilities and Environmental Quality for facilities, and the Director, OAM for non-IT and non-facilities). The Chief of Staff of the Department and of the Bureau under review will be notified of a pending MRB.

Chair (and Milestone Decision Authority)

DOC Deputy Secretary

Department of Commerce Staff
- Chief Financial Officer / Assistant Secretary for Administration
- Chief Information Officer
- Director, Office of Acquisition Management
- Director, Office of Facilities and Environmental Quality
- Deputy Assistant Secretary for Resource Management
- Deputy Chief Financial Officer
- Director, Office of Budget
- General Counsel

Bureaus
- National Oceanographic and Atmospheric Administration
- US Census Bureau
- Nat'l Institute of Standards and Technology
- US Patent and Trademark Office
- Small Bureau (rotational)

Project Under Review
- Operating Unit Under Secretary or designee
- Bureau Procurement Official
- Bureau Chief Financial Officer
- Program or Project Manager (briefer)

Figure 3. MRB Membership

1.4.5.   HEADS OF DOC OPERATING UNITS

Heads of Operating Units shall:

- identify to the MRB Executive Secretariat programs and projects in their purview which meet one or more of the threshold criteria or have the potential to do so. They shall develop, tailor, and institute analogous acquisition review boards and processes to implement the Acquisition Framework for non-high-profile programs and projects. They shall also keep the MRB Secretariat informed of program/project review schedules and decisions from their internal milestone reviews. If delegated as the MDA for a high-profile program or project by the Deputy Secretary, the Head of an Operating Unit shall manage that program or project in accordance with the Acquisition Framework defined in Figure 1 and with the minimum processes and milestone document deliverables defined in the *Guidebook.* This MDA authority cannot be re-delegated. The Head of the Operating Unit will forward the Milestone Decision Memorandum (and if requested by the Deputy Secretary, the pertinent milestone documents) for each such delegated program or project to the Deputy Secretary within 30 calendar days of the milestone decision.
- review the ICEs prepared in support of Milestones 2 and 3 for high-profile programs/projects delegated to them for milestone decisions. They shall also furnish OAM with copies of the POE, CARD, ICE, and supporting ICE documentation when requested.

1.4.6. MILESTONE REVIEW BOARD (MRB)

The MRB serves as the authorizing body for approval of an identified Departmental high-profile acquisition program or project to proceed from one phase of the Framework to the next at milestones 1, 2, and 3. It provides a collective vehicle for members to review a program or project and execute their individual authorities regarding approval to proceed to the next milestone or directing corrective action to proceed into the next phase. Specifically, the authorities vested in the MRB include approval of procurements planned for the next acquisition phase (both information technology (IT) (IT Investment Authority) and non-IT). The MRB ensures that major acquisition/high-profile investments contribute to the Secretary's strategic vision and mission requirements; employ sound, validated investment methodologies; and provide the highest return on the investment with known, acceptable risk.

Note: see Section 3, *Framework Procedures*, for detailed information on the MRB.

1.4.6.1. Responsibility

The MRB is responsible for determining if a project has successfully completed the phase's requirements such that the project may proceed to the next phase. The Board will not be duplicative of any existing milestone review process. The Milestone Review Board will supersede existing milestone reviews where appropriate. Specifically:

- The Board shall meet as convened by the Chair for milestone reviews.
- At the MRB, the Board will hear presentations by the sponsoring organization, ask questions of the presenter(s), as appropriate, and deliberate and recommend that the Chair either approve or disapprove a project moving to the next project acquisition phase and milestone, or seek further clarification on the project under consideration.

1.4.6.2. Authority

The authorities of the MRB are derived from the statutory and general authority of the Board members. The purpose of each member's participation is to exercise that authority during board deliberations, although the MRB Chair, with advice from the members, shall have final milestone decision authority. The Board provides a collective vehicle for members to review a project and execute their individual authorities regarding approval to proceed to the next milestone or directing corrective action to proceed into the next phase.

High-profile programs and projects, including their component or subordinate projects, that have been identified for MRB oversight and decision making, shall not be subject to subordinate review by the Commerce Information Technology Review Board (CITRB), the Contract Review Board, or the Facilities Review Board for purposes of approving a milestone, approving procurements that are planned for the next acquisition phase, or approving progression to the next acquisition phase. Although high-profile projects will not be subject to CITRB or other review boards for the purposes indicated above, the CITRB and other review boards may, at the discretion of their chairs, be convened to support other needs for oversight and risk management of their cognizant projects.

1.4.7. OFFICE OF GENERAL COUNSEL (OGC)

The Office of General Counsel is responsible for ensuring that acquisition planning and execution meets the requirements of Federal Law and regulation. OGC early involvement in the acquisition process for high-profile projects will help produce successful procurements.

1.4.8. DOC OFFICE OF PROGRAM EVALUATION AND RISK MANAGEMENT

The Office of Program Evaluation and Risk Management is responsible for providing guidance for, and oversight of, the performance of risk management within and across the Department, which includes:

- Providing guidance on risk management processes
- Ensuring that individuals appointed as Risk Managers and Risk Management Officers have appropriate training
- Ensuring that risk management execution is consistent with DOC risk management policies and processes
- Providing templates and tools for reporting risk information

1.4.9. BUREAU LEADERSHIP

The Bureaus are responsible for establishing and maintaining procedures within the Bureau that:

- Ensure all high-profile projects are reported for inclusion in the Department project inventory maintained by the Director, OAM
- Provide internal Bureau processes that:
    - o Perform the processes described in the Framework and develop the documentation required for Milestone reviews
    - o Provide for milestone review processes internal to the Bureau for projects that do not meet the criteria for Departmental review. Those internal reviews should be held at the same milestone decision points as provided for in the Framework but may have varying levels of required documentation depending upon the size and scope of the project
- Keep the MRB Secretariat informed of project review schedules and decisions from their internal milestone reviews

1.4.10. BUREAU CFO/BUDGET OFFICER

A Bureau CFO is responsible for ensuring that the activities undertaken in response to this Guidebook are consistent with the requirements of the Chief Financial Officer Act and related strategy and OMB requirements. The relationship between the activities of the Framework and the Department's ongoing budget planning activities are spelled out in *Section 4, Budget Integration*.

1.4.11. PROJECT SPONSOR

The responsibilities of the project sponsor (the individual promoting and accepting responsibility for the project) are provided in detail in the Guidebook descriptions of the Framework processes and *Appendix B, Process Descriptions and Document Template*s. In summary the project sponsor is responsible for ensuring their project supports organizational goals and objectives, is in compliance with the processes and documentation required by the Framework, and is consistent with the objectives and planned output of the project. The project sponsor may also be responsible for securing funding for the project.

1.4.12. PROGRAM AND PROJECT MANAGERS

As with the Project Sponsor described above, the responsibilities of the Project Manager are spelled out in detail in the descriptions of the processes and documents required in this Framework. In brief, the project manager is responsible for managing the requirements, costs, schedule, performance, acquisition planning, and overall planning and execution of the project. The project manager is involved in most aspects of the project and likewise responsible for most processes and documentation.

Program and Project Managers:

- shall follow the tenets of the Framework and prepare the mandated and directed milestone documentation as evidence of having undertaken the process activities specified in each Framework phase (see Figure 1). They shall also submit cost (lifecycle and development), schedule, and performance baseline estimates beginning at Milestone 2 and notify their MDA (MRB Chair or as delegated) and the OAM, for high-profile programs/projects, if any baseline will experience a deviation of 20 percent or more from the last established baseline.
- of all programs and projects shall apply the principles of Value Engineering in development of AoAs and consider VE, as appropriate, in planned procurements.
- of all high-profile programs/projects, including those for which milestone decision authority is delegated, are responsible for a program office estimate (POE) and for sponsoring preparation of an Independent Cost Estimate (ICE) in support of Milestones 2 and 3. The ICE sponsors (whether the Program Manager or a senior official) shall provide the cost estimating organization (whether OAM or another) with a Cost Analysis Requirements Description (CARD) and shall use independent organizations to prepare ICEs and direct them to follow GAO's cost estimating principles and best practices (Resource (a)). At Milestone 1, PMs shall prepare a rough order of magnitude (ROM) estimate, along with its underlying assumptions, that aligns with the proposed Analysis of Alternatives (AoA) Plan alternatives. They shall also provide OAM with historic costs of similar/analogous Departmental programs where available from Government and contractor records.
- assigned to programs considered major acquisitions, as defined by Office of Management and Budget (OMB) Circular A-11 must be senior-level certified as FAC-P/PM level III. Project managers assigned to lead projects within programs identified as major acquisitions must, at a minimum, possess a mid-level certification (FAC-P/PM Level II). Assigned leads of primary Integrated Project or Product Teams (IPTs) supporting major acquisitions must possess at least a mid-level certification.   In the DOC, programs and projects designated as high-profile as defined in the Department Administrative Order (DAO) 208-16 equate to OMB A-11 major acquisitions.
- that manage major information technology investments (responsible for submitting a Major IT Business Case to OMB) shall hold senior-level FAC-P/PM with an IT specialization (see CAM 1301.671).

- that manage a project or IPT within a major IT investment program shall hold at least a mid-level FAC-P/PM with an IT specialization.

1.4.13. CONTRACTING OFFICER

The Contracting Officer is responsible for the following:

- Providing applicable input for adequate procurement planning (e.g., determining contract type, advising on source selection criteria; conducting pre-proposal conferences, etc.);
- Preparing solicitations, CD-570, *Small Business Programs Review* forms, determination and findings, and other contract documents;
- Reviewing and providing concurrences on acquisition plans;
- Reviewing, concurring, and as appropriate supplementing justifications for other than full and open competition; and
- Entering into, administering, closing-out or terminating contracts.

2. SCALABLE ACQUISITION PROJECT MANAGEMENT FRAMEWORK

2.1.   FRAMEWORK OVERVIEW
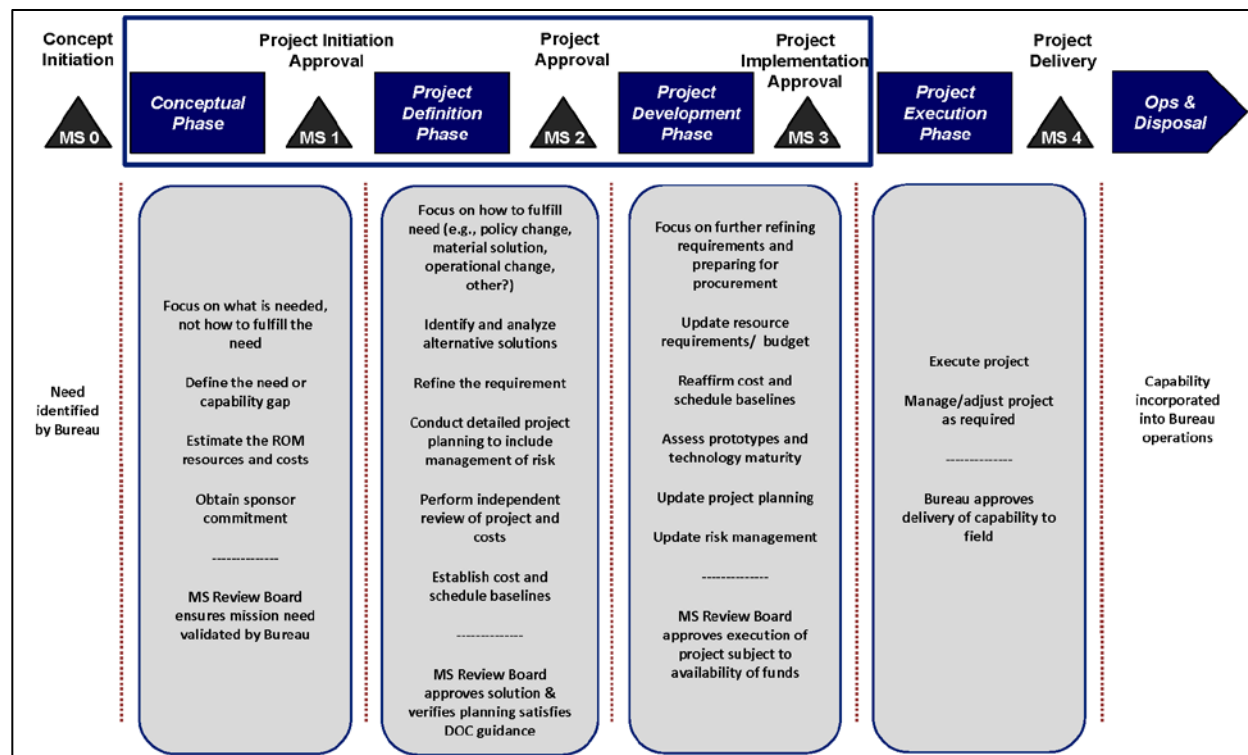
Figure 4. DOC Scalable Acquisition Project Management Framework Overview

As shown in the figure above, the overall acquisition lifecycle is composed of a number of phases. The lifecycle begins when a need is identified, usually at the Bureau level, targeting a perceived mission shortfall and starting a process to explore the possibilities. This key decision point is called the Concept Initiation, Milestone 0. A Bureau could require formal documentation of this milestone, but there is typically no departmental involvement at this time.

The Framework and its Policy focus on the acquisition lifecycle, with specific emphasis on three early phases (the conceptual phase, the project definition phase and the project development phase), each leading to key decision points shown as milestones 1, 2, and 3 in Figure 4. The milestones are critical decision points that require assessment of project readiness and risk before formal authorization to proceed to the subsequent phase. Transitions from one phase to the next occur with a milestone approval by the Milestone Decision Authority (MDA) or as designated. The Deputy Secretary may delegate in writing, with rationale, MDA and management of any high-profile program or project to the Head of an Operating Unit. This does not exempt that program or project from adherence to the Acquisition Framework (and its minimum documentation) in this policy unless explicitly indicated in the delegation instrument.

 These three early phases focus on "doing the right thing." That is:

- Is there a real mission need (tied to strategic goals and objectives)?
- What are the alternative solutions? Do you really need a procurement to satisfy the need?

- What are the project requirements? Have all the stakeholders been identified and participated in determining requirements?

While the focus of this Framework is on the early aspects of project planning and preparation necessary for acquisition and project success, as highlighted by the box around the first three phases, there are significant later phases and milestones completing the project management lifecycle. The later phases deal mainly with project execution (including management, oversight, operation, and disposal) and are largely at the Bureau level. The focus for these phases is on "doing the thing right" and assumes the following were addressed in the earlier phases:

- The right requirements are defined
- The correct solution was selected
- The best acquisition strategy was selected

The Project Execution Phase and Operations and Disposal are not covered in any depth in this Framework document, although subsequent versions of the Framework will expand upon project execution.

2.1.1. FRAMEWORK POLICY (SEE ALSO APPENDIX F)

The Department, through the MRB, shall provide for coordinated oversight, review, and approval of planning, acquisition, and management of high-profile acquisition programs and projects, as defined above in Section III, including professional services contracts that provide support for them. Heads of Operating Units shall provide analogous oversight, review, and approval of non-high-profile and delegated high-profile acquisition programs and projects through application of the Framework process (see Figure 1). Oversight entities, whether the MRB or Head of an Operating Unit, shall place particular emphasis on initial activities of the Framework acquisition process. These review and approval activities will be required for critical management decisions affecting any acquisition program or project (high-profile or not) including any management action that will move it to a new phase of development as defined in the Framework. Critical management decisions could include, but not be limited to:

- Establishment of mission need;
- Completion of an acquisition strategy;
- Completion of an alternatives analysis;
- Establishment of cost, schedule, and performance baselines;
- Directed remedial action following a baseline deviation, and
- Award of contracts.

High-profile programs and projects, including their component or subordinate projects, that have been designated for MRB oversight and decision making, shall not be subject to subordinate review by the Commerce IT Review Board (CITRB), the Contract Review Board, or the Facilities Review Board for purposes of approving a program/project milestone, approving procurements that are planned for the next acquisition phase, or approving progression to the next acquisition phase. Although high-profile programs and projects will not be subject to CITRB or other review boards for the purposes indicated above, the CITRB and other review boards may, at the discretion of their chairs, be convened to support other needs for oversight and risk management of their cognizant projects.

All DOC designated high-profile programs and projects, regardless of size or MDA, shall have cost (lifecycle and development), schedule, and performance baselines (defined in Appendix D) established at Milestone 2 that shall be tracked by the Program or Project Manager; deviation of any baseline by 20 percent or more shall be identified to the MDA (the MRB Chair or Operating Unit-designated MDA) within 30 calendar days of the date the deviation is identified.

2.1.2. PHASES

The milestone phases show the notional progress of a project. However, many projects can experience multiple iterations of a phase. While the following steps indicate a direct path from one milestone to the next, projects may have a more complicated path where revisions in the project as well as the nature of the project may necessitate repeating milestone reviews. Likewise, incremental funding of large projects may force multiple milestone reviews.

2.1.2.1. Conceptual Phase

The Conceptual Phase begins after the identification of a capability gap or need, which is found as a result of the strategic planning process, other reviews of capability needs, or external input. In this phase, the main focus is on determining what capability is needed, not how to fulfill the need. However, an initial range of possible solutions is identified in this phase to facilitate the rough estimate of required resources and to define the potential range of alternatives. Processes include a comprehensive needs analysis, developing a rough range of resource estimates to determine if the project is fiscally feasible, identifying an initial list of the high-level risks involved with developing the capability (along with the risks of not developing the capability), and identification of and commitment by the sponsor.

2.1.2.2. Project Definition Phase

During the Project Definition Phase, a designated project manager refines the requirements and develops the details of how to fulfill the needed capability previously identified. With input from stakeholders, the project manager identifies alternative solutions of meeting those needs. All material (e.g., equipment, facilities, platforms, software) and non-material (e.g., change in policy, operational procedures, department guidance, personnel movements, training) options will be evaluated to assist with development of a preferred solution. The project manager then conducts an analysis of the alternatives based on their relative merits (advantages and disadvantages, degree of risk, feasibility, lifecycle cost, supportability, and cost-benefit) and determines the best solution. The project manager further refines and plans the project; developing a project baseline for costs, scope, and schedule; obtaining internal as well as independent cost estimates; performing additional risk assessments; and addressing these and other acquisition challenges.

2.1.2.3. Project Development Phase

The Project Development Phase focuses on further refining requirements and project plans, and preparing for procurement activities. In addition to updating project planning and obtaining independent reviews of the project and its costs, demos and prototypes may be considered and conducted in this phase. As appropriate, technical evaluations and testing are conducted in this phase to ensure technical adequacy of the proposed solution, consistent with documented requirements. Any required operational testing and evaluation may also occur during this phase. Requirements are refined to the degree that would allow for

procurement activities such as a Statement of Work. Finally, the acquisition strategy is reviewed and updated as required, resulting in an acquisition plan to guide the procurement and contracting activities.

2.1.2.4.   Project Execution Phase through Operation and Disposal

The lifecycle of a project extends far beyond the first three phases described above, which complete the planning and preparation activities for a project. Processes beyond those phases can be extensive , to include executing a contract, managing/adjusting the project as required, continuing to update plans, further review and approval cycles, any additional operational testing and evaluation, incorporating the project's results into the operations of the organization and the continuing operations and maintenance, and final closeout/disposal.

This Framework intentionally focuses on those parts of project life leading up to a procurement, which is where the earlier Acquisition Improvement Study found the most serious problems. When the processes included in the Framework become part of the Department's normal practices and culture, the Framework will be expanded to include more detail on project execution.

2.1.3.   MILESTONES

2.1.3.1.   Milestone 0 – Concept Initiation

Milestone 0 (MS0) occurs when a capability need is identified, which can be the result of any number of drivers, including strategic planning, external direction, changes in technology driving new requirements, or a new mission. Identification of this unfilled need, or capability gap, starts a process of exploring the possibilities of a potential solution. This milestone is not like the others, in that these will most often occur at the Bureau level and may or may not be formally documented. There is typically no departmental involvement at this time, but a project should be able to articulate where this need originated.

2.1.3.2.   Milestone 1 – Project Initiation Approval

At Milestone 1 (MS1), based on the gap analysis performed by the Bureau and the rough order of magnitude of the expected costs, the MRB ensures the Bureau has validated the mission need, conducted an initial risk review, and that a sponsor has been identified and supports the project. The MDA approves the project moving to the Project Definition Phase.

2.1.3.3.   Milestone 2 – Project Approval

At Milestone 2 (MS2), the MDA approves the preferred alternative solution, verifies that project planning satisfies DOC guidance, and gives approval to proceed to the Project Development Phase.   This determination is made based on the Analysis of Alternatives, the refinement of requirements effort, the ongoing project planning and management, expected costs, an updated risk assessment, and the results of any independent reviews. The sponsor must also reaffirm commitment to the project.

2.1.3.4.   Milestone 3 – Project Implementation Approval

At Milestone 3 (MS3), the MDA approves execution of the project, subject to the availability of funds. This approval is based on the review of the results of project management activities during the preceding phase,

the estimated costs, clarity of requirements, technical readiness, refined risk analysis, independent reviews, and sponsor reaffirmation of support.

2.1.4. FRAMEWORK CHART

The details of the Scalable Acquisition Project Management Framework include specific processes conducted during each of the key phases as well as the corresponding documentation required for milestone reviews. Figure 5 provides lists of minimum processes and documentation required for high-profile projects, and recommended for all other projects.
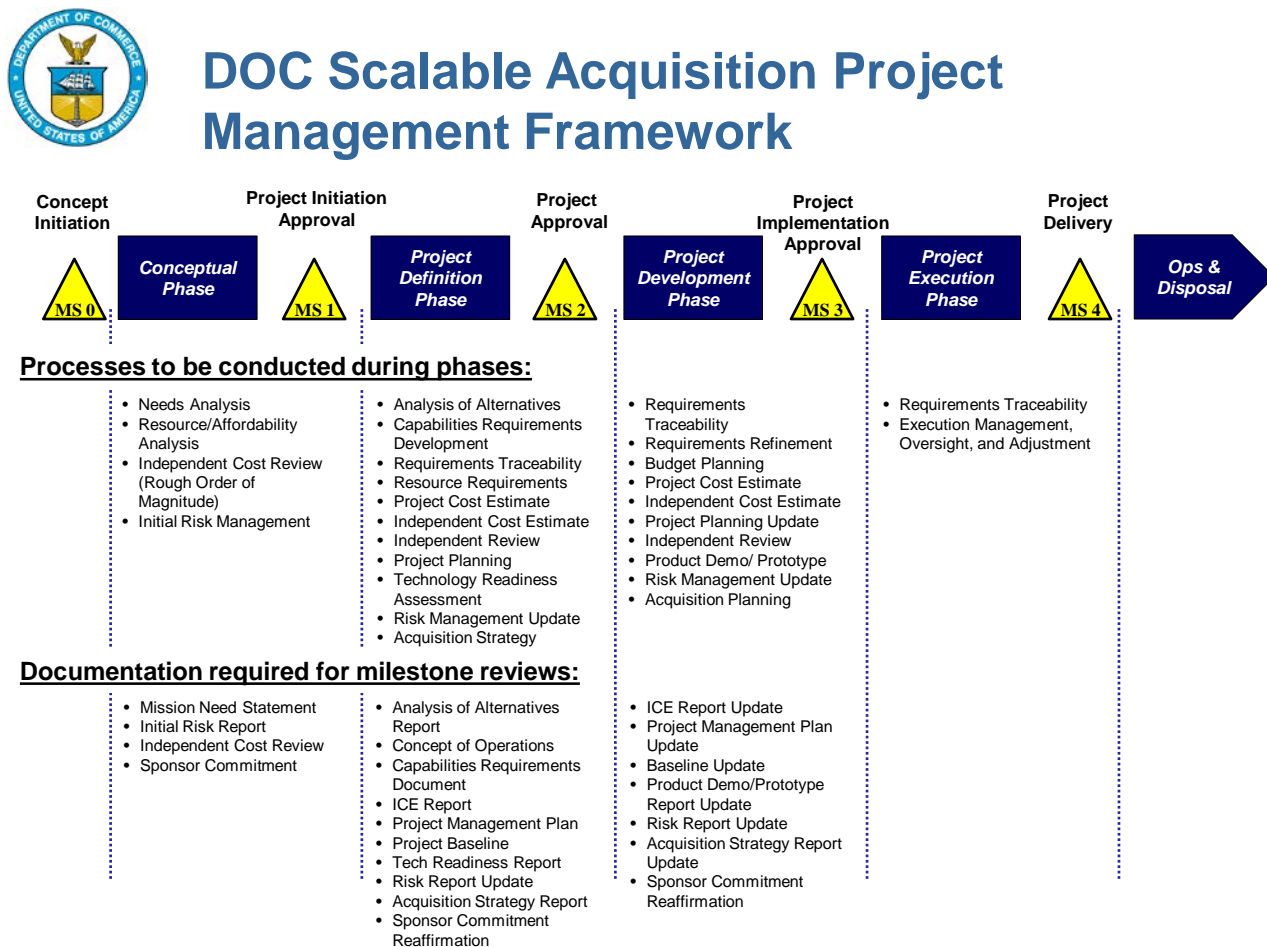

DOC Scalable Acquisition Project Management Framework

| Concept Initiation | Conceptual Phase | Project Initiation Approval | Project Definition Phase | Project Approval | Project Development Phase | Project Implementation Approval | Project Execution Phase | Project Delivery | Ops & Disposal |
| MS 0 | | MS 1 | | MS 2 | | MS 3 | | MS 4 | |

Processes to be conducted during phases:

• Needs Analysis • Resource/Affordability Analysis • Independent Cost Review (Rough Order of Magnitude) • Initial Risk Management	• Analysis of Alternatives • Capabilities Requirements Development • Requirements Traceability • Resource Requirements • Project Cost Estimate • Independent Cost Estimate • Independent Review • Project Planning • Technology Readiness Assessment • Risk Management Update • Acquisition Strategy	• Requirements Traceability • Requirements Refinement • Budget Planning • Project Cost Estimate • Independent Cost Estimate • Project Planning Update • Independent Review • Product Demo/ Prototype • Risk Management Update • Acquisition Planning	• Requirements Traceability • Execution Management, Oversight, and Adjustment

Documentation required for milestone reviews:

• Mission Need Statement • Initial Risk Report • Independent Cost Review • Sponsor Commitment	• Analysis of Alternatives Report • Concept of Operations • Capabilities Requirements Document • ICE Report • Project Management Plan • Project Baseline • Tech Readiness Report • Risk Report Update • Acquisition Strategy Report • Sponsor Commitment Reaffirmation	• ICE Report Update • Project Management Plan Update • Baseline Update • Product Demo/Prototype Report Update • Risk Report Update • Acquisition Strategy Report Update • Sponsor Commitment Reaffirmation	

Figure 5. DOC Scalable Acquisition Project Management Framework Details

The following sections more fully describe these processes and documentation requirements for the first three phases. Each subsection of the descriptions for Conceptual through Project Development Phases is organized as follows:

- Phase objectives
- Summary of phase processes
- Listing and description of required Milestone documentation

Note that the described processes are only the minimum activities needed to prepare for a milestone review. Depending on the project and any functional Department or Bureau guidance, there may be additional processes and required documentation not included in this Guidebook.

Additionally, Framework concepts and requirements may have to be adjusted to fit the specific lifecycle of certain projects, for example satellites, facilities, and IT.   Often those projects require early design reviews, interim approvals, and so on, which require changes to the timing of the Framework elements. Each project should be individually mapped to the Framework to determine if the Framework needs to be tailored to meet unique characteristics of the project. Regardless of how the Framework is tailored, however, a high-profile project must still complete each of the required processes and documentation, and other projects must still adhere to the basic concepts (see Section 1.3.3, *Scalability*.)

Templates for completing the required documentation for presentation at a milestone review, including descriptions of what is expected in each document, are provided in Appendix B, *Process Descriptions and Document Templates*. The templates are provided to assist project managers by describing the minimum information required for an MRB. If a Bureau is already using its own templates to provide this same information, then the Guidebook templates do not need to be used. However, it is requested that when a Bureau uses its own templates, they correlate information requirements of the Guidebook templates to their own templates and appropriately annotate sections of the Bureau template with its corollary section in the Guidebook template.

2.2. CONCEPTUAL PHASE AND MILESTONE 1

2.2.1. CONCEPTUAL PHASE OBJECTIVES

The objectives of the Conceptual Phase include:

- Completed Mission Need Statement
- Range of alternative solutions for fulfilling the identified need
- Rough order of magnitude (ROM) project and independent cost estimate
- Early identification of resources needed for next phase and affordability assessment
- Initial sponsor commitment to project
- Project manager identification
- Initial identification of risks
- Authorization to proceed to Project Definition Phase, to include approval for planned procurements needed for next phase

2.2.2. CONCEPTUAL PHASE PROCESSES – OVERVIEW

The following processes must be accomplished during the Conceptual Phase for High-Profile projects. More detailed descriptions of these processes are contained in Appendix B, *Process Descriptions and Document Templates*.

Process	Description	Responsibility
Needs Analysis	Analysis performed to identify gaps between existing capabilities and those capabilities required to achieve the goals and objectives contained within the organization's strategic plan. Ensures strong link to organizations' strategy, purpose, and goals.	Sponsor
Resource/Affordability Analysis	Analysis of whether or not the expected resources and costs are considered affordable. Affordability is the degree to which lifecycle costs of a project are consistent with the expected resource levels. Affordability risk is considered for the risk report.	Sponsor
Independent Cost Review	An early top-down ROM review of the project's lifecycle costs performed by an entity independent of the office responsible for the project. Validates Resource/Affordability Analysis and informs the risk report.	Sponsor
Initial Risk Management	Identification of the risks (at the program, project, and organizational levels) of achieving the needed capability, and the risks to the organization if the capability is not obtained. Initial management will be at a very high level with few details.	Sponsor

2.2.3. MILESTONE 1 REQUIRED DOCUMENTATION

The following documents are required at MS1, following the Conceptual Phase. Templates for completing these documents and containing additional details are contained in Appendix B, *Process Descriptions and Document Template*s.

Document	Description	Preparer
Mission Need Statement	A high-level synopsis of specific functional capabilities needed to accomplish a mission or objective(s). It includes a description of the mission need, description of deficiencies in existing capabilities, potential strategies to meet the mission need, and required timeframe for initial operations.	Sponsor designee
Independent Cost Review	An independent review of a potential project's costs. This independent review should mirror the resource/affordability analysis, in that the solution for the project has not yet been selected, so the cost estimates will cover the broad range of alternatives.	Independent Cost Analyst
Sponsor Commitment	Sponsor commitment documents the sponsor's commitment to a project and understanding of what resources they are agreeing to, including projected lifecycle costs and manpower.	Sponsor designee

| Initial Risk Report | The risk report summarizes the risk assessment. It includes the identification of events or conditions that pose risks of negatively impacting the project, the determination of the quantitative or qualitative value of those risks, and potential management response to those risks. | Sponsor designee |

2.3.   PROJECT DEFINITION PHASE AND MILESTONE 2

2.3.1.   PROJECT DEFINITION PHASE OBJECTIVES

The objectives of the Project Definition Phase include:

- Selection of the best alternative for meeting the needed capability
- Concept of operations defined
- Refined requirements
- In-depth project planning, to include acquisition strategies, schedules, cost estimates, resource planning, risk management, and work breakdown structure
- Establishment of project baselines
- Confirmation of technology readiness
- Reaffirmation of sponsor commitment
- Authorization to proceed to Project Development Phase, to include approval for planned procurements needed for next phase
- Cost Analysis Requirements Description (CARD)

2.3.2.   PROJECT DEFINITION PHASE PROCESSES – OVERVIEW

The following processes must be accomplished during the Project Definition Phase for High-Profile projects. More detailed descriptions of these processes are contained in Appendix B, *Process Descriptions and Document Template*s.

Process	Description	Responsibility
ID/Analysis of Alternatives (AOA)	Identification and analysis of the possible solutions for achieving the required capability. Includes evaluation of the effectiveness of the alternative solutions (to include material, non-material, and status quo) as well as estimates of their lifecycle costs.	Project Manager
Capabilities Requirements Development	Refinement and expansion of the mission need to include the determination of the specific capabilities required, establishing the minimum acceptable standards of performance and the optimum performance level.	Project Manager

Requirements Traceability	Documents requirements throughout the lifecycle of a project, tracing the origin of a requirement back to its source. Captures all requested changes, who requested the change, the disposition of the change, and the resulting changed requirement. Also used for verification and validation, and the tracking of success criteria to validate the requirement was met.	Project Manager
Resource Requirements	Captures all resource requirements for all alternatives under consideration based on the program/project's Work Breakdown Structure.	Project Manager
Project Cost Estimate	Provides an exhaustive and structured accounting of all lifecycle resources and associated cost elements required to develop, produce, deploy, and sustain a particular project; captured in the CARD.	Project Manager
Independent Cost Estimate (ICE)	Estimation of the project's lifecycle costs performed by an entity independent of the project office responsible for the project. Used to validate the project cost estimate and improve the understanding of expected resource needs, to better inform the project sponsor, and to improve the estimates that underlie the project management plan and the project baseline.	Project Manager
Independent Review	Provides an assessment of the project which points out weaknesses and risks to the project not evident to those directly involved with the project. Reviewers have no decision role in the project. Their work is to inform people who do have decision roles.	Sponsor Project Manager
Project Planning and Baseline Development	Process of synthesizing information from an analysis of capabilities requirements, resource requirements, risk assessments, and cost estimates and from developing a project baseline, an acquisition strategy and a project management plan. Provides a structure and implementation approach to ensure the project can be successfully managed to completion.	Project Manager
Technology Readiness Assessment	An assessment of how far technology development has proceeded. It is not a pass/fail exercise, and is not a value judgment of the technology developers or the technology development program. Not required for all projects--an assessment should be developed for each alternative solution that incorporates new or evolving technologies.	Project Manager
Risk Management Update	Update to the risk report initiated in the prior phase. Includes much more detailed analysis of risks, to include treatment strategies.	Project Manager

| Acquisition Strategy | Development of a comprehensive plan that identifies the acquisition alternatives and selected approach, describing the business, technical, and support strategies required to manage program risks and meet program objectives. Defines the relationships between acquisition phases and work efforts and key program events, such as decision points, reviews, contract awards, test activities, production lot/delivery quantities, and operational deployment objectives. | Project Manager |

2.3.3. MILESTONE 2 REQUIRED DOCUMENTATION

The following documents are required at MS2, following the Project Definition phase. Templates for completing these documents and containing additional details are contained in Appendix B, *Process Descriptions and Document Template*s.

Document	Description	Preparer
Analysis of Alternatives Report	The AOA report provides the results of the analysis of alternatives, along with the recommended alternative and rationale.	Project Manager
Concept of Operations (CONOPS) Document	The CONOPS describes how an asset, system, or capability will be used and supported by presenting the operational view of a required capability from the user's perspective. It communicates high-level, conceptual, future business and mission operations and permits stakeholders to assess solution alternatives in the context of "real-world" (scenario-based) operational environments.	Project Manager
Requirements Document	The Requirements Document sets the context of the gaps to be addressed to guide the development and evaluation of alternative design concepts. It is derived from the Mission Need Statement, CONOPS, and early sponsor analysis. It describes the missions, operational capabilities, operating environment, and system constraints that competing system concepts must satisfy.	Project Manager
Project Management Plan	A Project Management Plan (PMP) is a formal, approved document that defines how the project will be executed, monitored and controlled. It may be composed of one or more subsidiary management plans and other planning documents. It establishes procedures for the overall management of the approved project. It provides the Framework to define the activities/tasking, responsibilities, and the sequence of events. It is the project manager's blueprint for managing the project.	Project Manager

Cost Analysis Requirements Report (CARD)	The CARD is a description of the salient features of the acquisition program and of the system itself. It is the common description of the technical and programmatic features of the program that is used by the teams preparing the Program Office Estimate (POE), including Life Cycle Cost Estimate (LCCE), and the ICE.	Project Manager
Independent Cost Estimate (ICE) Report	The ICE Report describes the findings from the Independent Cost Estimate. It documents the independent analysis of a project's lifecycle costs and can be used to validate a project's cost estimates or provide insight into where the project's cost estimates may have errors.	Independent Cost Analyst
Project Baselines	A project's baseline is defined as the original scope, cost and schedule. The project's baseline must be completely defined, documented, and authorized before the project execution and control activities can begin.	Project Manager
Technology Readiness Report	The readiness report summarizes the findings of the technical readiness assessment. The report describes how far technology development has proceeded, in a manner that can be commonly understood and used by decision makers.	Project Manager
Risk Report Update	An updated risk report includes an assessment of the current risks and any new strategies for dealing with them.	Project Manager
Acquisition Strategy Report	An acquisition strategy is a roadmap for the acquisition portion of the project investment lifecycle. It documents the factors, approach, and assumptions that will guide acquisition decisions related to the investment.	Project Manager
Sponsor Commitment Reaffirmation	This is an updated commitment to the project by the sponsor, to include resources required for the next phase of the project.	Sponsor

2.4. PROJECT DEVELOPMENT PHASE AND MILESTONE 3

2.4.1. PROJECT DEVELOPMENT PHASE OBJECTIVES

The objectives of the Project Development Phase include:

- Details of the procurement requirements (specific needs that will go in the contract)
- Updated acquisition planning and documentation
- Firm, updated cost estimates (POE, LCCE, and ICE)
- Update risk management
- Development of prototypes and demonstration of capabilities, if applicable
- Refined cost and schedule performance baselines.
- Reaffirmation of sponsor commitment
- Authorization to proceed to Project Execution Phase, to include approval for planned procurements needed for next phase

2.4.2. PROJECT DEVELOPMENT PHASE PROCESSES – OVERVIEW

The following processes must be accomplished during the Project Development Phase for High-Profile projects. More detailed descriptions of these processes are contained in Appendix B, *Process Descriptions and Document Templates*.

Activity	Description	Responsibility
Requirements Traceability	Continuing update of the requirements traceability.	Project Manager
Requirements Refinement	Continuing refinement of the requirements.	Project Manager
Budget Planning	Development of budget documents based on project and independent cost estimates. Includes budget documents used to plan and manage the project, and documents used to justify and secure resources through the Department, Office of Management and Budget (OMB), and Congress.	Project Manager
Project Cost Estimate Update	Continuing update to the project cost estimate.	Project Manager
Independent Cost Estimate Update	Continuing update to the independent cost estimate.	Independent Cost Analyst

|		
Project Planning Update	Update of the project plan to reflect actual activities and any adjustments to the project baseline.	Project Manager
Independent Review	Continuing update of the independent review.	Project Manager
Project Baselines Update	Refined project scope, cost, and schedule that are completely defined, documented, and authorized before the project execution and control activities can begin.	Project Manager
Product Demo/Prototype	Where appropriate, development, demonstration, and testing of high risk components of the overall program/acquisition.	Project Manager
Risk Management Update	Continuing update to the risk management process.	Project Manager
Acquisition Strategy Update	Update of the acquisition strategy developed in the previous phase.	Project Manager

2.4.3. MILESTONE 3 REQUIRED DOCUMENTATION

The following documents are required at MS3, following the Project Development Phase. Templates for completing these documents and containing additional details are contained in Appendix B, *Process Descriptions and Document Templates*.

Document	Description	Preparer
Requirements Document Update	The requirements document update becomes the formal statement of the operational performance and related parameters for the proposed concept or system. It describes a system in terms of a range of acceptable and desirable standards of performance. As the consolidation of these performance measures in one document, as well as requirements for the support and maintenance of the system, the updated requirements document serves as the source document for a host of systems engineering activities, ongoing requirements analysis, and cost estimating to ensure the success of the project.	Project Manager
Independent Cost Estimate (ICE) Report Update	The ICE Report describes the findings from the Independent Cost Estimate. It documents the independent analysis of a project's lifecycle costs and can be used to validate a project's cost estimates or provide insight into where the project's cost estimates may have errors.	Independent Cost Analyst
Project Management Plan Update	The PMP update describes the latest changes to the elements of the PMP.	Project Manager
Sponsor Commitment Reaffirmation	This is an updated commitment to the project by the sponsor, to include resources required for the next phase of the project.	Project Sponsor

Acquisition Strategy Report Update	The updated acquisition strategy should include a description of major contracts planned and the acquisition considerations for each of them.	Project Manager
Risk Report Update	An updated risk report includes an assessment of the current risks and any new strategies for dealing with them.	Project Manager
Product Demo/ Prototype Report	The Project Demo/Prototype Report contains the results of the prototyping done or the demonstration provided.	Project Manager

2.5.   PROJECT EXECUTION PHASE AND OPERATIONS/DISPOSAL
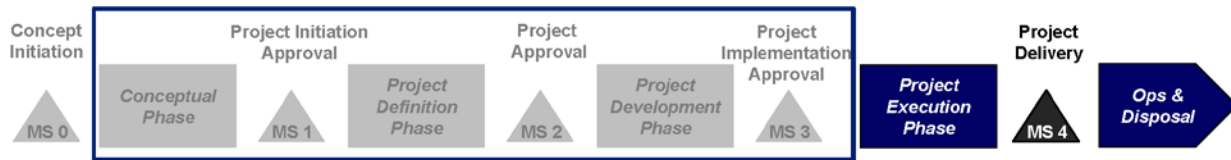
As noted in Section 1.2, *Framework Purpose and Description*, Project Execution and Operations/Disposal are not included in any detail in this initial version of the Framework.   These phases are the Policy-assigned responsibility of the Bureaus. The Guidebook may be expanded at a later date to include more detail on project execution and operations/disposal, to include change control, specific objectives, activities, required documentation, and events that could initiate a new project such as a scheduled major modernization.

2.5.1.   PROJECT EXECUTION PHASE OBJECTIVES

The objectives of the Project Execution Phase include:

- Conduct procurement (solicitation, evaluate offers, select contractor)
- Administer the contract(s)
- Manage cost, schedule, requirements, and risk
- Establish and monitor performance metrics

2.5.2.   PROJECT EXECUTION PHASE PROCESSES

Activity	Discussion	Responsibility
Source Selection/ Contract(s) Award	The activities associated with preparing the solicitation, evaluating responses, and awarding a contract	Contracting Officer
Contract(s) Execution	The administrative and technical activities associated with managing the execution of the contract	Project Manager
Project Change Management	Manage the project changes to cost, schedule, requirements, and risk	Project Manager

Performance Monitoring	Monitoring the outcome of the procurement to determine if the project filled the mission need identified in the conceptual phase and taking necessary action where appropriate	Project Manager

3. FRAMEWORK PROCEDURES

3.1. ORGANIZATION

As described in this Guidebook, DOC reviews of high-profile projects will be conducted by the MRB supported directly by an MRB Integrated Product Team (IPT) and the MRB Executive Secretariat (the Secretariat). The Secretariat will serve as Executive Secretary to both the MRB and the MRB IPT. OAM will perform the duties of the Secretariat, chair the MRB IPT, and provide support to projects between milestones. OAM, if requested, may assist projects in acquiring independent reviews, facilitating and supporting cost estimating requirements, and providing advice to project managers to ensure successful reviews at future MRBs.

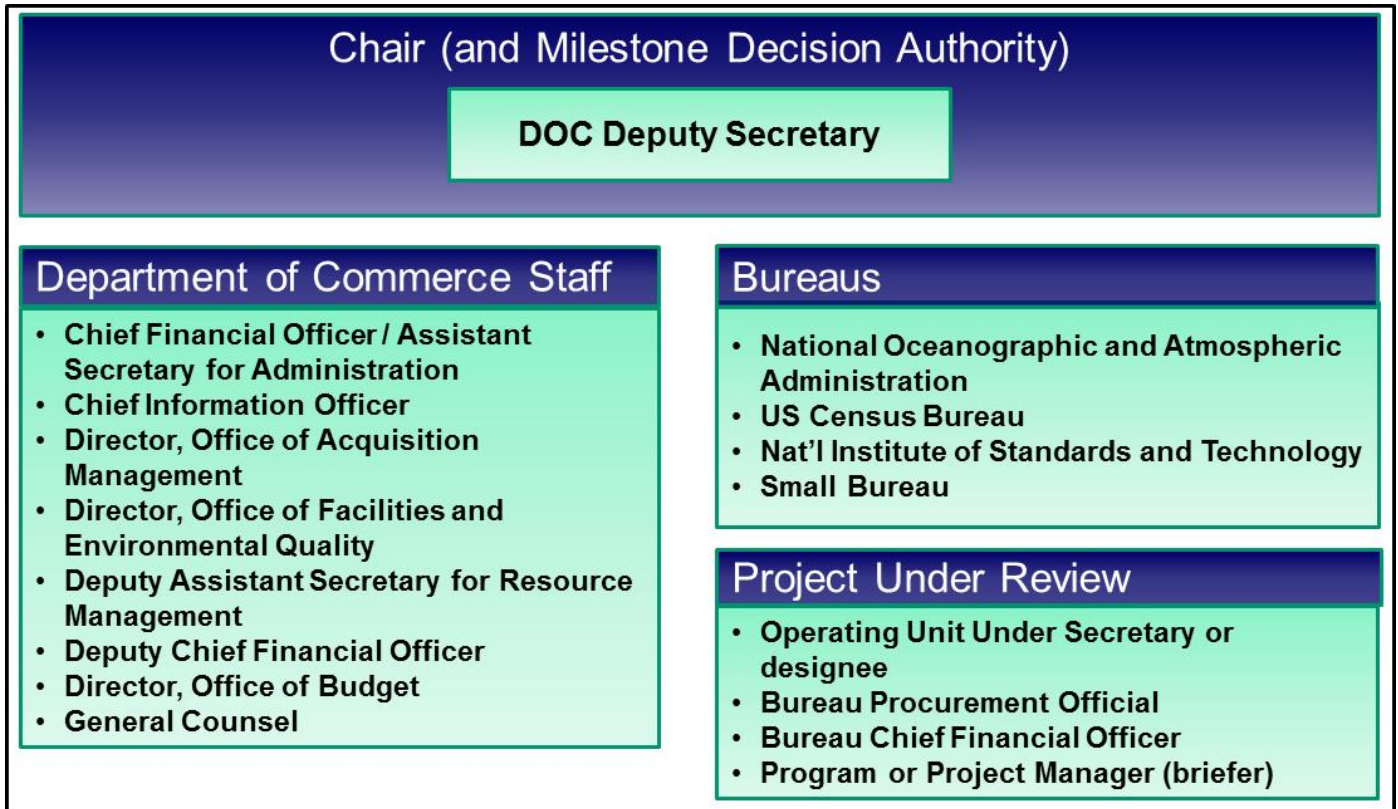### 3.1.1. MILESTONE REVIEW BOARD (MRB)

3.1.1.1. Membership

Figure 6. Milestone Review Board Membership

Chair

The MRB is chaired by the DOC Deputy Secretary and is the DOC Milestone Decision Authority.

Members

The Chair will designate other participants in the MRB depending on the project(s) under review from among the following listed in Figure 6.

3.1.2. MRB INTEGRATED PRODUCT TEAM (IPT)

3.1.2.1. Membership

The MRB IPT Chair will be the Deputy for Acquisition Program Risk Management and Grants, OAM. MRB IPT principals will include representatives from the functional offices pertinent to the project being reviewed and experts in the field of contracts, requirements development, budget, costing, project management, risk management, etc.

3.1.2.2. Responsibilities

The MRB IPT will:

- Convene at the request of the MRB IPT chair. A kick off meeting for the IPT will be used to formalize membership, duties and timeline to the MRB
- Review project milestone documentation and progress for adequacy. If the MRB IPT believes any document/presentation provides insufficient factual information, requires clearer focus or fails to adequately identify alternatives, or lacks clear identification of the problem; guidance will be provided for necessary improvement before the document/presentation is approved to proceed to the MRB
- Provide feedback to project manager prior to the MRB meeting
- Forward issues to the MRB for resolution if the issue cannot be resolved between the MRB IPT and the project manager
- Support the MRB principals in preparing for the MRB so the MRB is issue and problem resolution-based
- Prepare a draft Milestone Decision Memorandum (MDM) for consideration by the MRB and approval by the MRB Chair which established the program's baselines and other specific parameters for the next program phase including any directed studies and analyses and phase exit criteria
- Review the MDM from the previous milestone review (for MRBs 2 or 3) to identify earlier MRB direction and provide feedback on any outstanding issues to the project manager as required

The MRB IPT should form well in advance of a milestone at the call of the MRB Executive Secretary to review project documentation and identify shortfalls to the project for correction. Since a project manager may not be identified at Milestone 1, the MRB IPT will support the sponsor in review of the documents provided by the sponsor for the milestone review.

As the MRB IPT reviews the milestone documents, they will assess progress against stated goals and dependencies on other projects. Specifically, they will review the programmatic issues of cost, schedule, and performance, including risk prior to recommending whether the anticipated milestone review should go forward as planned.

3.1.3. MRB EXECUTIVE SECRETARIAT (THE SECRETARIAT)

3.1.3.1. Membership

Secretariat principals include:

- Chair – Deputy for Acquisition Program Risk Management and Grants, OAM
- OAM staff - lead
- OAM staff - review
- OAM staff - administrative

3.1.3.2. Responsibilities

The Secretariat will:

- Schedule milestone reviews and distribute schedule information (MRB schedule will be updated as necessary throughout the year)
- Establish meeting agendas, procedures, and attendance
- Provide presentation guidance to project sponsors and managers (see Presentation Requirements)
- Distribute all documents for review per discussions in this Guidebook
- Schedule and test all equipment needed for the MRB
- Assist in preparing MRB members for milestone reviews
- Prepare, distribute, and maintain a record of MRB IPT and MRB proceedings
- Maintain and archive a list of outstanding MRB IPT/MRB action items and track actions to ensure completion
- Prepare the Milestone Decision Memorandum (MDM) for MRB Chair's issuance (note: see *Section 3.3.4., Milestone Decision Memorandum*, for a description of this document)

Program offices assigned actions in a MDM will forward responses to the Secretariat and will be responsible for incorporating MRB decisions into appropriate DOC or Bureau policy documents.

The Secretariat will perform all functions in accordance with the timeline as shown in *Section 3.3.6., Timeline*, and will be responsible for ensuring all MRB IPT deadlines are met in support of the MRB. The Secretariat will also provide support to the project to accomplish the activities performed during the conceptual phase and between milestone reviews.

3.2. INTEGRATING HIGH-PROFILE PROJECTS INTO THE FRAMEWORK PROCESS

Generally, a series of three organizing and planning meetings take place between the project management and the OAM staff once a project is identified as "high-profile."   These meetings are used to integrate a project into the Framework, regardless of where it enters the process. Mapping the project to the Framework during the second meeting is the most important step in this process. Each project will be unique in some aspect, and this mapping process between OAM and the project team allows both parties to discuss, understand, and contribute to the application of the Framework to the project. In the case of complex projects, this mapping process may take more than one meeting.

The purpose of each meeting is as follows:

- Meeting 1: Framework familiarization and project suitability
    o Determine if the project is pre-milestone 3
    o Project team provides OAM with a general background on the project
    o OAM explains the basics of the Framework to the project team
    o Organize the Team by reviewing the purpose, objectives, and outputs of the IPT.
    o Familiarize members with OMB MAX secure team web site and MS 2 document repository at https://community.max.gov/display/DOC/Acquisition+Improvement+Project+and+the+Milestone+Review+Board
    o Discuss documents to be reviewed and preliminary concerns. Establish how team members will provide feedback on documentation, by when, to whom, and how.
    o Assign IPT members' homework to read and comment on the draft MS documents

- Meeting 2: Review aggregated Team comments
    o Provide the PM with suggestions for revision and improvement of Milestone documents. Team discusses any additional recommendations for the PMO and its documents and identifies specific content of the Milestone Decision Memo (MDM) including any directed actions for the Project Development Phase and the phase exit criteria.

- Meeting 3: Review and approve the final MS 2 documentation and the draft MDM and any IPT recommended actions or issues for MRB consideration.

Occasionally a project will be large enough that several of its components could be high-profile projects themselves, or a project's components (schedules, funding sources, stakeholders, etc.) have enough differences that they could also be considered as separate projects. In these instances, the series of meetings described above take on an even greater role in determining which components will require MRB decisions (or only the whole project), when they will occur, what defines the start and end of a phase, and how decisions made on components will affect the whole.

3.3. <u>MRB PROCEDURES</u>

3.3.1. ENTRANCE AND EXIT CRITERIA FOR MILESTONE REVIEWS

The entrance criteria for the Conceptual Phase consists of the acknowledgement that a mission need or capability gap has been identified and may require the development of a project. Entrance criteria for the following phases include the successful completion of the milestone review proceeding that phase and the resulting MRB's approval.

Exit criteria for each phase consist of:

- Conducting the processes listed in this Guidebook for that phase, as well as completing the required documents for each phase. Expectations for these documents are found within the document templates in Appendix B, *Process Descriptions and Document Template*s.
- Any criteria listed in the Milestone Decision Memorandum from the previous milestone review.
- Responses to the questions found in the following section on MRB questions. Project managers should be able to adequately address each of these questions.

3.3.2. NOTIONAL MRB QUESTIONS

At each MRB, both the board members and the project team need to understand the criteria for a successful MRB. The following are a standard set of questions for each milestone that the project team should be able answer satisfactorily and that the review board members should consider. Additional questions will be generated for each high-profile project, specific to that project. The IPT will lead the effort to identify project-specific issues and generate MRB questions.

3.3.2.1.   Questions for Milestone 1 (Project Initiation Approval)

- Is the Mission Need Statement clear on what capability gap exists and what requirement(s) is to be satisfied with this proposed project?
- What strategic goals for the Department are linked to this project? And if applicable, what supporting Bureau strategic goals are linked to this project?
- Have all, pertinent stakeholders been involved in developing the requirement?
- What are the alternatives you are considering to fulfill this need?
    - Are these alternatives acceptable to the Board? i.e., is the range of alternatives to be explored logical?
    - Do the alternatives presuppose or favor a certain solution?
- Do the rough estimates of projected cost seem reasonable? Is it similar to the independent cost review?
- Have the risks of the proposed project been identified?
- Have the risks of not pursuing the project been identified?
- Is the sponsor identified and supportive of the project?

3.3.2.2.   Questions for Milestone 2 (Project Approval)

- Has the scope from MS1 changed? If so, is the project still valid and reasonable?
- Were all reasonable alternatives considered by the analysis of alternatives?
- Does the analysis of alternatives support the selected alternative?
- Is it clear in the concept of operations how the new capability will operate and integrate with existing capabilities?
- Have all risks been identified and treated properly, particularly technical risks?
- Does the evolving solution meet the stated mission need?
- Have any of the following changed since MS1, and if so, explain: cost, schedule, performance, strategy, risk, requirements?
    - Have the project baselines changed? If so how/why?
- What are the key performance parameters and what is the status for achieving?
- Do planned project management and acquisition activities appear adequate?
- Do external reviews support the technology considerations and cost projections?
- Is the sponsor fully supporting the project?
    - Resources
    - Staffing
    - Organizational support

3.3.2.3.   Questions for Milestone 3 (Project Implementation Approval)

- Have risks been addressed properly, particularly technical risks?

- Does the evolving solution meet the stated mission need?
- Do planned project management and acquisition activities appear adequate?
    - Is the proposed acquisition sufficiently defined to allow for a successful procurement?
    - Are plans sufficient to ensure necessary support for the effective and efficient operation of the fielded capability?
- Have any of the following changed since MS2, and if so, explain: cost, schedule, performance, strategy, risk, requirements?
    - Have the project baselines established at MS2 changed? If so how/why?
- Do external reviews support the technology considerations and cost projections?
- Is the sponsor fully supporting the project?
    - Resources
    - Staffing
    - Organizational support

3.3.3.   PRESENTATION REQUIREMENTS:

Project managers will provide required MRB documents (which include presentations and any related materials) electronically to the Secretariat in accordance with the MRB Process Timeline found in [Section 3.3.6](#).

- Read ahead materials are provided to both the MRB IPT and the MRB members in advance of the MRB meeting to give ample opportunity to review and prepare, as well as solicit any input from subject matter experts prior to the meeting.
    - Changes to presentation materials after submission are not permitted without notifying the MRB IPT Chair.
- Presenters must stay within their allotted briefing time according to the agenda
- Presentations and all required MRB documents should be paginated

The MRB IPT will be the final forum for ensuring issues, programs, and briefings are condensed into understandable terms and recommendations for decisions before presentation to the MRB. Briefings should use a reasonable number of slides to succinctly convey the message. The scope and current status of the program/project and history of reviews will dictate the time allotment for the agenda item.

MRB IPT principals are required to review and comment by the end of the established comment period on all MRB all documents proposed for MRB presentation. A non-response is considered to be concurrence.

3.3.3.1.   Milestone 1

- Notional Presentation Slides
    - Introduction (general description of desired capability)
    - Sponsor identification and acknowledgement of commitment
    - Origination of requirement (could be an update to a current capability, the outcome of a review of strategic plan/objectives, external mandate, etc.)
    - Mission needs analysis summary
    - Alternatives under consideration
    - Rough order of magnitude costs (range of costs of viable alternatives; compare with independent cost review results)

- o Desired schedule
  - o Initial risk review results
- All documents listed in Section 2.2.3, *Milestone 1 Required Documentation*, must be provided to the Secretariat according to the timeline in Section 3.3.6, *Timeline*

3.3.3.2. Milestone 2

- Notional Presentation Slides
  - o Project
    - Description of capability, to include expanded understanding of requirements
    - Purpose of review (since not all projects fit exactly into the Framework, explain the status of the project and what will be approved at this milestone)
    - Integration with other entities (part of larger program; dependencies; external requirements)
  - o Analysis of Alternatives
    - Description of each alternative
    - Cost Estimates
    - Why each alternative was/was not chosen (Include technical readiness of alternative)
  - o Cost Estimate and proposed baselines for chosen alternative
    - Project Cost Estimate compared with Independent Cost Estimate
    - Comparison with original ROM from MS1
    - Proposed cost (development and lifecycle), schedule, and performance baselines (see Policy for definitions at Enclosure F)
  - o Risk for chosen alternative
    - Top five risks (description and scoring)
    - Risk treatment planned
    - Risk monitoring planned
    - Risk actions taken
  - o Project schedule for chosen alternative (include changes since MS1)
  - o Acquisition strategy for chosen alternative
  - o Sponsor commitment (what is sponsor agreeing to?)
- All documents listed in Section 2.3.3, *Milestone 2 Required Documentation*, must be provided to the Secretariat according to the timeline in Section 3.3.6, *Timeline*

3.3.3.3. Milestone 3

- Notional Presentation Slides
  - o Project
    - General description of capability
    - Purpose of review (since not all projects fit exactly into the Framework, explain the status of the project and what will be approved at this milestone)
    - Major changes to requirements
    - Results of project demo/prototype
  - o Cost Estimate and baselines

- - Project Cost Estimate compared with Independent Cost Estimate
  - Compare with estimates from MS2; explain major changes
  - o Risk
    - Top five risks (description and scoring); highlight changes since MS2
    - Risk actions taken
  - o Project schedule (include changes since MS2)
  - o Acquisition strategy update; how the project will be executed
  - o Sponsor commitment (what is sponsor agreeing to?)
- All documents listed in Section 2.4.3, *Milestone 3 Required Documentation*, must be provided to the Secretariat according to the timeline in Section 3.3.6, *Timeline*

3.3.4. MILESTONE DECISION MEMORANDUM

The MDA shall issue a Milestone Decision Memorandum after each milestone review, directing the project's way ahead in the next phase. The memo will include approval for the project to transition to the next phase and direct the project's way ahead, including necessary procurement authorities, specific phase exit criteria, and other directed actions.

Or, in the case where a project is not approved to go to the next milestone, the decision memorandum will contain information on how to proceed. This will include specific instructions on required activities and timelines for milestone reconsideration.

3.3.5. APPEALS PROCESS

There is not an appeals process for a project that was denied approval to move to the next phase. However, in most situations if a project is not ready to progress, the Milestone Decision Memorandum will outline the steps needed to remedy any deficits, and the project can approach the MDA again once those steps are completed.

3.3.6. TIMELINE (SUBJECT TO NEGOTIATION)

Program/Project managers will provide required MRB documents (which include presentations and any related materials) electronically to the Secretariat in accordance with the timeline MRB Process Timeline.

90 Days Prior	• Secretariat contacts project manager and notifies of required documents and schedule • Secretariat /PM jointly decide to proceed with MRB schedule
60 Days Prior	• MRB IPT kick off meeting
50 Days Prior	• Secretariat requests presentations and all required MRB documents from Project Manager
45 Days Prior	• Project manager submits draft MRB documents to Secretariat • Secretariat distributes all MRB review material to MRB IPT and sets coordination deadline

30 Days Prior	• Issues Meeting for MRB IPT to provide feedback on documents to Project Manager
21 Days Prior	• Project Manager submits draft MRB briefing to MRB IPT
14 Days Prior	• Secretariat provides PM with IPT feedback on presentation and provides draft decision memorandum with issues known to date and necessary actions to be taken
7 Days Prior	• PM provides final MRB presentation to the Secretariat • Secretariat provides MRB read-ahead documents and presentations to MRB principals and responds to any questions from MRB members • IPT representatives pre-brief their respective MRB members and undertake other required activities to prepare them for the upcoming MRB
3 Days Prior	• Secretariat staff distributes final agenda, all briefings, and draft Milestone Decision Memorandum to MRB principals and project manager • Secretariat staff uploads presentation materials to shared drive
MRB Meeting	• Secretariat staff sets up meeting space, loads presentations and tests audio/visual equipment • Secretariat staff takes notes during the meeting and captures all decisions and action items
3 Days After	• Secretariat staff sends revised draft Milestone Decision Memo (MDM) to MRB principals, MRB IPT, and project manager
10 Days After	• MRB Executive Secretary forwards the coordinated, revised MDM to MRB Chair for signature, distributes the signed MDM to MRB members, and enters actions into tracking system

3.3.7. BASELINE ESTABLISHMENT AND DEVIATIONS

Every high-profile program or project shall be defined by three baselines beginning at Milestone 2. These will be defined in the Program or Project Baseline document (see the *Guidebook* for the suggested template) and refined, as necessary with justification, at subsequent milestones:

- Cost.
  - o Lifecycle Cost means the total of the direct, indirect, recurring, and nonrecurring costs, including the construction of facilities and civil servant costs and other related expenses incurred or estimated to be incurred in the design, development, verification, production, operation, maintenance, support, and retirement of a program or project over its planned lifespan, without regard to funding source or management control.
  - o Development Cost (a component of lifecycle cost) means the total of all costs, including construction of facilities and civil servant costs, from the period beginning with the approval to proceed into the Project Development phase (Milestone 2) through the achievement of operational readiness (Milestone 4) without regard to funding source or management control, for the life of the program or project.
- Schedule – the program time planned from Milestone 2 to achievement of operational readiness at Milestone 4.
- Performance – the key performance parameters or metrics established at Milestone 2 that define the program's or project's operational capabilities.

All Department-designated high-profile programs and projects, regardless of size or MDA, shall have cost (lifecycle and development), schedule, and performance baselines as (defined in Section 3) established at Milestone 2, shall be responsible for preparation of an ICE and a POE in support of Milestone 2, and shall submit a revised ICE following a baseline deviation. At Milestone 1, these programs/projects shall prepare the range of costs (viz., a rough order of magnitude (ROM)) that corresponds to the alternatives proposed in the AoA Plan. All baselines shall that shall be tracked by the Program or Project Manager (PM).

For high-profile programs or projects subject to MRB oversight or as delegated, the Operating Unit shall report cost, schedule, or performance baseline deviation of 20 percent or more from the last established baseline to the MRB Secretariat within 30 calendar days of the date the deviation is identified. OAM will analyze the deviation report and recommend corrective actions to the appropriate official(s). For programs or projects not subject to MRB oversight, program or project managers shall report deviation of 20 percent or more from the last established baseline to the authorities designated in the procedures established to implement the Framework within the Operating Unit.

4. BUDGET INTEGRATION

A key interface of the Acquisition Framework is with the Department's budget process. Consistent and complete information exchanges between the Framework and the budget processes are essential to the efficient and effective functioning of the Department in its management of projects and the application of resources to fulfill its mission.

The interactions between the budget process and the Framework involve linking a calendar driven process (i.e., budget development) with an event driven process (i.e., Framework). It is incumbent on the participants in both processes to be aware of where the other is within its activities. Specifically, Milestones 1, 2, or 3 for a project could occur at any point during a calendar year, while the budget development process follows a predicable schedule.   It is the responsibility of the project office to provide the current estimates of resource requirements to the budget process when requested.

The graphic below outlines the key information exchanges between the Framework and the resource management process.
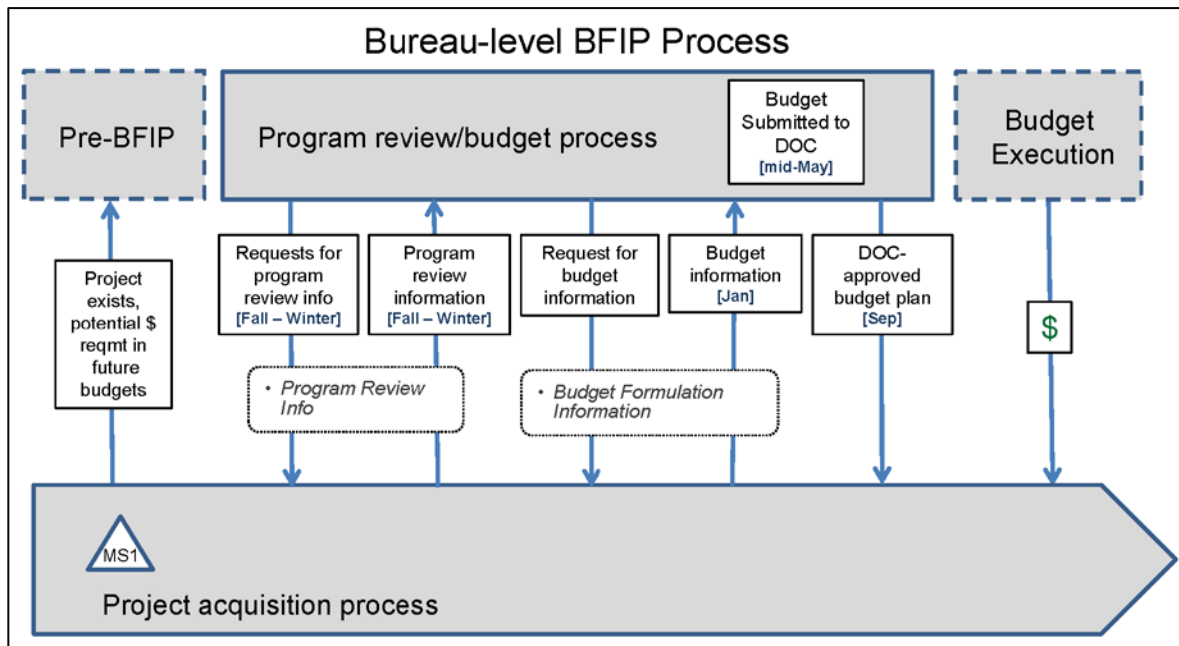

Figure 7. Framework Links to Budget Process

The key elements of the interactions are:

- Subsequent to Milestone 1, the project manager must provide notification of the evolving project and its estimated budget requirements to: the Bureau staffs working on Budget Formulation Improvement Project (BFIP) reviews, Bureau staffs working on the Department's strategic plan, and the Department budget developing office (via the Bureau budget office). This is the first official indication to the budget development offices that there is a project being initiated that will have future budget requirements.
- Beginning early in the budget formulation process, Bureaus will define new and existing programs and conduct program reviews. These Bureau budget reviews will, in turn, inform subsequent

Department-level reviews. During this period, project managers should anticipate program review data-calls from their program managers regarding key aspects of project execution. These data-calls will occur during the fall through winter timeframe and may continue into spring.

- For Bureau budget development, the Bureau budget office will define what information is desired and will request information from the project office. The Department has established the following as the information needed by the budget developing offices:
  - o Either the CFO/ASA Business Case or OMB 300 templates, and
  - o BFIP appendix B, *Criteria for Strategic and Enabling Program Questionnaires*, and
  - o BFIP appendix D, *Program Evaluation Template.*
- The project manager will provide the requested information, usually in the January timeframe. The information submitted will reflect the project's status and fiscal requirements as of its latest milestone review, updated as appropriate.
- The budget developing office should not include the project in the budget if the project is not "current" with its milestone reviews and approvals. The project does not need to have a milestone review just prior to a budget submit, but should be on schedule and tracking toward previously established milestone review dates.
- The budget offices will provide the status of budget requests to the project offices as the Bureau's budget is submitted to the Department and subsequently to OMB, and through the Congressional appropriations process so that the project is operating under the latest budgetary information.
- Upon apportionment of the project's funds, the budget office will provide the appropriate financial documentation to permit the project to proceed.

APPENDIX A – SCALABILITY EXAMPLES

This Guidebook is written mainly for projects that meet the criteria described in Section 1.3.2, *Criteria for Department-level Review—Defining "High Profile*," for high- profile projects. However, the Framework is applicable to all projects, and those that are not reviewed by a Department-level MRB still need to be managed in a systematic and well-documented fashion appropriate to their size and complexity. The Bureaus need to have procedures in place for handling such projects.

Below are three examples of projects that might not meet the "high-profile" criteria but are significant Bureau investments. With each there is a discussion of how a Bureau might use the Framework without unduly burdening the project.

The Framework Policy directs Bureaus to establish Framework standards that provide the flexibility needed to handle the range of projects included in the examples. The goal is to ensure adequate management, not to overburden a project with paperwork.

SOFTWARE FOR MANAGING A BUREAU PROGRAM

A Bureau operates several Bureau-specific programs that involve many manual processes that could be performed more efficiently with software tailored to the particular types of programs the Bureau administers. Many people in the Bureau argue for making the investment in such software. Such a software investment could cost $3 - $4 million and have a lifecycle cost of $20 million. The project would not meet the "high-profile" criteria.

The Bureau needs to have a well-reasoned Mission Needs Statement and needs to explore a wide range of alternatives. Can the Bureau use software available elsewhere in the Department or from some interagency source? Can the technical staff document current costs and potential savings? Sponsor commitment for any such investment needs to be very clear.

Because this is an IT investment, all of the IT requirements from OMB must be met. As such, most of the processes provided for in the Framework must be undertaken, especially those dealing with requirements traceability and risk management. But many of the steps listed in process descriptions or elements of required documentation may not be necessary. Someone not directly involved in the project but possessing the requisite skills may do independent cost reviews. The Bureau may not have to hire outside experts, but most of the processes need be undertaken in a manner appropriate to the scope of the investment.

REPLACEMENT OF SPECIFIC SCIENTIFIC EQUIPMENT

A Bureau has a set of common scientific instruments that are nearing the end of their operating lives. The instruments need to be replaced, and the $2 million cost of their replacement is reasonably easy to establish as they are commercially available.

Because these instruments support a range of program efforts, a major exploration of mission needs may not be needed here. However, mission needs should be associated with the supported programs.

Documentation of the project scope, requirements, and alternatives may be needed but in a more generalized form than for a high-profile project. It may be possible to adequately address most of the processes in the Framework in a few documents.

But managing this project requires the same managerial discipline of any project. There needs to be a budget, an acquisition strategy and plan, and careful execution management.

Because this a reasonably straightforward procurement, the Framework-required documentation is much simpler.

RENEWAL OF VEHICLE FLEET

A Bureau maintains a fleet of vehicles for official use. Over time, they reach the end of their life expectancy. The Bureau needs to have in place a process that requires consideration of the alternatives to meet the need for official vehicles, including alternatives such as buying new vehicles and outsourcing, leasing, etc. The process has to be explicit and has to have decision point enforcing mechanisms to ensure real alternatives are considered, requirements are well developed, and the project well managed.

In this case, the early requirements process detailed in the Framework would be useful, walking the Bureau through the determination of need (does the Bureau really need official vehicles; what will they be used for; how many are required; what are the specifications required for each vehicle; where will they be located; who will be authorized to use them; how will they be maintained, etc.). Also, a thorough analysis of alternatives with reviews of all viable options should be conducted. Cost estimates (to include an independent estimate) should be conducted, as well as a simplified version of an acquisition strategy.

APPENDIX B – PROCESS DESCRIPTIONS AND DOCUMENT TEMPLATES

Process Descriptions and Document Templates

Introduction

Appendix B includes descriptions of the processes required by the Framework, as well as suggested templates to be used for the required documentation. The templates describe the minimum information required for an MRB. Organizations may use their own document formats instead of the templates to provide this information, but it is requested that when another template is used, a correlation of the information is appropriately noted.

Change Table

The following table should be used to track changes to each of the document templates. It should be placed after the initial signature page, before Section 1 of each document.

Revision Number	Date	Log of Changes Made and Description of Reason Changes	Approved By

CONCEPTUAL PHASE // MS1

Process Descriptions
&
Document Templates

Needs Analysis Process

Purpose

The purpose of the Needs Analysis process is to analyze unmet needs discovered during strategic planning or from other sources and develop the Mission Need Statement, which describes specific functional capabilities required to meet those needs.

Process Description

- Establish analysis team
- Explore the scope of any capability gap
- Identify potential hazards and their safety, security, and risk implications
- Determine the potential strategies to meet the mission need
- Document findings of the analysis in a Mission Need Statement

The sponsor typically leads a team in conducting the needs analysis and preparing the resulting Mission Need Statement. This requires the sponsor to consider the capability gap and mission needs as an honest broker, taking the user or customer perspective. Accordingly, the team should consult freely with end users and other stakeholders when preparing the Mission Need Statement to ensure that it reflects mission needs or deficiencies as viewed by the end user. The needs analysis is conducted during the Conceptual Phase with approval at Milestone 1.

The mission analysis explores material (e.g., equipment, facilities, platforms, software) and non-material solutions that can be used to meet the need. If an identified capability gap cannot be closed by non-material means (e.g., change in policy, operational procedures, department guidance, personnel movements, training) then the needs analysis will result in documentation of the need for a material solution. A material solution means that a new or upgraded physical asset must be added to the inventory in order to meet the need. Material solutions should be presented as a range of potential solutions.

Input

Documentation from the strategic planning process and any documents that identify the project's objectives, capability gaps, and high level concept of operations

Output

Mission Need Statement

Roles and Responsibilities

Sponsor ensures the completion of the needs analysis process.

Mission Needs Statement Template

PROJECT NAME

MISSION NEEDS STATEMENT

VERSION __

Supporting Milestone 1

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

Concurrence:

_____   _____
Signature Block/Date   Organizational title and project role

_____   _____
Signature Block/Date   Organizational title and project role

Ensure that all involved organizations concur with formation of the project and the initiation of the project definition phase. Authorized representatives from appropriate entities, tailored to the project, should acknowledge, by signature, that the project is being formed. This may include the project sponsor, project manager, customers, and other internal and external stakeholders.

Description

The Mission Need Statement (MNS), developed by the sponsor (or sponsor representative) during the Conceptual Phase, is a high-level synopsis of specific functional capabilities needed to accomplish agency mission and objectives. It provides a strategic Framework for acquisition planning and capability delivery and is a crucial part of the acquisition process. It serves to formalize the acquisition and links the gap in mission capability to the procurement of a material solution that will fill the need. The mission need statement is NOT an engineering study or a proposed solution to a capability gap in the mission. If a non-material solution (e.g., policy change, organizational change, process change) closes the capability gap, a follow-on procurement project will not be required.

The MNS must align to the Department's strategic direction and priorities and address several key elements including:

> *- Required mission in functional terms*
> *- Description of capabilities required for the mission and gaps in capabilities that drive a need for a solution*
> *- Consideration of existing or planned systems (internal or external to the Department) that have been considered for use to fill the gap*
> *- A compelling value proposition for filling the capability gap, including impacts of not filling the gap*

The MNS must be sufficiently detailed to justify an acquisition start. Approval of a MNS provides formal agency executive level acknowledgment of a justified and supported requirement to a user or stakeholder need with a material or non-material solution.

SECTION 1: STATEMENT OF MISSION NEEDS

1.1.   **Mission need summary** – Provide a clear and concise paragraph (a few sentences) that lays out the essential summary of the mission need. It should describe the gap between the current state of the program's mission and the mission plan**.**

1.2.   **Authority** – List the statutory and/or regulatory authority for the mission**.**

1.3.   **Internal or External Drivers** - Describe the internal or external drivers for this mission need (e.g., legal ruling; statute; regulation; international agreement; earmark; or Presidential, Congressional, or Secretarial direction/priority).

Driver	Impact on Need

1.4.   **Link to Strategic Plan and Mission** – Describe how the stated mission need fits into the overall strategy for accomplishing or advancing both the agency's and the program's strategic plan and mission.

1.5.   **Threats** – List any threats that drive the mission (if applicable).

1.6.   **Priority** – Provide the priority of fulfilling the mission need relative to other programs and projects within the program office and agency, and relative to other project/programs at the site, installation, laboratory, etc.

1.7   **Changes to previous mission** – If a current mission has altered, discuss how or what portion of the mission has changed and how current and required capabilities are going to differ as a result.

SECTION 2: CAPABILITY GAP

2.1.   **Description of gap** – Provide a clear description of the capability gap addressed in terms of an operational or functional performance capability, technological opportunity or service.

⬥ *Expectation: The MNS is a description of the mission as defined by a desired end-point, not a contract statement of work. Therefore descriptions of the capability gap in terms of a construction of a physical system, procurement of a piece of equipment, procurement of a service, construction of a facility or other specific material end item are not appropriate.*

2.2.   **Deficiencies in existing capabilities** – Include a summary of why current services, equipment, or real property facilities; or those being acquired within the Department, other government agencies, public organizations, private entities, or international bodies; are not sufficient to address a gap.

Current or Planned Capacity	Deficiency

2.3   **Benefits to closing gap** – List the benefits that may accrue from closing the capability gap (e.g., more efficient operations, increased safety, lower operational costs, or other savings).

2.4   **Impacted interdependencies with high-level mission needs or capabilities** – Describe any high-level interdependencies (within or external to the program) with other mission needs or capabilities that may be impacted or may benefit from addressing this mission need. These include: interfaces with existing and planned acquisitions; requirements for compatibility with existing or future systems; or cooperative opportunities, such as a program addressing a similar need at another Department component.

SECTION 3: APPROACH

3.1.   **Potential strategies to meet the mission need** – Provide a description of what has been considered or what will be analyzed as potential strategies to meet the new mission need. Include a description of ongoing studies, a listing of potential technical or regulatory alternatives, or study approach (e.g. engineering studies, pilot scale projects). A detailed analysis of alternatives will be conducted; therefore, this section should only summarize the planned strategies. Include the timeline needed for initial operations.

Strategy	Plan

3.2.   **Assumptions** – Include mission-level assumptions that may be necessary to complete the project and mission.

3.3   **Constraints for studying alternatives** – Indicate any functional, technical, operational, staffing, regulatory, safety, or financial constraints that could apply to the exploration and acceptance of potential solutions to satisfying the mission need.

SECTION 4: IMPACTS IF NOT FILLED

4.1.   **Mission Risk** – Include the strategic risk to the overall mission of the Department of not meeting the need**.**

4.2.   **Other Risks** – Describe impacts to safety, health, environment, security, capacity, operations, maintenance, cost, productivity, efficiency, or other factors as appropriate if the capability gap is not resolved.

Resource/Affordability Analysis Process

Purpose

The purpose of the resource/affordability analysis process is to provide the project sponsor some needed, if limited, information about the project's potential costs and resource requirements and the organization's likely ability to afford those costs and resource needs. During the Conceptual Phase, little information will be available about the project. Therefore this analysis will be very broad and will probably produce a range of estimates. The project sponsor will use this analysis to inform the decision to commit to the project.

Process Description

This process is performed by the organization that is going to undertake the project, which will usually be the organization that has identified the need. Expertise from outside the organization may be required to complete the analysis.

All information about the project needs to be assembled and analyzed:

- What is the range of solutions to meet the need?
- What is the timeframe for the project?
- Who are the major stakeholders?

Information about the current and projected resources available during the lifecycle of the project must be assembled such as:

- Budget authority currently and potentially available
- Technical expertise within and available to the organization
- Experience in project management
- Available real property/facilities and other material support
- Adequacy of staffing
- Contracting capability

The analysis must consider all of the above information and provide to the project sponsor:

- A range of estimates of what such a project might cost over what period of time
- A judgment about the ability of the organization to undertake such a project and what additional capability would be needed to succeed.
- An opinion about the likelihood of securing the needed resources

In order to ensure the project-led affordability analysis is conducted using the same set of requirements as the independent cost review, the project must develop a Cost Analysis Requirements Description (CARD) before either estimate is developed. The CARD is not part of the documents required for a Milestone 1 review, but must be completed in order for a comparison of the two cost estimates to be credible.

Input

All information available about the project will be useful input into the resource/ affordability analysis. The work performed in the needs analysis and in the development of the Mission Need Statement is essential. The current status of Departmental and Bureau funding and the resource outlook also are important inputs.

Output

The analysis should provide the first rough order magnitude estimate of resources required to complete this project. It may be a large range, due to the fact that the preferred solution has not yet been selected. The complete estimate is not a required document for the MRB, but a summary of the findings must be included as part of the Sponsor Commitment.

Roles and Responsibilities

The leader of the organization seeking to undertake the project is responsible for managing the resource/affordability process.

Independent Cost Review Process

Purpose

The purpose of the Independent Cost Review is to provide a top-down, rough estimate of a project's potential costs. The estimate should include a range of possible costs based on high-level descriptions of the assumed/viable alternatives. These estimates are used to better inform the project sponsor who must commit to the project and to better inform an initial risk report.

Process Description

These estimates should be made by someone not directly linked to the project that has skills in cost estimation. In conducting the review, the estimator takes all available information about the project, including the internal resource/affordability analysis, and breaks down the effort into its component parts, making estimates of cost involved in each based on industry knowledge.

The independent cost review conducting during the Conceptual Phase mirrors the resource/affordability analysis, in that the solution for the project has not yet been selected, therefore the cost estimate will be a broad range. This will cover the wide range of viable alternatives.

Input

Needs analysis, resource/affordability analysis

Output

A range of cost estimates that can be compared to the project office's internal resource/affordability analysis.

Roles and Responsibilities

The project sponsor is responsible for seeing that the independent cost review is performed, however the actual review and the resulting cost estimates will be conducted by an independent party.

Independent Cost Review Report Template

PROJECT NAME

INDEPENDENT COST REVIEW

VERSION __

Supporting Milestone 1

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The leader of the Independent Cost Review Process is responsible for developing the Independent Cost Review Report. The Project Manager must approve the Report.

Description

The purpose of independent cost reviews is to provide decision makers with an analysis of potential costs from people who have the needed expertise but no stake in the project.

Independent reviews of cost are performed during a project's conceptual phase as well as later phases. An Independent Cost Review performed during the conceptual phase provides only a rough estimate of the project's potential costs, usually in the form of a range of possible costs. It is designed to better inform the project sponsor of the potential scale of the project. The Independent Cost Estimate done during project definition and project development phases assess ever more certain cost elements and provide needed checks on the cost estimates developed by the project team.

The Independent Cost Estimate Report should reflect the differences in the data available. A report stemming from an initial independent cost review will be general recitation of the level of costs possible given the known dimensions of the project. There will be no project developed cost estimates to analyze.

Reports stemming from Independent Cost Estimates made during the definition and development phases of a project will consider cost estimates developed by the project staff and present an independent assessment of those estimates and discuss any differences the assessment team might have with those estimates. The reports are intended to point out the weaknesses and risks in the estimates made by those close to the project.

SECTION 1: PROJECT DESCRIPTION

1.1   **Project Description**- Provide a clear and concise paragraph (a few sentences) that summarizes the project.

⬥ *Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have available those other documents a general understanding of the project. In the report dealing with the conceptual phase, this description will be very general as no specific option is yet under consideration.*

SECTION 2: INDEPENDENT COST REVIEW PROCESS

2.1.   **Procedures** - List the methods you used in making the estimate.

2.2.   **Assessment Team** - List the individuals assigned to the independent cost estimate team, their particular assignment on the team, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: REPORT ELEMENTS DURING CONCEPTUAL PHASE

3.1. **Program Scope** – Describe the range of approaches to the project.

Approach	Description

3.2. **Range of Estimates** – For each of the approaches described in Section 3.1, provide a range of estimates for completing the project

Approach	Low Estimate	High Estimate

3.3. **Factors Affecting Range of Estimates** – Discuss what will affect those estimates and the degree of confidence you have in those estimates

Approach	Major Factors Affecting Estimates

SECTION 4: REPORT ELEMENTS DURING THE DEFINITION AND DEVELOPMENT PHASES

4.1. **Comparison of Lifecycle Estimates** – Summarize using the table below the project cost estimates of the project staff and those of the independent cost estimate process. Include cost estimates for development, procurement, and operations and sustainment (O&S).

◈ *Expectation: This is a summary of what is usually a great deal of data. Depending on the project, that data might be provided in an attachment to this report. If the project is to be funded over more than two years, additional year detail should be provided.*

Cost Element	Project Estimate (in $ thousands)	Independent Estimate	Difference	% Difference
Budget Year				
Development				
Procurement				
O&S				
Total BY				
Budget Year+1				
Development				
Procurement				
O&S				
Total BY+1				
Total Project				
Development				
Procurement				
O&S				
Total Project				

4.2.   **Discussion of the Comparison of Lifecycle Estimates**– Discuss the differences between the project estimate and the ICE and the potential causes of those differences.

4.3.   **Degree of Confidence**– Discuss how confident assessors are in the ICE and the reasons for that confidence.

4.4.   **Risks to the Program**– Discuss what risks to the program are represented by the differences in the estimates.

4.5.   **Summary**– Provide a summary of the conclusions of the ICE.

Initial Risk Management Process

Purpose

In the Conceptual Phase, an organization is still in the early discovery process, determining if they should develop a project. Thus the early role for risk management is to identify potential risks, providing the project sponsor and the MRB members with a more complete understanding of the project.

Risk can be associated with any aspect of a project (e.g., technology maturity, supplier capability, design maturation, performance against plan) and may affect any element of the acquisition process from project initiation through all tasks in the work breakdown structure to project completion. Risk management is an ongoing process, not a static event. For a complete description of the risk management process beyond early identification of risks, See the description of the "Risk Management Process" for Milestone 2.

Process Description

Risk management begins during the Conceptual Phase of a project, when little information is available, and continues throughout the project as increasing amounts of information are available.

Several factors are essential for the success of risk management:

- The support and involvement of senior management in the management process
- The designation of functional representatives with subject matter expertise in various risk areas
- A predetermined set of procedures to guide the management process
- Ongoing documentation of risk information

The details of the process depend on project complexity and the environment in which the project is being undertaken.

The initial process includes:

- Identifying potential risks and likelihood of those risks materializing. Those risks can come from shortcomings in technology maturity, supplier capability, design maturation, staff or contractor capacity, resource shortcomings or any number of other places. Since an alternative for addressing the capability need has not yet been selected, the identified risks should address potential solutions.
- Estimating the likelihood of and the potential consequence from the risks involved and determining the resulting severity (low, moderate, high) of the risk.
- Describing when risk plans will be developed in the next phase.

Input

The initial risk report completed during the conceptual phase has few inputs: the needs analysis, the resource/affordability analysis, and independent cost estimate.

Output

The process produces a risk report that is essential for the sponsor commitment and will support decision making at the milestone review.

Roles and Responsibilities

The project manager is responsible for managing the project risk management process

Initial Risk Report Template

PROJECT NAME

INITIAL RISK REPORT

VERSION __

Supporting Milestone 1

[Date]

****

Submitted by:

_____   _____

Signature Block/Date   Organizational title and project role

Approved by:

_____   _____

Signature Block/Date   Organizational title and project role

The project sponsor approves the report. Team members should also sign off on the report.

> ### *Description*
>
> *The initial risk reports documents the results of the risk management process during the Conceptual Phase. Since a solution has not yet been selected for satisfying the mission need, in this early phase the emphasis of the risk management process is identifying the potential, major risks to the project. This will be used to help the sponsor and the MRB decide if a project is worth pursuing.*

SECTION 1: PROJECT DESCRIPTION

1.1   **Project Description** - Provide a clear and concise paragraph (a few sentences) that summarizes the project.

⬧*Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have those other documents available a general understanding of the project.*

SECTION 2: RISK ASSESSMENT PROCESS

2.1.   **Procedures** - List the methods you will be using to identify and assess risk.

2.2.   **Assessment Team** - List the individuals assigned to the assessment team, their particular assignment on the assessment, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: RISK MANAGEMENT

3.1.   **Risk Identification and Scoring –** describe identified and scored risks, including the likelihood of their occurrence and the damage that would occur if the risks were realized. Bureaus should follow Departmental guidance on the classification of risk found at [link to Departmental guidance

3.2.   **Risk Planning –** discuss risk management plans if the project proceeds past Milestone 1. Include timelines.

Sponsor Commitment Template

PROJECT NAME

SPONSOR COMMITMENT

VERSION __

Supporting Milestone 1

[Date]

****

Submitted by:

_____   _____

Signature Block/Date   Organizational title and project role

Approved by:

_____   _____

Signature Block/Date   Organizational title and project role

The Project Sponsor must approve the Sponsor Commitment

> ### *Description*
>
> *Reviewers at each milestone review need to have a firm assurance that the program sponsor understands what is being proposed and is prepared to commit the staff, finances and other resources to see to the project's successful completion. This commitment, first made for the project initiation approval milestone, needs to be reaffirmed at each subsequent milestone review. The document, while a simple document, needs to be as explicit as possible about the financial and staff resources being committed and any limitations to that commitment. The Sponsor Commitment document should become more detailed at each milestone.*
>
> *In the Conceptual Phase, the Sponsor Commitment is a summary document that is also the Project Charter.*

SECTION 1: SPONSOR COMMITMENT

1.1.   **Project Title and Description** - Describe the project. This description does not have to contain the detail provided in other documents

1.2.   **Brief Description of the Need** – Provide a brief summary of the need information contained in the Mission Need Statement. Include a description of what would constitute project success.

1.3.   **Summary of the milestone schedule** – Provide a high-level summary of the planned schedule for meeting the next milestone as well as the expected timing of the entire project.

1.4.   **Project Sponsor's Commitment to and Planned Involvement in the Project -** Include a description of the sponsor's planned approach to the project.

1.5.   **Resources to be devoted to moving project to next milestone** – Specify the amount of each type of resources (personnel, dollars, facilities, contractors, etc.) being committed to reaching the next milestone.

Resource Type	Amount and Source of the Resource

⬖ *Expectation: The project should not move forward without the resources to reach the next milestone. Reviewers need to understand exactly what the Sponsor is willing and able to commit to the project. This description should provide sufficient detail.*

1.6.   **Any Applicable Conditions to the Sponsor's Commitment** – Specify any limits or requirements governing the commitment.

1.7.   **Project Management Team** – List any assigned members of the project team with their responsibilities, to include the project manager.

PROJECT DEFINITION PHASE // MS2

Process Descriptions
&
Document Templates

Capabilities Requirements Development Process

Purpose

No process is more important to the success of a project than the development of sound project requirements. Failure to involve the appropriate people in this process, failure to make sound requirements judgments, and failure to control the requirements process are leading causes of project failure. The purpose of this process is to provide the project the best chance of success by ensuring that the stakeholders agree on what is needed and that the requirements are realistic.

Process Description

Capabilities requirements describe the properties of a system, product, or service. Process requirements describe activities performed by an organization and the constraints on that organization. Business requirements describe what business processes are needed. Regardless of what type of project is being described, the following processes need to be undertaken to define sound requirements.

- Analyze the Mission Need Statement and Analysis of Alternatives to get a thorough understanding of the need. That analysis should include consideration of:
  - What is the range of solutions to meet the need?
  - What is the timeframe for the project?
  - Who are the major stakeholders?
- Plan the participation of stakeholders
- Gather information from stakeholders about their needs. This information can be gathered through a variety of means and techniques including:
  - Interviews
  - Group interviews
  - Prototyping a process
  - Developing use cases to elicit stakeholders agreement on the requirements
- Analyze the requirements to ensure requirements are not unclear, incomplete, ambiguous or contradictory
- Document requirements in a manner that can be tracked. In some instances, requirements can best be described through use cases. In other instances, requirements need to be described as a list of particulars. In all cases, requirements need to be subject to a process which will allow control, tracking and monitoring of changes over time.
- Thoroughly vet all requirements with the stakeholders
- Revise the requirements as needed

Input

Mission Need Statement and CONOPS

Output

The output of this process is the capabilities requirements document.

Roles and Responsibilities

The project manager is responsible for managing the capabilities requirements process.

Capabilities Requirements Document Template

PROJECT NAME

CAPABILITIES REQUIREMENTS DOCUMENT

VERSION __

Supporting Milestone 2

[Date]

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Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor and the project manager approve the Capabilities Requirement Document.

Description

The Capabilities Requirements Document sets the context of the gaps to be addressed to guide the development and evaluation of alternative design concepts. It is derived from the Mission Need Statement, CONOPS, and early sponsor analysis. It describes the missions, operational capabilities, location constraints, temporal constraints, operating environment, and system constraints that competing system concepts must satisfy. This initial requirement document expresses the requirements statement before capabilities are removed or lessened due to cost trade-offs, assessment of system component technical maturity and risk, or other factors.

The Capabilities Requirements Document serves as the sponsor's guidance to the project office specifying the issues to address in the Analysis of Alternatives. Using the Capabilities Requirements Document, and working closely with the sponsor's representative, the project manager conducts feasibility studies and/or trade-off studies. The functional requirements are analyzed, system concepts synthesized, concepts evaluated (in terms of cost, mission and environmental impacts), and the best system concept(s) selected and described.

When the Capabilities Requirements Document is refined into the Procurement Requirements Document during the Project Development Phase, it becomes the formal statement of the operational performance and related parameters for the proposed concept or system. It is an essential building block for a statement of work. It describes a system in terms of a range of acceptable and desirable standards of performance. As the consolidation of these performance measures in one document, as well as requirements for the support and maintenance of the system, the Requirements Document serves as the source document for a host of systems engineering activities, ongoing requirements analysis, and cost estimating to ensure the success of the project. Once approved, it serves as a "contract" between the sponsor and the project manager.

SECTION 1: INTRODUCTION

1.1. **Background** – Describe the project in general terms, without describing specific solutions. When replacing an existing system or facility (owned or leased), include information on age, service life, maintenance requirements and costs, and system availability to meet project standards that need to be solved by the replacement.

- *Facilities Specific:* include utility and operating costs

1.2. **Timeframe** – Identify required timeframes for initial operations; full operations; and any other important project dates, to include significant dependencies on other projects, events.

- *Facilities Specific:* include procurement, construction, and commissioning timeframes

1.3. **Constraints** - List all constraints that influence or mandate specific requirements for the project described in this document, including explanations for each constraint.

Constraint	Explanation

SECTION 2: REQUIREMENTS

◈ *Expectation: The capabilities requirements described below and developed in the project definition phase will be quite different from those developed or refined for the procurement requirements document during the project development phase. During the project definition phase, requirements will be at a high level and may be quite general. During the project development phase, the requirements will be quite detailed and specific. The requirements document approved at milestone 3 will form the basis for the statement of work and project procurement.*

2.1. **Mission Requirements** – Describe the mission requirements as outlined in the Mission Need Statement.

2.2. **Operating Requirements** – Describe the requirements derived from the (physical) operating environment, the functions required to perform the mission, and interoperability requirements.

- *Facilities Specific:* include staff housing plan, location, and facility physical security

Requirement	Description
Operating Requirements	
Mission Requirements	
Interoperability Requirements	

2.3 **Concept of Operations** – Outline the operating scenarios as described in the CONOPS. Scenarios should describe each of the operating schemes in terms of the anticipated activities.

- *Facilities Specific: if replacing existing facilities, describe their disposition*

2.4 **Minimum Acceptable Standards of Performance** – Describe in general terms any thresholds and optimum performance goals known at this point. These will be updated to specific standards in the Procurement Requirements document.

- *Facilities Specific:* Include facility goals for (environmental) sustainability, space utilization, climate adaptation, energy efficiency, GHG reduction, and O&M cost savings.

2.5 **Effectiveness Requirements** – Describe the system operational capabilities necessary to effectively satisfy the mission performance requirements.

- *Facilities Specific:* Include facility requirements necessary for meeting efficiency standards and certifications.

2.6   Suitability Requirements – Address suitability requirements as described below:

2.6.1   Design – Identify whether the project is constrained or unconstrained (e.g., existing, developmental, non-developmental, off-the-shelf, etc.); advanced technology or proven technology.

- o *Facilities Specific:* e.g. Buildings 5000 square feet and over must meet sustainability principles. New office areas will average 170 usable square feet per person or less.

2.6.2   Supportability and Sustainment – Describe any unusual or known specific support requirements needed for the project, with particular emphasis on those which could drive cost, schedule, or performance.

Support Requirement	Effect on the Project

2.6.3   Reliability – Specify the required duration or probability of failure-free performance under stated conditions.

Condition	Required Reliability

2.6.4   Availability – Specify the probability that the item or system, to include equipment and personnel, are in an operable and committable state at the start of a mission.

2.6.5   Maintainability – Describe any unusual or known maintainability constraints or requirements. Identify any support activities required to maintain the system.

- o *Facilities Specific:* Identify expected maintenance funding required to sustain the facility for the duration of the mission requirement.

Maintainability Requirement	Needed Support

2.6.6   Survivability – Identify conditions under which the required system is expected to survive a hostile environment (natural or man-made) while still accomplishing its mission(s). Software survivability must address security, fault tolerance, safety, reliability, reuse, performance, verification, and testing to recover from attack, failure, and accident.

- o   *Facilities Specific:* Include climate adaption conditions and ICCS security requirements

2.6.7   Personnel, Safety, Human Factors, and Environmental Considerations – Identify the personnel necessary to safely operate, maintain, and support a similar existing system, staffing goals, physical requirements for personnel, unique personnel or safety requirements, any unique human factors requirements (such as human machine interfaces or ergonomic requirements, and environmental considerations.

2.6.8   Training – Describe the required training approach.

2.6.9   Testing Equipment– Describe the needed testing equipment needed.

SECTION 3: KEY PERFORMANCE PARAMETERS

3.1.   **Initial Key Performance Parameters (KPPs)** – Define the characteristics of the project. Initial Key Performance Parameters are generally associated with operational gaps stated in the Mission Need Statement, critical issues derived from the CONOPS, and overarching guidance provided by higher authority.

- o   *Facilities Specific:* Include facility sustainability performance requirements as well as KPP and relationships shared between Facilities, IT and asset procurement.

Key Performance Parameters	Source

Concept of Operations (CONOPS) Template

PROJECT NAME

CONCEPT OF OPERATIONS (CONOPS)

VERSION __

Supporting Milestone 2

[Date]

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Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The CONOPS Report is approved by the sponsor. But the sponsor should only approve the CONOPS when there is a clear understanding that all relevant parties have contributed to its creation and are in agreement in its conclusions.

> *Description*
>
> *The Concept of Operations (CONOPS) is developed during the Project Definition Phase and describes the operational view of a required capability from the user's perspective. It communicates high-level, conceptual, future business and mission operations to project sponsors, end-users, planning and design teams, and other stakeholders. Specifically it provides the Framework for the development of an operational capability. It permits stakeholders to assess solution alternatives in the context of "real-world" (scenario-based) operational environments. The CONOPS is a formal document that describes how an asset, system, or capability will be used and supported.*

SECTION 1: CAPABILITY NEED

1.1.   **Required Mission(s) and Need(s) (from Mission Needs Statement)** – Identify the required mission(s) in functional terms. Describe capabilities required to accomplish the mission. Describe the capabilities independently of whether or not they are currently being performed. Do not specify capabilities in terms of assets, equipment or other means that might satisfy the need; i.e., state the capability (need), not the solution (equipment).

1.2.   **Capability Gap** – Describe the capability gaps between the capabilities required to perform the mission but not currently possessed by the organization and are not planned to be provided by existing programs. If applicable, include a brief description, at a high level, of the capabilities and gaps in the context of how the organization currently perform the missions as well as what other existing and planned systems are conducting the same or similar missions or performing the same or similar functions. Assess why it is not possible to perform this mission with existing capabilities and resources by showing that the existing systems cannot provide the required capability.

1.3.   **Scenarios** - Describe the role of the asset or system, how it will interact with external entities (both inside and outside the organization) in various modes and how key internal interfaces or key internal capabilities are used. That is, how does the asset or system dynamically perform to deliver mission outputs or provide capability? Scenarios are one way to gain insight into how a capability solution will perform and fit into the processes, activities, organizations, personnel, procedures, environment, threats, constraints, assumptions, and support involved in responding to the mission(s).

⬥ *Expectation: Scenarios are one way to gain insight into how a capability solution will perform and fit into the processes, activities, organizations, personnel, procedures, environment, threats, constraints, assumptions, and support involved in responding to the mission(s). These should be a series of "stories" which will allow all readers to understand how this asset or system will operate in the real world.*

SECTION 2: OPERATIONS AND SUPPORT DESCRIPTIONS

2.1.   **Missions (Primary/Secondary)** – List, in priority order if possible, each of the missions that the solution will contribute to or perform. Indicate if it is a main (primary) mission or a subsidiary need that the project will fulfill (secondary mission). This section provides linkage to the Mission Need Statement, lays the foundation for scenario development, and informs development of the Capabilities Requirements Document.

Mission	Priority (primary/secondary)

2.2.   **Users and Other Stakeholders** – List and briefly describe the various groups of people/user classes who will interact with the asset. Factors that distinguish a user class include common responsibilities, skill levels, work activities, and modes of interaction with the asset, capability, service, or system. In this context, a user is anyone who interacts with the existing system, including operational users, data entry personnel, system operators, operational support personnel, system maintainers, and trainers. It also includes non-operators who are using the output of the asset or system.

Users	Description of Use

2.3.   **Policies, Assumptions, and Constraints** – List any policies, assumptions or constraints (external requirements that dictate an action, thus restricting freedom of action) that apply to the current or proposed asset or system.

2.4.   Operational Description – Briefly describe, from a user-oriented perspective, the proposed solution (asset, capability, service, or system), its general employment/operation, and its organizational setting. The operational description includes:

2.4.1   *Operating Concept* – a description, sometimes graphical, showing the major, interactive participants/players/subsystems and their interrelationships.

2.4.2   *Employment Modes* – the general configurations and methods of operation in various situations or environments. For an operational asset, these may include: mission execution; transit; contingency operations; training. For an IT system, they may include: routine use; maximum user loading; emergency use (e.g., when normal power sources are down); downloading data; uploading data; real-time operations.

2.4.4   *Operating Environment* – the conditions and environment, both natural and artificial, in which the system will operate. This includes geographic areas and environmental conditions.

2.4.5   *Threats and Hazards* – the hazards (natural) and threats (manmade) that the asset or system may face.

2.4.6   *Interoperability with Other Elements* – how the asset or system will be integrated into the Bureau structure that is forecast to exist at the time the asset or system is fielded, information exchange interfaces with other internal or external organizations; as well as the general public.

2.5.   **Mission Support Description** – Identify the different support modes that the asset or system could be in. Mission success depends upon two equally important components: Operations and Support. While operations are initially described in the Mission Need Statement, support of the asset or system is first described in the CONOPS.

2.6.   **Potential Impacts** – Describe anticipated operational, mission support and other organizational impacts the proposed asset, capability, or system will have on the user, acquirer, developer, and support and

maintenance organizations. These impacts may include, among others: changes in interactions and interfaces with other organizations; change in procedures; use of new data sources; changes in quantity, type, and timing of data to be input to the system; changes in data retention requirements; new modes of operation; addition or elimination of responsibilities or positions; need for training or retraining; changes in infrastructure, including real property/facilities and services; and changes in number, skill levels, position identifiers, or location of personnel in various modes of operation.

User/Organization	Impact

2.7.   **CONOPS Development Team** – List the individuals and their organizations that contributed to this document so that follow-up contacts can be made and so the sponsor can be assured of full organizational representation.

Team Member	Organization

Identification/Analysis of Alternatives Process

Purpose

The Identification and Analysis of Alternatives (AOA) is an analysis method used to provide a systematic decision making process to identify and document the most resource efficient method of satisfying an identified need. It includes evaluation of the effectiveness of the alternative solutions as well as estimates of their lifecycle costs. The AOA assesses the advantages and disadvantages of alternatives being considered, including the sensitivity of each alternative to possible changes in key assumptions or variables. The results of the analyses are used to give decision makers a basis for choosing the best solution to meet their mission need.

Process Description

- Establish the study team
- Determine the scope of the alternatives and the assumptions/ground rules
- Identify effectiveness and performance measures
- Analyze the alternatives based on identified measures and estimated costs
- Write the AOA report

An AOA consists of analyses of alternative solutions to an identified mission capability gap. It involves the use of trade studies, identification of rough order of magnitude lifecycle cost for each viable alternative, and a Cost-Benefit Analysis for each viable alternative to establish the return on investment measure. In order to be considered viable, an alternative must satisfy the Mission Need Statement and align with (or have) a viable Concept of Operations.

A minimum of three viable alternatives should be identified, to include the existing asset or system solution (status quo). When an alternative is an existing asset, capability, or technology demonstrator, an evaluation of relevant safety and performance records and costs should be included.

While more than three alternatives may be identified, only the top three most effective, viable, and affordable alternatives (including status quo) should be fully examined in the AOA. The alternatives are usually conceptual solutions that satisfy the identified capability gap. In order to properly conduct the AOA, there needs to be a tight coupling between the Mission Need Statement, the Concept of Operations, and the analyses performed to evaluate the various alternatives.

The analyses conducted during the AOA (e.g., trade studies, modeling, simulation, and experimentation) must be completed at a sufficient level of resolution to clearly show the effectiveness, suitability, and rough order of magnitude lifecycle costs of each of the alternatives considered. At a minimum, the AOA shall include an assessment of the technical maturity of the capability or asset, and technical and other risks; an examination of capability, interoperability, and other advantages or disadvantages. It is important to identify costs that will allow discrimination among alternatives. The achievable level of analysis must be balanced against the fact that project level information on alternative costs may not be readily available at this point.

Input

Mission Need Statement, Concept of Operations

Output

The AOA process and results are documented in a formal, written Analysis of Alternatives Report provided to decision makers and the Milestone 2 Review Board.

Roles and Responsibilities

Project manager conducts AOA

Analysis of Alternatives Report Template

PROJECT NAME

ANALYSIS OF ALTERNATIVES REPORT

VERSION __

Supporting Milestone 2

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The AOA Report is approved by the sponsor.

SECTION 1: STATEMENT OF MISSION NEEDS

1.1.   Background – Provide a summary of the relevant studies/analyses that were accomplished prior to initiating the analysis of alternatives process.

Study/Analysis	Descriptions and Conclusions

1.2.   Scope – Describe the nature of the possible alternative solutions to be considered.

Alternative	Description

◈ *Expectation: The alternatives should not be limited to the preferred option and "straw men." The options should reflect the breadth of realistic options and reflect "thinking outside the box."*

1.3.   AOA Management - Include an outline the organization and management approach for the analysis of alternatives including the study team members.

◈ *Expectation: The study team members should include individuals with independent perspectives.*

1.4.   Assumptions and Ground Rules - Describe the following:

1.4.1   Scenarios – Identify and describe the scenarios for employment of the alternatives. The scenarios should be derived from the CONOPS and augmented by more detailed information as appropriate.

1.4.2   Risks – Identify any risks to which the alternative will be exposed and/or be required to counter as per the CONOPS.

1.4.3   Physical Environment – Describe any environmental factors that may impact operations (e.g., climate, weather, or terrain) based on the CONOPS.

1.4.4   Assumptions – Identify the most significant (i.e. fundamental) assumptions to be made in the course of the analysis and any potential impact on the results. The description of these assumptions should be at a very high level for the items with the most influence on the Analysis.

1.4.5   Constraints – Identify any constraints or limitations of the analysis and any potential impact on the results.

SECTION 2: ALTERNATIVES

2.1.   **Description of Alternatives** – Identify and provide a detailed description of each possible alternative analyzed. Identify the legacy baseline (current system and its funded improvements) that is being replaced, if applicable. When an alternative is the status quo (existing asset, capability, or technology demonstrator); an evaluation of relevant safety, performance records and costs should be included.

SECTION 3: ANALYSIS

3.1.   **Effectiveness Analysis** – Analyze the effectiveness of the alternatives using measures of effectiveness which describe the mission utility of the capability in operationally meaningful terms. They typically derive from detailed operational analyses and are qualitative in nature.

3.2.   **Performance Analysis** – Analyze the performance of the alternatives using measures of performance that are quantitative measures of system characteristics.

3.3.   **Cost Analysis** – Briefly summarize the techniques and data sources to be used in development of the lifecycle cost estimate, e.g., indexes, parametric, cost estimating relationships and models, learning curves, etc. The most recent cost estimate should be attached to the AOA as an appendix. If a Cost-Benefit Analysis is required (e.g., for Capital Planning and Investment Control), briefly summarize the techniques and data sources for this information. Costs should be shown in constant dollars—specific conversion factors should be provided by the budget office.

3.4.   **Risk Analysis** – Analyze the major risks associated with each alternative, including assessment of the likelihood and consequence, determination of the risk severity, and assessment of existing key controls for each risk.

3.5.   **Assessment of Preferred Alternative** - Summarize the attributes of the selected alternative.

Requirements Traceability Process

Purpose

The purpose of the requirements traceability process is to document requirements throughout the lifecycle of a project, ensuring staff and leadership can trace the origin of a requirement back to its source. It captures all requested changes, who requested the change, the disposition of the change, and the resulting changed requirement. A sound requirements traceability process:

- Ensures that requirements are related to identified needs
- Helps control changes in requirements – who requested, who approved and why
- Aids in testing project deliverables
- Provides an added tool for procurement officials to check proposed procurement actions while developing the statement of work
- Maintains a record of the project which is especially important for projects of long duration with inevitable staff changes

This is an ongoing process throughout the life of the project.

Process Description

The process begins when a need is initially identified and any requirement developed must be tied to an identified need. While the process can vary considerably depending on the complexity of the project, there are some common steps:

- The original need must be captured in a manner that permits it to be tracked throughout the project lifecycle.
- As requirements are defined to meet those needs, they need be tracked with links made back to the original need.
- As changes are proposed to requirements they need to be documented:
  - o Who is proposing the change and why – the rationale
  - o What is the resolution of the proposed change
  - o Who is approving the change
  - o What impact does the proposed change have on the entire project, the CONOPS, the Project Management Plan, and the Project Baseline?

The process must permit the tracking both forward as changes are proposed and backward from the delivered capability to the original need. A number of methods are available for documenting the requirement traceability process:

- For relatively simple projects, simple numbering standards may suffice.
- A traceability matrix can be used to capture the links between individual functional requirements and system artifacts. Such matrices can be done with spreadsheet or word processing applications.
- Most complex projects require additional tools to perform requirements traceability. There are Commercial-Off-the-Shelf (COTS) software packages which perform this function. A relational data base is usually required for a project of any complexity. Such a data base will permit documenting the interrelationships of requirements.

Input

Capabilities Requirements Document

Output

Requirements traceability will provide needed control to the requirement document and will aid in all aspects of project management.

Roles and Responsibilities

The project manager is responsible for the Requirement Traceability Process

Resource Requirements Process

Purpose

The purpose of the resource requirements process is to capture the resource needs for all of the alternatives under consideration. This includes the elements of costs for all of the alternatives under consideration as defined and analyzed.

Process Description

The process is not unlike the resource/affordability analysis performed during the project conceptual phase. This analysis focuses on all resources, including those not considered in the project cost estimating process, such as personnel, facilities, etc. The analysis must cover all alternatives under consideration so the best alternative is selected.

This process is performed by the project office and may require expertise from outside the organization to complete the analysis.

All information about the project needs to be assembled and analyzed:

- What are the alternatives under consideration?
- What is the timeframe for the project under each alternative?
- Who are the major stakeholders?

For each alternative, information about the current and projected resources needed during the lifecycle of the project must be assembled such as:

- Technical expertise within and available to the organization
- Capacity for project management
- Available real property/facilities and other material support
- Adequacy of staffing
- Contracting capability

The information gathered must be arrayed for each alternative so that:

- The analysis of alternatives can incorporate all resources required for each alternative
- Risk management can include the availability of non-dollar resources
- The project plan includes additional resources needed for the project.

Input

The initial input into this process is the resource/affordability analysis performed during the project conceptual phase to help inform the project sponsor commitment to the project. The resource requirements process is dependent on other processes in the project definition phase, especially the capabilities requirements development, analysis of alternatives, and project cost estimating processes. These processes are interdependent and must be done in conjunction with one another.

Output

The output of the resource requirements process supports the analysis of alternatives (identifying the cost of each alternative) and is an essential input into the project planning process and the risk report update.

Roles and Responsibilities

The project manager is responsible for managing the resource requirement process.

Project Planning Process

Purpose

Project planning is the integration and coordination of various subsidiary planning processes which results in a project management plan The planning tools developed in the project planning process include all those components of a project plan that allow the project manager to monitor and control project scope, cost, schedule, and quality.

Project planning synthesizes information from an analysis of capabilities requirements, resource requirements, risk information, and cost estimates and develops a project baseline, an acquisition strategy and a project management plan. It provides a structure and an implementation approach to ensure a project can be successfully managed to completion.

Process Description

Project Planning begins with a thorough analysis of the products of other processes. One deliverable of this process will be a Project Management Plan that will be used to monitor and control the project, to make adjustments to the ongoing project planning process, and to measure the progress of the project. Another primary deliverable of the project planning process is an Acquisition Strategy that conveys the program objectives, direction, and means of control, based on the integration of strategic, technical, and resource concerns. The Project Baseline is also a deliverable of the project planning process.

The process begins by developing answers to many questions:

- What is the project scope in measurable terms?
- What is the best way to achieve the project requirements?
- What are the required steps to complete this project?
- What are the elements of each step?
- What resources are required for each step?
- How long will each step take?
- What dependencies are involved with the various steps?
- What are the risks involved in each step?
- How can the risks be treated?
- What is the best way to manage this project?
- What gateways can be developed to judge project progress?
- How can requested and required changes be managed and tracked?
- How best can responsibilities for each project step be assigned?
- Given the dimensions of the project, what is the best acquisition strategy?

General agreement among the stakeholders with the answers to the questions above will permit the drafting of a Project Baseline, a Project Management Plan and an Acquisition Plan. The drafting of these documents should flow directly from the Project Planning Process.

Input

Requirements definitions, risk information, cost estimates and analyses of resource requirements.

Output

The document outputs of the Project Planning Process include the CONOPS, the Project Baseline, the Project Management Plan, and the Acquisition Strategy. Additionally, the planning process informs the sponsor commitment.

Roles and Responsibilities

The project manager bears primary responsibility for managing the Project Planning Process, but all the stakeholders impacted by the project must be involved in the process as well. Early involvement of the full complement of stakeholders ensures that requirements are fully and correctly defined and that adequate resources adequate are committed, to successful execution of the project.

Project Management Plan Template

PROJECT NAME

PROJECT MANAGEMENT PLAN

VERSION __

Supporting Milestone 2

[Date]

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Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The project manager and sponsor approve the Project Management Plan.

Description

A Project Management Plan (PMP) is a formal, approved document that defines how the project will be executed, monitored and controlled. It may be a summary document or a detailed document and may be composed of one or more subsidiary management plans and other planning documents. In any case, it draws on many of the processes undertaken and documents generated to this point in the project. The objective of a project management plan is to define the approach to be used by the Project team to deliver the intended management scope of the project.

The PMP establishes procedures for the overall management of the approved project. It provides the Framework to define the activities/tasking, responsibilities, and the sequence of events. It is the project manager's blueprint for managing the project.

The PMP provides centralized authority and control over all technical, business, and risk management aspects of the project. It provides the project team members and support organizations with a clear understanding of what is required of them, and when it is required, so they can work together with clarity of purpose.

The PMP is a living document that is updated each time an essential element changes.

SECTION 1: BACKGROUND

1.1.   **Introduction** – Briefly summarize the mission description, technical approach, and Concept of Operations.

1.2.   **Project Organization and Governance Structure** – Describe how this effort will be organized and will be controlled. Include the roles and responsibilities of the key staff.

1.3.   **Stakeholders** - List the individuals and organizations that will be affected by the project and how the project will affect them.

Stakeholder	Impact of Project

SECTION 2: PROJECT BASELINE

2.1.   **Project Baseline** – As described in the Project Baseline Document, provide the original scope, cost and schedule. The project's baseline must be completely defined and documented before the project execution and control activities can begin.

⬧ *Expectation: The entire Work Breakdown Structure does not need to be reproduced here. But a summary of the information in the project baseline document needs to be presented here so that the scope of the activities that need to be managed is clear.*

SECTION 3: Technical Readiness Assessment

3.1. **Technical Readiness Assessment (if applicable)** – Based on the Technology Readiness Assessment Report, provide an assessment of the maturity of technologies to be employed in the project and the risk inherent in less than fully mature technologies.

Technology	Assessment

SECTION 4: PROJECT CONTROL

◈ *Expectation: The goal of the sections below is to provide a clear plan for managing the project that all participants will understand. All aspects of the project must be managed and controlled and everyone must understand their role.*

4.1. **Cost, Technical, Schedule, and Acquisition** – Summarize the approach that will be used to control the costs and technical aspects of the project, maintain the project schedule and approach for any procurements

.

◈ *Expectation: Each of these subjects (approach, costs, technical aspects, schedule, and procurements) should be treated individually within the context of the overall plan.*

4.2. **Independent Reviews** – Describe how independent reviews of the project will be provided and the schedule for such reviews (see independent review process description).

4.3. **IT Security Reviews** - Detail how IT security will be reviewed and how this project will meet the IT requirements of OMB Circular A-ll.

4.4. **Change Management** - Outline the methods that will be used to maintain control of changes to requirements, costs, schedule, etc.

4.5. **Quality Assurance** - Describe how the project quality will be monitored beyond the role of independent reviews.

4.6 **Risk Management** – Describe, in summarized terms from the Risk Report, how risks will be managed.

Project Cost Estimate Process

Purpose

The project cost estimate provides the foundation for the Department's business decisions concerning project affordability at each milestone. It provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular project.

Process Description

Developing a quality project cost estimate is essential to successfully manage a project within cost and affordability guidelines. In order to improve cost estimates, the project manager is expected to develop a project cost estimate and fund a parallel Independent Cost Estimate. During the Project Definition Phase, the project team is still analyzing alternative solutions, and each of the viable alternatives will require a project cost estimate.

The first part of the cost estimating process is for the program office to develop a Cost Analysis Requirements Descriptions (CARD) document. This is a common description of the technical and programmatic features of a project and is used as the basis for developing project estimates and independent cost estimates.   The CARD is a complete description of the system whose costs are to be estimated; it is intended to define the program to a sufficient level of detail such that no confusion exists between the many parties who may be concerned with estimating the program's cost. It is a living document that is updated as a project matures.

The *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP has detailed information on developing a cost estimate. It can be found on the GAO website at: http://www.gao.gov/new.items/d093sp.pdf.

The process of developing a project cost estimate involves the following:

- Meeting with responsible technical officials to ensure a common understanding of cost elements
- Using a project work breakdown structure (WBS) to link schedule, requirements, costs, and risks
- Maintaining a record of the procedures, ground rules and assumptions, data, methodology, environment, and events that underlie the cost estimate
- Collecting data from historical sources and the use of professional cost estimators using appropriate cost models
- Developing project manager's cost estimate
- Ensuring the cost estimate can be replicated and substantiated by an independent third party. It should be complete and well organized so that a cost estimating professional can use the documentation, by itself, to assess and reconstruct the estimate.
- Conducting sensitivity, risk and uncertainty analysis
- Using ranges of costs, especially in areas involving new or untested technologies or methods
- Documenting the estimate
- Validating the estimate via an independent cost estimate developed by an organization external to the project and supporting line office
- Reconciling differences between project manager and independent estimates. Present estimate to decision maker
- Updating estimates (including independent) at subsequent decision points

Input

A Work Breakdown Structure (WBS) is required to ensure clear understanding of the extent of the project to be estimated.

Output

The process produces a cost estimate that is essential for the sponsor commitment and will support decision making at each milestone review and will support the project through its lifecycle. It is an essential element of project planning, which feeds the project baseline and the project management plan. It is also a starting point for the budget process.

Roles and Responsibilities

The project manager is responsible for managing the cost estimation process.

Independent Cost Estimate Process <mark>[insert CARD]</mark>

Purpose

An Independent Cost Estimate (ICE) is an estimation of the project's lifecycle costs performed by an entity independent of the project office responsible for the project. The entity conducting the review may be within the project's organization or external to it, but may not be directly linked to the project. This estimate is used to validate the cost estimating performed by the project office and by the program manager to improve the understanding of expected resource needs, to better inform the project sponsor who must commit to the project, and to improve the program cost estimates that underlie the project management plan, budget submissions and the project baseline.

Process Description

The processes involved in developing the independent cost estimate are the same as the project cost estimate, except the cost analyst is an independent reviewer not directly linked to the project who has skills in cost estimation. This individual may or may not be part of the organization, but must not be involved in the project. In making the cost estimate, the independent estimator uses the CARD developed for the project cost estimate and takes all available information about the project, breaking down the effort into its component parts and making estimates of cost involved in each based on industry knowledge.

As with the project cost estimate, the ICE must provide a cost review of all the viable alternatives. This, however, may be presented as a single report, as shown in the Independent Cost Estimate Report Template.

The *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP has detailed information on developing a cost estimate. It can be found on the GAO website at: http://www.gao.gov/new.items/d093sp.pdf.

Input

Work Breakdown Structure, Project Cost Estimates, capabilities requirement development, Requirements Document, Concept of Operations

Output

The process produces all estimated costs for developing, acquiring and supporting the capability being pursued.

Roles and Responsibilities

The project sponsor is responsible for seeing that the independent cost estimates are developed.

Independent Cost Estimate Report Template

PROJECT NAME

INDEPENDENT COST ESTIMATE

VERSION __

Supporting Milestone 2

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The leader of the Independent Cost Estimate Process is responsible for developing the Independent Cost Estimate Report. The Project Manager must approve the Report.

Description

The purpose of independent cost reviews is to provide decision makers with an analysis of potential costs from people who have the needed expertise but no stake in the project.

Independent reviews of cost are performed during a project's conceptual phase as well as later phases. An Independent Cost Review performed during the conceptual phase provides only a rough estimate of the project's potential costs, usually in the form of a range of possible costs. It is designed to better inform the project sponsor of the potential scale of the project. The Independent Cost Estimate done during project definition and project development phases assess ever more certain cost elements and provide needed checks on the cost estimates developed by the project team.

The Independent Cost Estimate Report should reflect the differences in the data available. A report stemming from an initial independent cost review will be general recitation of the level of costs possible given the known dimensions of the project. There will be no project developed cost estimates to analyze.

Reports stemming from Independent Cost Estimates made during the definition and development phases of a project will consider cost estimates developed by the project staff and present an independent assessment of those estimates and discuss any differences the assessment team might have with those estimates. The reports are intended to point out the weaknesses and risks in the estimates made by those close to the project.

SECTION 1: PROJECT DESCRIPTION

1.1 **Project Description**- Provide a clear and concise paragraph (a few sentences) that summarizes the project.

◈ *Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have available those other documents a general understanding of the project. In the report dealing with the conceptual phase, this description will be very general as no specific option is yet under consideration.*

SECTION 2: INDEPENDENT COST ESTIMATING PROCESS

2.1. **Procedures** - List the methods you used in making the estimate.

2.2. **Assessment Team** - List the individuals assigned to the independent cost estimate team, their particular assignment on the team, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: REPORT ELEMENTS DURING CONCEPTUAL PHASE

3.1. **Program Scope** – Describe the range of approaches to the project.

◈ *Expectation: The intent of this section is to have independent assessors present their view of the range of options for meeting the mission need.*

Approach	Description

3.2. **Range of Estimates** – For each of the approaches described in Section 3.1, provide a range of estimates for completing the project

◈ *Expectation: Clearly, these are to be rough order of magnitude (ROM) estimates.*

Approach	Low Estimate	High Estimate

3.3. **Factors Affecting Range of Estimates** – Discuss what will affect those estimates and the degree of confidence you have in those estimates

Approach	Major Factors Affecting Estimates

SECTION 4: REPORT ELEMENTS DURING THE DEFINITION AND DEVELOPMENT PHASES

4.1. **Comparison of Lifecycle Estimates ($ 000)** – Summarize using the table below the project cost estimates of the project staff and those of the independent cost estimate process.

◈ *Expectation: This is a summary of what is usually a great deal of data. Depending on the project, that data might be provided in an attachment to this report. If the project is to be funded over more than two years, additional year detail should be provided.*

Cost Element	Project Estimate	Independent Estimate	Difference	% Difference
Budget Year				
Development				
Procurement				
O&S				
Total BY				
Budget Year+1				
Development				
Procurement				
O&S				
Total BY+1				
Total Project				
Development				
Procurement				
O&S				
Total Project				

4.2. **Discussion of the Comparison of Lifecycle Estimates**– Discuss the differences between the project estimate and the ICE and the potential causes of those differences.

4.3. **Degree of Confidence**– Discuss how confident assessors are in the ICE and the reasons for that confidence.

4.4. **Risks to the Program**– Discuss what risks to the program are represented by the differences in the estimates.

4.5. **Summary**– Provide a summary of the conclusions of the ICE.

Independent Review Process

Purpose

The purpose of an independent review is to provide the project manager and milestone decision makers with an assessment of the project by technically and managerially qualified people who have not been part of the project and who do not have a stake in the project. That assessment, based on the project's documentation and on the judgments of these experts, can point out weaknesses and risks to the project not evident to those directly involved with the project. The reviewers have no decision role in the project. Their work is to inform people who do have decision roles.

Process Description

Upon the initial project approval (MS 1), the project sponsor and the project manager should plan for independent reviews during the project definition and project development phases. Those independent reviews may be continued throughout the lifecycle of the project.

The process should include the following:

- The establishment of the independent review teams
    - That can assess the technical aspects of the project
    - That can assess the managerial and programmatic aspects of the project
    - That may come from the Bureau or Department but not from the program or project
    - That may come from other agencies or organizations with the needed technical or managerial skills and experiences.
- Schedule and procedures for the reviews
- The actual conduct of the reviews
    - Reviewers should have available to them all project documentation
    - Reviews should begin with reviews of the lower technical levels of the project and proceed upward so that reviewers have the benefit of the technical assessments
    - High level reviews should focus on the ability of the organization to meet the schedule and budget goals - the ability of the project organization to perform.
- The reviewer should develop a report to be presented to the project manager and sponsor and to be incorporated into the milestone review documentation.

Input

All documentation about the project developed by the time of the independent review will be useful to the reviewers. An independent review performed during the Project Definition Phase will use documents that are not as mature as one done in the Project Development Phase.

Output

The output of this process is an independent analysis of the project. It may be in the form of a report, a briefing, or other communications media. It informs the sponsor commitment and is available to the project manager to assist in project management, planning, and risk management.

Roles and Responsibilities

The sponsor and the project manager are responsible for managing the external independent review process.

Project Baseline Template

PROJECT NAME

PROJECT BASELINE

VERSION __

Supporting Milestone 2

[Date]

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Submitted by:

_____   _____

Signature Block/Date   Organizational title and project role

Approved by:

_____   _____

Signature Block/Date   Organizational title and project role

Concurrences

_____   _____

Signature Block/Date   Organizational title and project role

The project manager develops and the project sponsor approves the Project Baseline.

Description

The project's baseline is used to establish a plan for the project and to measure how performance deviates from the plan. Performance measurement can only be meaningful if the project begins with a realistic baseline.

A project's baseline is defined as the original scope, cost and schedule. The project's baseline must be completely defined, documented and authorized before the project execution and control activities can begin.

Upon execution, the project's baseline is put under change control to help evaluate any change and its impact on the project. Meaningful performance measurements can only be made when the scope, cost and schedule are maintained under strict change control. Following an approved change, a new baseline is redefined. The project baseline is also referred to as the performance measurement baseline.

Because of the detail contained involved and the need for change control, project management software is usually necessary to develop and manage the Project Baseline.

SECTION 1: STATEMENT OF MISSION NEEDS

1.1. **Project Objectives** – Provide a clear and concise paragraph (a few sentences) that describes the purpose of the effort

1.2. **Project Components** – List the basic structure of the project

1.3. **Project Limits** - Describe the parameters of the effort that will describe success and beyond which it will not contribute

SECTION 2: SCHEDULE PERFORMANCE BASELINE

2.1. **Work Breakdown Structure (WBS)** – Provide detailed information about what is required and is used to link the schedule, requirements, costs, and risks.

⬖ *Expectation: The work breakdown structure provides a common Framework for the natural development of the overall planning and control of a project and is the basis for dividing work into definable increments from which the statement of work can be developed and technical, schedule, cost, and labor hour reporting can be established. It is a tree structure, which shows a subdivision of effort required to complete a project. The WBS is developed by starting with the end objective and successively subdividing it into manageable components in terms of size, duration, and responsibility (e.g., systems, subsystems, components, tasks, subtasks, and work packages) which include all steps necessary to achieve the objective. There are many sources of information about creating and utilizing a WBS. Here is a link to a Department of Energy primer on the subject: http://science.energy.gov/~/media/opa/powerpoint/Final_Module_2.ppt*

2.2. **Schedule** – Include the length of time required and the starting and ending dates of activities

Activity	Starting and End Dates

2.3   **Activity Descriptions -** Provide dependencies and the responsibilities for activities

Activity	Dependencies and Responsibilities

SECTION 3: COST PERFORMANCE BASELINE

3.1.   **Projected Costs** – Provide costs over time for project components; should be detailed and tie to the activities in the work breakdown structure

Activity	Cost Over Time (format will vary depending on project structure)

SECTION 4: RISK BASELINE

4.1   **Risk Statements** – Clear, concise statements describing (A) the event or chain of events that may have a negative impact on project performance and (B) the potential impact on project performance in an IF A THEN B format.

4.2   **Risk Characteristics** – A qualitative or quantitative characterization of the likelihood each risk may occur and the consequence should it occur. This is typically accomplished using a 5x5 risk matrix scoring methodology. It should also include the timeframe in which action is required to treat the risk.

4.3   **Risk Severity** – A determination of low, moderate, or high risk severity given the likelihood and consequence of each risk. This is typically accomplished using a 5x5 risk severity matrix methodology.

4.4   **Risk Priority** – A subjective assessment of the priority ranking of identified risks determined by the project manager.

4.5   **Controls** – Assessment of the effectiveness of existing controls which may reduce likelihood or impact of risk.

4.6   **Risk Treatment** – A plan for treating each risk and additional risk treatment alternatives considered.

4.7   **Contingency Plan and Trigger** – A backup plan to execute should the risk treatment plan fail, a metric for measuring the success of the risk treatment plan, and a metric value (trigger) that indicates when the contingency plan should be enacted.

4.8   **Risk Manager** – Individual responsible for treating each risk.

Technical Readiness Assessment Process

Purpose

A Technical Readiness Assessment (TRA) is not required for all projects, only for those alternatives incorporating new or evolving technologies.   It is an assessment of how far technology development has proceeded. It is not a pass/fail exercise, and is not intended to provide a value judgment of the technology developers or the technology development program. A TRA can:

- Identify the gaps in testing, demonstration and knowledge of a technology's current readiness level and the information and steps needed to reach the readiness level required for successful inclusion in the project;
- Identify at-risk technologies that need increased management attention or additional resources for technology development; and
- Increase the transparency of management decisions by identifying key technologies that have been demonstrated to work or by highlighting immature or unproven technologies that might result in increased project risk.

Process Description

Project managers have found that the TRA assessment process is useful in managing technology maturity. The TRA process highlights critical technologies and other potential technology risk areas that require the project manager's attention. The TRA can help identify immature and important components and track the maturity development of those components.

There is no single method to performing a Technical Readiness Assessment. Often the initial assessment is done by individuals within the organization but not directly involved in the project. In many instances, the assessment is done by an independent group of experts. Sometimes, if there is some question about the facts there may be both an internal and external assessment prepared.

The process includes:

- Establishing a review team with the appropriate level of technical expertise
- Developing a review schedule
- Determining Critical Technical Elements (CTE)
- Providing team members with all the necessary background documentation
- Gathering evidence of technical maturity, especially of the CTEs
- Evaluate the problems of integrating the technologies both with each other and with the project as a whole
- Reaching consensus on the level of technical maturity integration
- Documenting the results of the assessment

Input

The Capabilities Requirements Development process is the primary input to the Technical Readiness Assessment. However, most of the inputs are external to the other processes of the Framework and involve the technical expertise needed to evaluate new or evolving technologies.

Output

The end result is a Technical Readiness Report, describing the development maturity and integration of the technology in question in a manner commonly understood and used by decision makers. The assessment process informs risk management, the preliminary requirements document, and sponsor commitment.

Roles and Responsibilities

The project manager is responsible for managing technical assessment process.

Technical Readiness Report Template

PROJECT NAME

TECHNICAL READINESS REPORT

VERSION __

Supporting Milestone 2

[Date]

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Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The Technology Readiness Report is approved by the technical experts who prepare it and by the project manager.

Description

The end product of the Technical Readiness Assessment Process is a report that will guide the project manager, independent reviewers, and those performing the milestone review in making key project decisions and crafting a sound project plan.

SECTION 1: ASSESSMENT PROCESS

1.1   Assessment Team Members - Identify the members of the assessment team and the technical expertise each brought to the team.

Team Member	Technical Expertise

1.2   Assessment Activities – Describe the assessment activities undertaken by the team.

Assessment Activity	Description

1.3.   Consensus Building - Describe the process the team used to reach consensus and any significant dissenting opinions.

◈ *Expectation: There is not expectation that everyone will agree on each assessment. What is sought here is an overall description of the process and the outcome.*

SECTION 2: ASSESSMENT

2.1.   Basic Principles observed and reported – List, in priority order if possible, each of the missions that the solution will contribute to or perform. Indicate if the mission is primary or secondary. This section provides linkage to the Mission Need Statement, lays the foundation for scenario development, and informs development of the Preliminary Requirements Document.

Mission	Priority (primary/secondary)

2.2. **Technology Concept and/or Application Formulated** – List and briefly describe the various groups of people/user classes who will interact with the asset. Factors that distinguish a user class include common responsibilities, skill levels, work activities, and modes of interaction with the asset, capability, service, or system. In this context, a user is anyone who interacts with the existing system, including operational users, data entry personnel, system operators, operational support personnel, system maintainers, and trainers. It also includes non-operators who are using the output of the asset or system.

Users	Description of Use

2.3. **Analytical and Experimental Critical Function and/or Characteristic Proof of Concept** – List any policies, assumptions or constraints (external requirements that dictate an action, thus restricting freedom of action) that apply to the current or proposed asset or system.

2.4. **Component and/or Breadboard Validation in Laboratory Environment –** Briefly describe, from a user-oriented perspective, the proposed solution (asset, capability, service, or system), its general employment/operation, and its organizational setting. The operational description includes:

2.4.1 *Operating Concept* – a description, sometimes graphical, showing the major, interactive participants/players/subsystems and their interrelationships.

2.4.2 *Employment Modes* – the general configurations and methods of operation in various situations or environments. For an operational asset, these may include: mission execution; transit; contingency operations; training. For an IT system, they may include: routine use; maximum user loading; emergency use (e.g., when normal power sources are down); downloading data; uploading data; real-time operations.

2.4.4 *Operating Environment* – the conditions and environment, both natural and artificial, in which the system will operate. This includes geographic areas and environmental conditions.

2.4.5 *Threats and Hazards* – the hazards (natural) and threats (manmade) that the asset or system may face.

2.4.6 *Interoperability with Other Elements* – how the asset or system will be integrated into the Bureau structure that is forecast to exist at the time the asset or system is fielded, information exchange interfaces with other internal or external organizations; as well as the general public.

2.5. **Component and/or Breadboard Validation in Relevant Environment** – Identify the different support modes that the asset or system could be in. Mission success depends upon two equally important components: Operations and Support. While operations are initially described in the Mission Need Statement, support of the asset or system is first described in the CONOPS.

2.6. **System/subsystem Model or Prototype Demonstration in a Relevant Environment** – Describe anticipated operational, mission support and other organizational impacts the proposed asset, capability, or system will have on the user, acquirer, developer, and support and maintenance organizations. These impacts may include, among others: changes in interactions and interfaces with other organizations; change in procedures; use of new data sources; changes in quantity, type, and timing of data to be input

to the system; changes in data retention requirements; new modes of operation; addition or elimination of responsibilities or positions; need for training or retraining; changes in infrastructure, including real property/facilities and services; and changes in number, skill levels, position identifiers, or location of personnel in various modes of operation.

User/Organization	Impact

2.7.   **System Prototype Demonstration in an Appropriate Environment** – List the individuals and their organizations that contributed to this document so that follow-up contacts can be made and so the sponsor can be assured of full organizational representation.

Team Member	Organization

2.8.   **Actual System Completed and "Fight Qualified" Through Test and Demonstration** – List the individuals and their organizations that contributed to this document so that follow-up contacts can be made and so the sponsor can be assured of full organizational representation.

2.9.   **Actual System "Proven" Through Successful Mission Operation**– List the individuals and their organizations that contributed to this document so that follow-up contacts can be made and so the sponsor can be assured of full organizational representation.

Risk Management Process

Purpose

The purpose of risk management is to improve the chances of having a successful project. Adequately managing risk permits project managers to devote the appropriate resources to those risks that have the greatest potential to damage the project.

Risk management is an organized, systematic risk-informed decision making discipline that proactively identifies and scores, analyzes, plans, treats, monitors, reports, and communicates risk. In organizing the risk management process, the project manager focuses on project objectives, bringing to bear an analytical basis for risk management decisions and the ensuing management activities, and a framework for dealing with uncertainty. The DOC ERM process is shown in the following figure.

Risk management begins with developing risk consequence criteria that map to the primary project objectives. For example, cost and schedule are always used to measure project risk impact. The project should also consider key technical objectives and impacts to ongoing operations.

The next risk management step is the process of identifying and analyzing program areas and critical technical processes to identify risk events, which are conditions that hold a potential of negatively impacting the project. Project personnel then score the program risks by determining the likelihood of their occurrence and consequence if they do occur, and then prioritizes them for treatment actions.

The project should also assess the adequacy of existing controls which may reduce the likelihood or consequence of the risk. Risk treatment plans are monitored over time to ensure they are effective. If not, contingency plans or enacted. Risk information is regularly reported to the project manager. Throughout the project, the importance of risk management and relevant risk information is communicated to all stakeholders.

Risk can be associated with any aspect of a project (e.g., technology maturity, supplier capability, design maturation, performance against plan) and may affect any element of the acquisition process from project initiation through all tasks in the work breakdown structure to project completion. Risk management is an ongoing process, not a static event.

The Department has instituted a robust enterprise risk management program with detailed risk management guidance. This guidance is applicable to project risk management and should be followed to ensure consistency in risk management execution across the Department.

Process Description

Risk management begins during the conceptual phase of a project, when little information is available, and continues throughout the project as increasing amounts of information are available.

Several factors are essential for the success of risk management:

- The support and involvement of senior management in the management process
- The designation of functional representatives with subject matter expertise in various risk areas
- A predetermined set of procedures to guide the management process
- Ongoing documentation of risk information

The details of the process depend on project complexity and the environment in which the project is being undertaken.

The process includes:

- Identifying the risks and likelihood of those risks materializing. Those risks can come from shortcomings in technology maturity, supplier capability, design maturation, staff or contractor capacity, resource shortcomings or any number of other places.
- Estimating the likelihood of and the potential consequence from the risks involved and determining the resulting severity (low, moderate, high) of the risk.
- Ranking both the risks and the potential consequences. The Department's methodology for assessing and managing risks is provided at: <provide a link here to OPERM's document>.
- Documenting strategies for treating those risks, focusing on those with the highest ranking and the alternative risk treatment strategies considered
- Treating the risks using one or more of the options for addressing risks:
    - Accept
    - Watch
    - Mitigate
- Monitoring risks as the project progresses
- Reporting risks both as part of project management and as part of the Department's overall Enterprise Risk Management approach.

Input

The initial risk report completed during the conceptual phase has few inputs: the needs analysis and the resource/affordability analysis and independent cost estimate. Updates to the risk report will have other inputs including the requirements documents, the technology readiness assessment (if applicable), and more detailed cost estimates.

Output

The process produces a risk report that is essential for the sponsor commitment and will support decision making at each milestone review and will support the project through its lifecycle. It is an essential element

of project planning, which feeds the project baseline and the project management plan. It is also feeds the budget process. The risk report should be regularly updated in order to track risks throughout the project lifecycle.

Roles and Responsibilities

The project manager is responsible for managing the project risk management process

Risk Report Template

PROJECT NAME

RISK REPORT

VERSION __

Supporting Milestone 2

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor and the project manager approve the report. Team members should also sign off on the report.

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role
Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor and the project manager approve the report. Team members should also sign off on the report.

SECTION 1: PROJECT DESCRIPTION

1.1   **Project Description** - Provide a clear and concise paragraph (a few sentences) that summarizes the project.

◈*Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have available those other documents a general understanding of the project.*

SECTION 2: RISK MANAGEMENT PROCESS

2.1.   **Procedures** - List the methods you will be using to manage risk.

2.2.   **Assessment Team** - List the individuals assigned to the assessment team, their particular assignment on the assessment, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: RISK MANAGEMENT

3.1.   **Risk Identification and Scoring -** identified and scored risks, including the likelihood of their occurrence and the damage that would occur if the risks were realized. Bureaus should follow Departmental guidance on the classification of risk found at [link to Departmental guidance].

3.2.   **Risk Assessment** – the severity of a risk, the effectiveness and efficiency of risk related controls, assigned responsibility for managing the risk, and the subjective priority ranking of the risk. Also includes the assessment of existing controls which may reduce the likelihood or consequence of the risk.

3.3.   **Risk Treatment**– planned or recommended strategies for treating those risks focusing on those with the highest rankings.

3.4.   **Risk Monitoring** – identify key risk metrics that used to monitor the effectiveness of risk treatment plans, as well as triggers for contingency plans. On a regular basis, evaluate key risk metrics to determine if risk treatment plans and existing controls are effective and efficient or determine if triggers were exceeded and contingency plans should be invoked.

SECTION 4: RISK REVIEW

4.1   **Risk Actions** - a report of actions taken or changes in risk conditions since the last report

4.2   **Risk Review** - description of the deliberations, findings, conclusions, and major dissenting opinions

Acquisition Strategy Process

Purpose

The primary purpose in developing an acquisition strategy is to minimize the time and cost of satisfying an identified, validated need, consistent with common sense, sound business practices federal regulations, and statute. The acquisition strategy evolves through an iterative process, supporting milestone 2 and 3, and becomes increasingly more definitive in describing relationships of the essential elements of the project acquisition.

The acquisition strategy includes the critical events which govern the management of the program. The event-driven acquisition strategy explicitly links program decisions to demonstrated accomplishments in development, testing and initial production. The acquisition strategy process is performed throughout the project lifecycle.

Process Description

The acquisition strategy process is a comprehensive, integrated method of identifying the acquisition approach and describing the business, technical, and support strategies that an organization will follow to manage program risks and meet program objectives. The acquisition strategy should define the relationship between the acquisition phases and work efforts, and key program events such as decision points, reviews, contract awards, test activities, production lot/delivery quantities, and operational deployment objectives.

The acquisition strategy process ensures that all stakeholders, drivers, risks and alternatives for a successful acquisition are considered and a sound acquisition strategy is developed. The process brings together the efforts of all personnel responsible for an acquisition so their work is coordinated and integrated through a comprehensive plan for fulfilling the agency's need in a timely manner and at a reasonable cost.

The process begins by consolidating information gathered in other processes associated with the project such as the mission need analysis, cost estimating, analysis of alternatives, risk management analysis, etc. That consolidation forms the background and objectives section and the strategic factor section of the acquisition strategy. In those first two sections of the strategy, a picture of the acquisition and the environment in which it is to be accomplished is described. Among the considerations:

- Type of requirement
- Market research – that include small business considerations
- Adequate resource availability
- Cost, schedule and performance risk management
- Contract type approach
- Management approach
- Funding types
- Project requirements
- The acquisition strategy concludes with a detailing of the strategy for implementing the acquisition:
  - What contractual vehicles are considered and selected as being most appropriate and effective?
  - What potential sources are there for this procurement?
  - What contracting approach will be used for this procurement?
  - How will the contract be administered?

Input

Analysis of Alternatives, Mission Need Statement, Cost Estimates, Risk Report

Output

The process produces an Acquisition Strategy Report that will be updated for each milestone review. With each milestone there will be an increasing level of specificity as more data becomes available and more decisions are made.

Developing an acquisition strategy is a key component of acquisition planning. Acquisition planning must acknowledge a variety of risks and their impact on acquisition strategy elements. The Federal Acquisition Regulation (FAR) requires acquisition planning for all federal procurements. Acquisition plans are execution-oriented and tend to contain more contracting-related detail than an acquisition strategy. Acquisition plans flow from the acquisition strategy and normally relate to a singular contractual action, whereas an acquisition strategy covers the entire project and may reflect the efforts of multiple contractual actions.

Roles and Responsibilities

The project manager and contracting officer shall develop an acquisition strategy tailored to the particular acquisition project. This strategy is the project manager's overall plan for satisfying the mission need in the most effective, economical, and timely manner.

Acquisition Strategy Template

PROJECT NAME

ACQUISITION STRATEGY REPORT

VERSION __

Supporting Milestone 2

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Coordinated by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The Acquisition Strategy should be submitted by the project manager, coordinated by the project sponsor, and approved by the senior acquisition element (OAM for high-profile projects).

Description

The acquisition strategy is a roadmap for the acquisition portion of the project investment lifecycle. It describes the overall approach for acquiring the capabilities needed to fulfill the objectives of a major investment. It is a capstone document drawing from other documents developed for milestone review such as the risk plan, analysis of alternatives.

The primary function of an acquisition strategy is to document the factors, approach, and assumptions that will guide acquisition decisions related to the investment. The development of an acquisition strategy allows for identification of risks and consideration of tradeoffs needed to treat those risks. Acquisition strategy development is an iterative process allowing updates and refinements, including modified risk treatment approaches, as circumstances change.

The acquisition strategy should convey the overall purpose and need for the asset or system, how and where it will be used, the overall plan and schedule for the acquisition, competition and contracting considerations, and the overall business and technical management approach. The acquisition strategy is a living document that is updated at each phase of an acquisition. Some of the elements below may not be available at Milestone 2 and will be included in the follow-on acquisition strategy at Milestone 3.

The acquisition plan, attached as an annex to the strategy, is the detailed plan that addresses technical, business, management, and other significant considerations that will control an acquisition. See FAR 7.105 for further guidance on the contents of written acquisition plans.

SECTION 1: BACKGROUND AND OBJECTIVES

1.1. **Purpose** – State the reason the acquisition strategy is being prepared or updated (e.g., milestone review, change in strategy, etc.).

1.2. **Description** – Provide a brief summary of the project using information found in the Project Plan. A single paragraph with a basic description is adequate.

- *Facilities Specific:* How is the facility need(s) being satisfied?

1.3. **Statement of Need**

1.3.1. Summarize the requirement using the "Mission Need Summary" found in the Mission Need Statement.

1.3.2. Summarize the expected operational mission of this program, using the Missions (Primary/Secondary) from the CONOPS. Indicate how the program fits into current and future integrated architectures.

- *Facilities Specific:* Identify if this is replacing an existing owned, permitted, or leased facility, including General Services Administration (GSA) controlled space.

◈ *Expectation: specify the required performance characteristics or performance standards being acquired and how they are related to the*

1.4. **Applicable Conditions** – Describe the significant conditions or constraints affecting the investment such as budget, political and technology environment, project management capabilities, etc.

Applicable Condition	Impact on Project

1.5. **Costs** – Described cost goals for the procurement, including rationale

  1.5.1.   Development Costs. Provide a separate consideration of development costs.

  1.5.2.   Lifecycle Costs. Discuss how lifecycle cost will be considered.

- Facilities Specific: Includes facility or land acquisition; Furniture, Fixtures, and Equipment (FF&E); maintenance; utilities; other operating costs; recapitalization of building systems; and offsets to space growth and related costs. All should be based on expected useful life of real property asset and systems.

1.6. **Risk** – List the top five risks as identified in the Risk Report. The severity rating will be determined by using the ERM risk matrix

Identified Risk	Severity Rating	Strategy (research, accept, watch, avoid, mitigate, elevate, or delegate)

1.7. **Milestones** – Address the major acquisition milestones.

SECTION 2: STRATEGIC FACTORS

2.1. **Market and competitive factors** – Describe the current procurement environment, including the opportunities for small businesses.

- Facilities Specific: Include commercial facility lease market analysis and construction market reviews.

2.2. **Budget and funding factors** – Describe the current and anticipated budget environment. Include a description of funds not directly appropriated such as reimbursable funds or funds transferred from other programs.

2.3.   **Performance and technological factors** – Discuss any anticipated difficulties with this acquisition.

2.4.   **Logistics factors** – Discuss logistical considerations. Include assumptions determining contractor or agency support; the reliability, maintainability, and quality assurance requirements; requirements for contractor data and data rights; and standardization concepts.

- *Facilities Specific*: Include building commissioning, Leadership in Energy and Environmental Design (LEED) certification, land acquisition, move and replication issues and FF&E procurement and installation actions in leases, and offsets to space growth.

2.5.   **Organizational factors** – Discuss the ability of the procurement organization to deliver.

- *Facilities Specific:* include GSA or OU lease procurement office capacity and capabilities.

2.6.   **Acquisition policy factors** – For each contract contemplated, discuss and provide rationale, where applicable, for the following factors:

2.6.2   Performance-based acquisition

2.6.3   Management information system requirements

2.6.4   Government-furnished property and information

2.6.5   Sustainability objectives

2.6.6   Security and privacy considerations

2.6.7   Information Technology accessibility

2.6.8   Organizational conflicts of interest

2.6.9   Intellectual property rights

2.6.10. Inherently governmental functions

SECTION 3: IMPLEMENTATION STRATEGY

3.1.   **Competition** – Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition

- *Facilities Specific:* include building leases

◈ *Expectation: if full and open competition is not contemplated, cite the authority and provide rationale*

3.2. **Major Contracts Planned** – Fill out the following table with information on the major contracts planned

Contract	Purpose	Type	Value	Performance Period	Major Deliverables

3.3. **Potential sources** – Indicate prospective sources of supplies or services, noting any required sources.

3.4. **Contractual type selection** – Discuss the rationale for other than selection of firm, fixed price. Include a discussion on contracting alternatives.

3.5. **Source-selection procedures** – Discuss the source-selection procedures for the acquisition, to include the timing for submission and evaluation of proposals.

3.6. **Contract administration** – Describe how the contract will be administered, including (if required) inspection and acceptance of services.

- *Facilities Specific:* include building leases

ACQUISITION STRATEGY ANNEX A – ACQUISITION PLAN

Note: many of the following elements are also found in the Acquisition Strategy. These need to be expanded with additional details in the Acquisition Plan. The below follows the format of the Acquisition Plan described in FAR 7.105.

A.1.   **Sources** – Indicate prospective sources of supplies or services, noting any required sources.

A.2.   **Competition** – Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition—if different, include a description of the competition for each major component, subsystem, spares, or repair parts. Include description of subcontract competition if applicable.

   ◈ *Expectation: if full and open competition is not contemplated, cite the authority and provide rationale*

A.3.   **Contract Type Selection -** Discuss the rationale for other than selection of firm, fixed price. Include a discussion on contracting alternatives.

A.4.   **Source-selection procedures** – Discuss the source-selection procedures for the procurement, to include the timing for submission and evaluation of proposals.

A.5.   **Procurement considerations** For each contract contemplated discuss and provide rationale, where applicable, for the following factors:

   • Multi-year contracting, options, GSA leasing authority, specific legislation, or other special contracting methods
   • Special clauses, special solicitation provisions, or FAR deviations required
   • For IT, discuss how capital planning and investment control requirements of 40 U.S.C. 11312 and OMB Circular A-130 will be met
   • Proposed strategy for transitioning to firm-fixed-price contracts

A.6.   **Budgeting and Funding** – Describe budget estimates and how they were derived. Include schedule for obtaining funding

A.7.   **Product or Service Description** – Describe choice of product or service, including performance-based acquisition descriptions.

A.8   **Priorities, Allocations, and Allotments** - Describe why the project is needed now. Include mission urgency, but also reasons for urgency if it results in concurrency of development and production or constitutes justification for not providing for full and open competition.

   • *Facilities Specific:* Address lead times for facility leasing and construction.

A.9.   **Contractor Versus Government Performance -** Discuss the rationale for using contractor versus government services. (See OMB Circular A-76 for further explanation).

A.10. **Inherently governmental functions** – Discuss the consideration given to ensuring contractors will not be performing inherently governmental functions. (See FAR Subpart 7.5 for further explanation).

A.11. **Management Information Requirements** – Discuss what management system will be used by the Government to monitor the contractor's effort

A.12. **Make or Buy** – Discuss consideration given to make-or-buy programs

A.13. **Test and Evaluation** – Describe the test program of the contractor and the Government for each major phase of a major system acquisition

A.14. **Logistics Considerations** – Describe the assumptions determining contractor or agency support, reliability/maintainability/quality assurance requirements, requirements for contractor data (including repurchase data) and data rights, their estimated cost, and the use to be made of the data, and standardization concepts

A.15. **Government-Furnished Property** – Indicate government property to be furnished to contractors

A.16. **Government-Furnished Information** – Discuss any Government information, such as manuals, drawings, and test data, to be provided to prospective offerors and contractors

A.17. **Environmental and Energy Conservation Objectives** - Discuss all applicable environmental and energy conservation objectives associated with the acquisition

A.18. **Security Considerations**

- Classified acquisitions - discuss how adequate security will be established, maintained, and monitored
- IT acquisitions – discuss how agency information security requirements will be met
- Contractor access – for routine contractor physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system, discuss how agency requirements for personal identity verification of contractors will be met

A.19. **Contract Administration** – Describe how the contract will be administered, including (if required) inspection and acceptance of services

A.20. **Other Considerations** – As applicable, discuss:

- Standardization concepts
- The industrial readiness program
- The Defense Production Act
- The Occupational Safety and Health Act
- Support Anti-terrorism by Fostering Effective Technologies Act of 2002 (SAFETY Act)
- Foreign sales implications
- Special requirements for contracts to be performed in a designated operational area or supporting a diplomatic or consular mission

- Any other matters germane to the plan not covered elsewhere

A.21. **Milestones for the Acquisition Cycle –** Address the key acquisition milestones, to include:

- Acquisition plan approval
- Statement of work
- Specifications
- Data requirements
- Completion of procurement-package preparation
- Purchase request
- Justification and approval for other than full and open competition where applicable and/or any required D&F approval
- Issuance of synopsis
- Issuance of solicitation
- Evaluation of proposals, audits, and field reports
- Beginning and completion of negotiations
- Contract preparation, review, and clearance
- Contract award

A.22. **Participants –** List the individuals, with contact information, who participated in preparation of the acquisition plan

Sponsor Commitment Template

PROJECT NAME

SPONSOR COMMITMENT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The Project Sponsor must approve the Sponsor Commitment

> ### *Description*
>
> *Reviewers at each milestone review need to have a firm assurance that the program sponsor understands what is being proposed and is prepared to commit the staff, finances and other resources to see to the project's successful completion. This commitment, first made for the project initiation approval milestone, needs to be reaffirmed at each subsequent milestone review. The document, while a simple document, needs to be as explicit as possible about the financial and staff resources being committed and any limitations to that commitment. The Sponsor Commitment document should become more detailed at each milestone.*

SECTION 1: SPONSOR COMMITMENT

1.1.   **Project Title and Description** - Describe the project. This description does not have to contain the detail provided in other documents

1.2.   **Brief Description of the Need** – Provide a brief summary of the need information contained in the Mission Need Statement. Include a description of what would constitute project success.

1.3.   **Summary of the milestone schedule** – Provide a high-level summary of the planned schedule for meeting the next milestone as well as the expected timing of the entire project.

1.4.   **Project Sponsor's Commitment to and Planned Involvement in the Project -** Include a description of the sponsor's planned approach to the project.

1.5.   **Resources to be devoted to moving project to next milestone** – Specify the amount of each type of resources (personnel, dollars, facilities, contractors, etc.) being committed to reaching the next milestone.

Resource Type	Amount and Source of the Resource

◈ *Expectation: The project should not move forward without the resources to reach the next milestone. Reviewers need to understand exactly what the Sponsor is willing and able to commit to the project. This description should provide substantial detail.*

1.6.   **Any Applicable Conditions to the Sponsor's Commitment** – Specify any limits or requirements governing the commitment.

PROJECT DEVELOPMENT PHASE // MS3

Process Descriptions
&
Document Templates

Requirements Traceability Process

Purpose

The purpose of the requirements traceability process is to document requirements throughout the lifecycle of a project, ensuring staff and leadership can trace the origin of a requirement back to its source. It captures all requested changes, who requested the change, the disposition of the change, and the resulting changed requirement. A sound requirements traceability process:

- Ensures that requirements are related to identified needs
- Helps control changes in requirements – who requested, who approved and why
- Aids in testing project deliverables
- Provides an added tool for procurement officials to check proposed procurement actions while developing the statement of work
- Maintains a record of the project which is especially important for projects of long duration with inevitable staff changes

This is an ongoing process throughout the life of the project.

Process Description

The process begins when a need is initially identified and any requirement developed must be tied to an identified need. While the process can vary considerably depending on the complexity of the project, there are some common steps:

- The original need must be captured in a manner that permits it to be tracked throughout the project lifecycle.
- As requirements are defined to meet those needs, they need be tracked with links made back to the original need.
- As changes are proposed to requirements they need to be documented:
  - Who is proposing the change and why – the rationale
  - What is the resolution of the proposed change
  - Who is approving the change
  - What impact does the proposed change have on the entire project, the CONOPS, the Project Management Plan, and the Project Baseline?

The process must permit the tracking both forward as changes are proposed and backward from the delivered capability to the original need. A number of methods are available for documenting the requirement traceability process:

- For relatively simple projects, simple numbering standards may suffice.
- A traceability matrix can be used to capture the links between individual functional requirements and system artifacts. Such matrices can be done with spreadsheet or word processing applications.
- Most complex projects require additional tools to perform requirements traceability. There are COTS software packages which perform this function. A relational data base is usually required for a project of any complexity. Such a data base will permit documenting the interrelationships of requirements.

Input

Requirements Document

Output

Requirements traceability will provide needed control to the requirement document and will aid in all aspects of project management.

Roles and Responsibilities

The project manager is responsible for the Requirement Traceability Process

Budget Planning Process

Purpose

In the initial phases of the project, several measures of cost have been developed, one by the project staff and another in an independent cost estimate. As project planning process progresses, those cost estimates along with the details of the project are turned into budget documents. These budget documents are used to plan and manage project costs, as well as justify and secure resources through the Department, OMB, and Congress.

Process Description

Project Budget

Developing a budget for managing the project begins with a thorough understanding of:
- Cost estimates from the prior milestone
  - Internal project cost estimates
  - The independent cost estimates
- The current cost projections
- The work breakdown structure (WBS) developed for the project and included in the project baseline
- The risks that may impact the project cost estimates

Estimates need to be developed for each of the tasks and subtasks in the WBS
- Individuals familiar with all project aspects need to be involved in developing the budget
- Estimates have to take into consideration all costs, including staff, material, real property/facilities, and contractor costs including estimates for shipping, storage and tax costs
- Estimates can be fixed price or cost per unit depending on the task
- If the project is of long duration, appropriate consideration to inflation needs to be included. The Budget Office can provide appropriate factors to use
- Budget estimates need to include a contingency reserve for risk impacts and other unknown developments. The greater the technical risk and uncertainty and the length of the project, the greater the contingency factor needs to be

Project Budget Justification

The format and timing of budget justification materials are provided by the Department and Bureau budget offices and may vary each year.

These materials should be developed according to the instructions from the budget office by the individuals in the best position to develop them.

As a general rule, the justification material will include:
- The need for the project first articulated during the conceptual phase
- The alternatives considered and the rationale for the final selection
- The outline of the project plan and the acquisition strategy
- The project budget estimates over time

The justification materials may need to include OMB 300 document that includes a formal business case.

The budget justification materials will be used initially within the Bureau, then the Department, OMB and Congress. They will be updated at each step and may vary significantly in format and detail.

Input

For developing budget documents to manage the project: cost estimates, Concept of Operations, preliminary requirements document, project baseline, project management plan.

For developing budget requests for the Department, OMB and Congress, also include: acquisition strategy, analysis of alternatives.

Output

The project budget, coupled with the WBS, will be used throughout the project to manage and control costs and to measure progress. It is essential for informing the sponsor commitment. The budget justification materials will be used to secure resources through the Bureau, Department, OMB, and Congress.

Roles and Responsibilities

The project manager is responsible for managing the budget process.

Procurement Requirements Development Process

Purpose

The Procurement Requirements process develops a formal set of requirements leading to a statement of work for a contract. The process will lead to a requirements document that articulates the detailed functional and operational requirements used to design a required system or application, to outline the evaluation criteria for that system, and eventually to define "success" for the project.

Process Description

The development of procurement requirements involves refining the capabilities requirements, writing and prioritizing requirements based on stakeholder needs, and validating requirements.

- Refine capabilities requirements
  - Review Capabilities Requirements document
  - Determine if prototype/demo testing results will affect possible solutions
  - Analyze current business processes and identify requirements associated with existing systems that are applicable to the new project
  - Coordinate with stakeholders to revalidate and refine requirements
    - Can use multiple methods for eliciting clear stakeholder requirements, e.g. brainstorming, meetings, interviews, business case analyses, surveys, review of current systems/applications
  - Review policies and guidance for their affect on requirements for the proposed acquisition
- Develop and prioritize requirements
  - Take general (capabilities-based) requirements and express them in terms of specific , measurable characteristics
  - Identify any non-technical requirements
  - Define constraints for requirements (for testing, verification, and validation)
  - Work with stakeholders to prioritize requirements
- Validate requirements
  - Analyze the environment to determine the impact on requirements (consider mission needs, cost constraints, political considerations, interagency considerations, acquisition strategy)
  - Validate that the requirements are necessary and sufficient to fulfill the mission need
  - Validate that the requirements are feasible and complete
  - Continue to revalidate requirements as the project progresses and environmental factors change or new information is discovered during the execution of the project

Input

Developing the procurement requirements will require input from the Capabilities Requirement Document, Tech Readiness Report, Acquisition Strategy, and the Product Demo/Prototype Report.

Output

The output is the Procurement Requirements Document, which will lead to the development of a statement of work if a contract is required.

Roles and Responsibilities

The project manager is responsible for managing the requirements development process.

Procurement Requirements Template

PROJECT NAME

PROCUREMENT REQUIREMENTS DOCUMENT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor, the procurement official, and the project manager approve the Procurement Requirements Document.

SECTION 1: INTRODUCTION

1.1. **Background –** Describe the project in general terms, without describing specific solutions. When replacing an existing system, include information on age, service life, maintenance time and costs, and system availability to meet project standards that need to be solved by the replacement.

1.2. **Timeframe –** Identify required timeframes for initial operations; full operations; and any other important project dates, to include significant dependencies on other projects, events.

1.3. **Constraints -** List all constraints that influence or mandate specific requirements for the project described in this document, including explanations for each constraint.

Constraint	Explanation

SECTION 2: REQUIREMENTS

◈ *Expectation: The capabilities requirements described below and developed in the project definition phase will be quite different from those developed or refined for the procurement requirements document during the project development phase. During the project definition phase, requirements will be at a high level and may be quite general. During the project development phase, the requirements will be quite detailed and specific. The requirements document approved at milestone 3 will form the basis for the statement of work and project procurement.*

2.1. **Mission Requirements –** Describe the mission requirements as outlined in the Mission Need Statement.

2.2. **Operating Requirements –** Describe the requirements derived from the (physical) operating environment, the functions required to perform the mission, and interoperability requirements.

Requirement	Description
Operating Requirements	

Mission Requirements	
Interoperability Requirements	

2.3   **Concept of Operations –** Outline the operating scenarios as described in the CONOPS. Scenarios should describe each of the operating schemes in terms of the anticipated activities.

2.4   **Minimum Acceptable Standards of Performance –** Describe the thresholds and optimum performance goals for the system and how these will be validated and verified (see explanatory note above).

Performance Standard	Method for validating/verifying

2.5   **Effectiveness Requirements –** Describe the system operational capabilities necessary to effectively satisfy the mission performance requirements.

2.6   **Suitability Requirements –** Address suitability requirements as described below:

     2.6.1   Design – Identify whether the project is constrained or unconstrained (e.g., existing, developmental, non-developmental, off-the-shelf, etc.); advanced technology or proven technology.

     2.6.2   Supportability and Sustainment – Describe any unusual or known specific support requirements needed for the project, with particular emphasis on those which could drive cost, schedule, or performance.

Support Requirement	Effect on the Project

     2.6.3   Reliability – Specify the required duration or probability of failure-free performance under stated conditions.

Condition	Required Reliability

2.6.4   Availability – Specify the probability that the item or system, to include equipment and personnel, are in an operable and committable state at the start of a mission.

2.6.5   Maintainability – Describe any unusual or known maintainability constraints or requirements. Identify any support activities required to maintain the system.

Maintainability Requirement	Needed Support

2.6.6   Survivability – Identify conditions under which the required system is expected to survive a hostile environment (natural or man-made) while still accomplishing its mission(s). Software survivability must address security, fault tolerance, safety, reliability, reuse, performance, verification, and testing to recover from attack, failure, and accident.

2.6.7   Personnel, Safety, Human Factors, and Environmental Considerations – Identify the personnel necessary to safely operate, maintain, and support a similar existing system, staffing goals, physical requirements for personnel, unique personnel or safety requirements, any unique human factors requirements (such as human machine interfaces or ergonomic requirements, and environmental considerations.

2.6.8   Training – Describe the required training approach.

2.6.9   Testing Equipment– Describe the needed testing equipment needed.

SECTION 3: KEY PERFORMANCE PARAMETERS

3.1.   Initial Key Performance Parameters – In the Project Definition Phase, define the characteristics of the project. Initial Key Performance Parameters are generally associated with operational gaps stated in the Mission Need Statement, critical issues derived from the CONOPS, and overarching guidance provided by higher authority.

Key Performance Parameters	Source

3.2.   **Updated Key Performance Parameters –** In the Project Development Phase, describe the capabilities or characteristics considered essential for successful mission accomplishment that this project will fulfill. They should overcome selected capability gaps from the Mission Need Statement and CONOPS and be linked to missions and organizational goals. If applicable, consider Information Systems Interoperability

within and external to the organization, including a detailed list of systems or other capabilities with which the asset or system to be acquired is intended to be interoperable, including an explanation of the attributes of interoperability.

Key Performance Parameters	Source/Interoperability attributes

SECTION 4: GETTING TO A STATEMENT OF WORK

4.1.   **Specifications** – Procurement officials may require additional detail or clearer language of a requirement in the form of a specification that can be incorporated into a Statement of Work directly. In preparation for the milestone 3 review, each of the requirements above that need to be in a Statement of Work should be enumerated (capable of being tracked in the requirements traceability process) and written in clear style that can become part of a Statement of Work.

⬧ *Expectation: The specification has legal significance. It tells potential offerors what they must do to fulfill the Government's requirement. It should be written in such a way as to permit full and open competition. It should be clear and unambiguous.*

Specification Number	Specification

Project Cost Estimate Process

Purpose

The project cost estimate provides the foundation for the Department's business decisions concerning project affordability at each milestone. It provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular project.

Process Description

Developing a quality project cost estimate is essential to successfully manage a project within cost and affordability guidelines. In order to improve cost estimates, the project manager is expected to develop a project cost estimate and fund a parallel Independent Cost Estimate.

The first part of the cost estimating process is for the program office to develop a Cost Analysis Requirements Descriptions (CARD) document. This is a common description of the technical and programmatic features of a project and is used as the basis for developing project estimates and independent cost estimates.   The CARD is a complete description of the system whose costs are to be estimated; it is intended to define the program to a sufficient level of detail such that no confusion exists between the many parties who may be concerned with estimating the program's cost. It is a living document that is updated as a project matures.

The *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP has detailed information on developing a cost estimate. It can be found on the GAO website at: http://www.gao.gov/new.items/d093sp.pdf.

The process of developing a project cost estimate involves the following:

- Meeting with responsible technical officials to ensure a common understanding of cost elements
- Using a project work breakdown structure (WBS) to link schedule, requirements, costs, and risks
- Maintaining a record of the procedures, ground rules and assumptions, data, methodology, environment, and events that underlie the cost estimate
- Collecting data from historical sources and the use of professional cost estimators using appropriate cost models
- Developing project manager's cost estimate
- Ensuring the cost estimate can be replicated and substantiated by an independent third party. It should be complete and well organized so that a cost estimating professional can use the documentation, by itself, to assess and reconstruct the estimate.
- Conducting sensitivity, risk and uncertainty analysis
- Using ranges of costs, especially in areas involving new or untested technologies or methods
- Documenting the estimate
- Validating the estimate via an independent cost estimate developed by an organization external to the project and supporting line office

- Reconciling differences between project manager and independent estimates. Present estimate to decision maker
- Updating estimates (including independent) at subsequent decision points

Input

A Work Breakdown Structure (WBS) is required to ensure clear understanding of the extent of the project to be estimated.   The Cost Analysis Requirements Descriptions (CARD) is developed as a key input to this process.

Output

The process produces a cost estimate that is essential for the sponsor commitment and will support decision making at each milestone review and will support the project through its lifecycle. It is an essential element of project planning, which feeds the project baseline and the project management plan. It is also a starting point for the budget process.

Roles and Responsibilities

The project manager is responsible for managing the cost estimation process.

Independent Cost Estimate Process

Purpose

An Independent Cost Estimate is an estimation of the project's lifecycle costs performed by an entity independent of the project office responsible for the project. The entity conducting the review may be within the project's organization or external to it, but may not be directly linked to the project. This estimate is used to validate the cost estimating performed by the project office and by the program manager to improve the understanding of expected resource needs, to better inform the project sponsor who must commit to the project, and to improve the program cost estimates that underlie the project management plan, budget submissions and the project baseline.

Process Description

The first part of the cost estimating process is for the program office to develop a Cost Analysis Requirements Descriptions (CARD) document. This is a common description of the technical and programmatic features of a project and is used as the basis for developing project estimates and independent cost estimates. The CARD is a complete description of the system whose costs are to be estimated; it is intended to define the program to a sufficient level of detail such that no confusion exists between the many parties who may be concerned with estimating the program's cost. It is a living document that is updated as a project matures.

In making the cost estimate, the estimator uses the CARD and takes all available information about the project, breaking down the effort into its component parts and making estimates of cost involved in each based on industry knowledge. With the diversity of activities within the Department, it may be necessary to secure the assistance of outside experts in individual fields. The quality of a cost estimate will largely be a factor of the skill of the individuals making the estimate and the quality of the project definition as found in the CARD.

As the project proceeds through the Project Definition Phase and the Project Development Phase, the quality of the cost estimates will improve as more detail becomes available.

The independent cost estimate should be made by someone not directly linked to the project who has skills in cost estimation. This individual may or may not be part of the organization, but must not be involved in the project.

The *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP has detailed information on developing a cost estimate. It can be found on the GAO website at: http://www.gao.gov/new.items/d093sp.pdf.

Input

Work Breakdown Structure, Project Cost Estimates, capabilities requirement development, Requirements Document, Concept of Operations, and Analysis of Alternatives Report

Output

The process produces estimates of what the project should cost and should include all estimated costs for developing, acquiring and supporting the capability being pursued.

Roles and Responsibilities

The project sponsor is responsible for seeing that the independent cost estimates are developed.

Independent Cost Estimate Template

PROJECT NAME

INDEPENDENT COST ESTIMATE

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The leader of the Independent Cost Estimate Process is responsible for developing the Independent Cost Estimate Report. The Project Manager must approve the Report.

Description

The purpose of independent cost reviews is to provide decision makers with an analysis of potential costs from people who have the needed expertise but no stake in the project.

Independent reviews of cost are performed during a project's conceptual phase as well as later phases. An Independent Cost Review performed during the conceptual phase provides only a rough estimate of the project's potential costs, usually in the form of a range of possible costs. It is designed to better inform the project sponsor of the potential scale of the project. The Independent Cost Estimate done during project definition and project development phases assess ever more certain cost elements and provide needed checks on the cost estimates developed by the project team.

The Independent Cost Estimate Report should reflect the differences in the data available. A report stemming from an initial independent cost review will be general recitation of the level of costs possible given the known dimensions of the project. There will be no project developed cost estimates to analyze.

Reports stemming from Independent Cost Estimates made during the definition and development phases of a project will consider cost estimates developed by the project staff and present an independent assessment of those estimates and discuss any differences the assessment team might have with those estimates. The reports are intended to point out the weaknesses and risks in the estimates made by those close to the project.

SECTION 1: PROJECT DESCRIPTION

1.1 **Project Description**- Provide a clear and concise paragraph (a few sentences) that summarizes the project.

⬧ ***Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have available those other documents a general understanding of the project. In the report dealing with the conceptual phase, this description will be very general as no specific option is yet under consideration.***

SECTION 2: INDEPENDENT COST ESTIMATING PROCESS

2.1. **Procedures** - List the methods you used in making the estimate.

2.2. **Assessment Team** - List the individuals assigned to the independent cost estimate team, their particular assignment on the team, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: REPORT ELEMENTS DURING CONCEPTUAL PHASE

3.1. **Program Scope** – Describe the range of approaches to the project.

Approach	Description

3.2. **Range of Estimates** – For each of the approaches described in Section 3.1, provide a range of estimates for completing the project

Approach	Low Estimate	High Estimate

3.3. **Factors Affecting Range of Estimates** – Discuss what will affect those estimates and the degree of confidence you have in those estimates

Approach	Major Factors Affecting Estimates

SECTION 4: REPORT ELEMENTS DURING THE DEFINITION AND DEVELOPMENT PHASES

4.1. **Comparison of Lifecycle Estimates ($ 000)** – Summarize using the table below the project cost estimates of the project staff and those of the independent cost estimate process.

Cost Element	Project Estimate	Independent Estimate	Difference	% Difference
Budget Year				
Development				
Procurement				
O&S				
Total BY				
Budget Year+1				
Development				
Procurement				
O&S				
Total BY+1				
Total Project				
Development				
Procurement				
O&S				
Total Project				

4.2.   **Discussion of the Comparison of Lifecycle Estimates**– Discuss the differences between the project estimate and the ICE and the potential causes of those differences.

4.3.   **Degree of Confidence**– Discuss how confident assessors are in the ICE and the reasons for that confidence.

4.4.   **Risks to the Program**– Discuss what risks to the program are represented by the differences in the estimates.

4.5.   **Summary**– Provide a summary of the conclusions of the ICE.

Project Planning Update Process

Purpose

Project planning is the integration and coordination of various subsidiary planning processes which results in a project management plan The planning tools developed in the project planning process include all those components of a project plan that allow the project manager to monitor and control project scope, cost, schedule, and quality.

The planning begun in earlier phases of the project requires continual review and updating throughout the lifecycle of the project.

Process Description

In the Project Development Phase, project planning takes into account all project activities. The updated plan includes changes based on refinements to the project or changes. As the project matures, many things can affect the initial plans, such as: additional information is available, new risks may emerge, external influences may change, requirements may need adjusting, and updated testing may reveal necessary changes to the project. Considerations are:

- Have any of the baselines (cost, schedule, performance, requirements) changed?
- What are the results of the product demo or prototype testing? Have they caused changes to the project?
- What are the latest results of risk management? Have new risks been identified? Have previously identified risks been treated? How have they impacted the project?
- Are there any human resources issues to consider?
- What are the latest results of quality assurance practices? Have any issues been identified? Will they cause changes to the baseline?
- What are the latest impacts of any internal or external project dependencies?
- Are there any communications issues to consider?
- Are there any adjustments that need to be considered before procurement actions?

Input

Project planning requires input from all other project processes as well as external inputs from budget guidance; new policies and guidance from the Department, OMB, and Congress.

Output

The updated project management plan

Roles and Responsibilities

The project manager bears primary responsibility for managing the Project Planning Process, but all the stakeholders impacted by the project must be involved in the process as well. Continued involvement of the full complement of stakeholders ensures that requirements are fully and correctly defined and that adequate resources adequate are committed, to successful execution of the project.

Project Management Plan Template

PROJECT NAME

PROJECT MANAGEMENT PLAN

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The project manager and sponsor approve the Project Management Plan.

SECTION 1: BACKGROUND

1.1.   **Introduction** – Briefly summarize the mission description, technical approach, and Concept of Operations.

1.2.   **Project Organization and Governance Structure** – Describe how this effort will be organized and will be controlled. Include the roles and responsibilities of the key staff.

1.3.   **Stakeholders** - List the individuals and organizations that will be affected by the project and how the project will affect them.

Stakeholder	Impact of Project

SECTION 2: PROJECT BASELINE

2.1.   **Project Baseline** – As described in the Project Baseline Document, provide the original scope, cost and schedule. The project's baseline must be completely defined and documented before the project execution and control activities can begin.

⬦ *Expectation: The entire Work Breakdown Structure does not need to be reproduced here. But a summary of the information in the project baseline document needs to be presented here so that the scope of the activities that need to be managed is clear.*

SECTION 3: Technical Readiness Assessment

3.1. **Technical Readiness Assessment (if applicable)** – Based on the Technology Readiness Assessment Report, provide an assessment of the maturity of technologies to be employed in the project and the risk inherent in less than fully mature technologies.

Technology	Assessment

SECTION 4: PROJECT CONTROL

◈ *Expectation: The goal of the sections below is to provide a clear plan for managing the project that all participants will understand. All aspects of the project must be managed and controlled and everyone must understand their role.*

4.1. **Cost, Technical, Schedule, and Acquisition** – Summarize the approach that will be used to control the costs and technical aspects of the project, maintain the project schedule and approach for any procurements.

   ◈ *Expectation: Each of these subjects (approach, costs, technical aspects, schedule, and procurements) should be treated individually within the context of the overall plan.*

4.2. **Independent Reviews** – Describe how independent reviews of the project will be provided and the schedule for such reviews (see independent review process description).

4.3. **IT Security Reviews** - Detail how IT security will be reviewed and how this project will meet the IT requirements of OMB Circular A-ll.

4.4. **Change Management** - Outline the methods that will be used to maintain control of changes to requirements, costs, schedule, etc.

4.5. **Quality Assurance** - Describe how the project quality will be monitored beyond the role of independent reviews.

SECTION 5: RISK ASSESSMENT

5.1. **Risk Assessment** – Summarize the information contained in the Initial Risk Report.

Risk	Assessment

Project Baseline Template

PROJECT NAME

PROJECT BASELINE

VERSION __

Supporting Milestone 3

[Date]

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Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

Concurrences

_____   _____
Signature Block/Date   Organizational title and project role

The project manager develops and the project sponsor approves the Project Baseline.

Description

The project's baseline is used to establish a plan for the project and to measure how performance deviates from the plan. Performance measurement can only be meaningful if the project begins with a realistic baseline.

A project's baseline is defined as the original scope, cost and schedule, plus approved changes. The project's baseline must be completely defined, documented and authorized before the project execution and control activities can begin.

Upon execution, the project's baseline is put under change control to help evaluate any change and its impact on the project. Meaningful performance measurements can only be made when the scope, cost and schedule are maintained under strict change control. Following an approved change, a new baseline is redefined. The project baseline is also referred to as the performance measurement baseline.

Because of the detail contained involved and the need for change control, project management software is usually necessary to develop and manage the Project Baseline.

SECTION 1: STATEMENT OF MISSION NEEDS

1.1.   **Project Objectives** – Provide a clear and concise paragraph (a few sentences) that describes the purpose of the effort

1.2.   **Project Components** – List the basic structure of the project

1.3.   **Project Limits** - Describe the parameters of the effort that will describe success and beyond which it will not contribute

SECTION 2: SCHEDULE PERFORMANCE BASELINE

2.1.   **Work Breakdown Structure (WBS)** – Provide detailed information about what is required and is used to link the schedule, requirements, costs, and risks.

⬖ *Expectation: The work breakdown structure provides a common Framework for the natural development of the overall planning and control of a contract and is the basis for dividing work into definable increments from which the statement of work can be developed and technical, schedule, cost, and labor hour reporting can be established. It is a tree structure, which shows a subdivision of effort required to complete a project. The WBS is developed by starting with the end objective and successively subdividing it into manageable components in terms of size, duration, and responsibility (e.g., systems, subsystems, components, tasks, subtasks, and work packages) which include all steps necessary to achieve the objective. There are many sources of information about creating and utilizing a WBS. Here is a link to a Department of Energy primer on the subject: http://science.energy.gov/~/media/opa/powerpoint/Final_Module_2.ppt*

2.2.   **Schedule** – Include the length of time required and the starting and ending dates of activities

Activity	Starting and End Dates

2.3 **Activity Descriptions -** Provide dependencies and the responsibilities for activities

Activity	Dependencies and Responsibilities

SECTION 3: COST PERFORMANCE BASELINE

3.1. **Projected Costs** – Provide costs over time for project components; should be detailed and tie to the activities in the work breakdown structure

Activity	Cost Over Time (format will vary depending on project structure)

Independent Review Process

Purpose

The purpose of an independent review is to provide the project manager and milestone decision makers with an assessment of the project by technically and managerially qualified people who have not been part of the project and who do not have a stake in the project. That assessment, based on the project's documentation and judgments of these experts, can point out weaknesses and risks to the project not evident to those directly involved with the project. The reviewers have no decision role in the project. Their work is to inform people who do have decision roles.

Process Description

Upon the initial project approval (MS 1), the project sponsor and the project manager should plan for independent reviews during the project definition and project development phases. Those independent reviews may be continued throughout the lifecycle of the project.

The process should include the following:

- The establishment of the independent review teams, who:
  - can assess the technical aspects of the project
  - can assess the managerial and programmatic aspects of the project
  - may come from the Bureau or Department but not from the program or project
  - may come from other agencies or organizations with the needed technical or managerial skills and experiences.
- Schedule and procedures for the reviews
- The actual conduct of the reviews
  - Reviewers should have available to them all project documentation
  - Reviews should begin with reviews of the lower technical levels of the project and proceed upward so that reviewers have the benefit of the technical assessments
  - High level reviews should focus on the ability of the organization to meet the schedule and budget goals - the ability of the project organization to perform.
- The reviewer should develop a report to be presented to the project manager and sponsor and to be incorporated into the milestone review documentation.

Input

All documentation about the project developed by the time of the independent review will be useful to the reviewers. An independent review performed during the Project Definition Phase will use documents that are not as mature as one done in the Project Development Phase.

Output

The output of this process is an independent analysis of the project. It may be in the form of a report, a briefing, or other communications media. It informs the sponsor commitment and is available to the project manager to assist in project management, planning, and risk management.

Roles and Responsibilities

The sponsor and the project manager are responsible for managing the external independent review process.

Project Demo/Prototype Process

Purpose

Often a project involves technologies or processes that are new. Rather than contract immediately for the production of those new technologies or for the rollout of new processes, it is prudent to contract for trials of these new technologies or processes. A prototype is an early sample or model built to test a concept or process or to act as a thing to be replicated or learned from. It can take many forms. It may involve multiple procurements. The design of the product demonstration(s) or prototype(s) will vary with every project. Software prototypes can go through many versions and the demonstrations can be virtually the same as what a finished product would be. New technology hardware prototypes might be quite crude versions of a finished product. However, the purpose remains the same: to improve the chances of a successful project by testing high risk components.

Process Description

The process involves developing a prototype of the new product or process as part of the procurement process the demonstration of a product or process. This is done in some controlled environment so the performance of the product or process can be thoroughly evaluated.

Based on the evaluation of the demonstration or prototype, the project can be modified, the schedule or budget changed, or further versions of the prototype or demonstration can be developed or performed.

There are a number of potential advantages of prototyping:

- Demonstrate or prove the readiness of new technology
- Provide the proof of concept necessary to secure project approval and funding
- Early visibility of the prototype gives users an idea of what the final system looks like
- Encourage active participation among users and producer
- Cost effective (development costs reduced)
- Help refine and reduce the potential risks associated with the delivery of the system being developed
- Various aspects can be tested and quicker feedback can be obtained from the user

Input

Available information about the technology or process under consideration, including any technology readiness assessment performed.

Output

The output of this process is a Project Demo/Prototype Report, which should provide better solution selection. It also feeds the risk report update, leading to a higher degree of confidence in project success.

Roles and Responsibilities

The project manager is responsible for coordinating the demonstration or prototype activities, determining the requirements to be assessed, and evaluating the technical report.

Product Demo/Prototype Report Template

PROJECT NAME

PRODUCT DEMO/PROTOTYPE REPORT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The Project Demo/Prototype Report is approved by the technical experts who prepare it and by project manager.

SECTION 1: ELEMENTS OF THE REPORT

1.1   **Purpose** - Describe the reasons the demonstration or prototyping was done.

 1.2   **Methodologies** – The description of the methodologies used including but not limited to:

   1.2.2   Who performed the demonstration(s) or produced the prototype(s)

Demonstration or Prototype	Organization or individuals

   1.2.3   Under what conditions was the work done

   ◈ *Expectation: This should be a thorough explanation of what was done and how it was done. In many cases, this may be multiple chapters to the report on various technologies, demonstrations, or prototypes.*

    1.2.4   Who reviewed the demonstration or prototype

Reviewer	Role

1.3.   **Results** - Provide the detailed results for each demonstration or prototype

Prototype or Demonstration	Result

1.4.   **Conclusions** - Include any conclusions that can be drawn from the demonstration or prototype, including recommendations for further demonstrations or prototypes and risk information.

    ⬦ *Expectation: The conclusions section should be written to assist reviewers of the project make decisions about the future direction of the project. No serious concern should go unreported.*

Risk Management Process

Purpose

The purpose of risk management is to improve the chances of having a successful project. Adequately managing risk permits project managers to devote the appropriate resources to those risks that have the greatest potential to damage the project.

Risk management is an organized, systematic risk-informed decision making discipline that proactively identifies and scores, analyzes, plans, treats, monitors, reports, and communicates risk. In organizing the risk management process, the project manager focuses on project objectives, bringing to bear an analytical basis for risk management decisions and the ensuing management activities, and a framework for dealing with uncertainty. The DOC ERM process is shown in the following figure.

Risk management begins with developing risk consequence criteria that map to the primary project objectives. For example, cost and schedule are always used to measure project risk impact. The project should also consider key technical objectives and impacts to ongoing operations.

The next risk management step is the process of identifying and analyzing program areas and critical technical processes to identify risk events, which are conditions that hold a potential of negatively impacting the project. Project personnel then score the program risks by determining the likelihood of their occurrence and consequence if they do occur, and then prioritizes them for treatment actions.

The project should also assess the adequacy of existing controls which may reduce the likelihood or consequence of the risk. Risk treatment plans are monitored over time to ensure they are effective. If not, contingency plans or enacted. Risk information is regularly reported to the project manager. Throughout the project, the importance of risk management and relevant risk information is communicated to all stakeholders.

Risk can be associated with any aspect of a project (e.g., technology maturity, supplier capability, design maturation, performance against plan) and may affect any element of the acquisition process from project initiation through all tasks in the work breakdown structure to project completion. Risk management is an ongoing process, not a static event.

The Department has instituted a robust enterprise risk management program with detailed risk management guidance. This guidance is applicable to project risk management and should be followed to ensure consistency in risk management execution across the Department.

Process Description

Risk management begins during the conceptual phase of a project, when little information is available, and continues throughout the project as increasing amounts of information are available.

Several factors are essential for the success of risk management:

- The support and involvement of senior management in the management process
- The designation of functional representatives with subject matter expertise in various risk areas
- A predetermined set of procedures to guide the management process
- Ongoing documentation of risk information

The details of the process depend on project complexity and the environment in which the project is being undertaken.

The process includes:

- Identifying the risks and likelihood of those risks materializing. Those risks can come from shortcomings in technology maturity, supplier capability, design maturation, staff or contractor capacity, resource shortcomings or any number of other places.
- Estimating the likelihood of and the potential consequence from the risks involved and determining the resulting severity (low, moderate, high) of the risk.
- Ranking both the risks and the potential consequences. The Department's methodology for assessing and managing risks is provided at: <provide a link here to OPERM's document>.
- Documenting strategies for treating those risks, focusing on those with the highest ranking and the alternative risk treatment strategies considered
- Treating the risks using one or more of the options for addressing risks:
    - Accept
    - Watch
    - Mitigate
- Monitoring risks as the project progresses
- Reporting risks both as part of project management and as part of the Department's overall Enterprise Risk Management approach.

Input

The initial risk report completed during the conceptual phase has few inputs: the needs analysis and the resource/affordability analysis and independent cost estimate. Updates to the risk report will have other inputs including the requirements documents, the technology readiness assessment (if applicable), and more detailed cost estimates.

Output

The process produces a risk report that is essential for the sponsor commitment and will support decision making at each milestone review and will support the project through its lifecycle. It is an essential element

of project planning, which feeds the project baseline and the project management plan. It is also feeds the budget process. The risk report should be regularly updated in order to track risks throughout the project lifecycle.

Roles and Responsibilities

The project manager is responsible for managing the project risk management process

Risk Report Template

PROJECT NAME

RISK REPORT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor and the project manager approve the report. Team members should also sign off on the report.

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role
Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The project sponsor and the project manager approve the report. Team members should also sign off on the report.

SECTION 1: PROJECT DESCRIPTION

1.1   **Project Description** - Provide a clear and concise paragraph (a few sentences) that summarizes the project.

> ◈ *Expectation: This section need not duplicate most of the information provided in the Mission Needs Statement and other documents. It should provide a reader who does not have available those other documents a general understanding of the project.*

SECTION 2: RISK MANAGEMENT PROCESS

2.1.   **Procedures** - List the methods you will be using to manage risk.

2.2.   **Assessment Team** - List the individuals assigned to the assessment team, their particular assignment on the assessment, and their qualifications.

Team Member	Assessment Assignment	Qualifications

SECTION 3: RISK MANAGEMENT

3.1.   **Risk Identification and Scoring -** identified and scored risks, including the likelihood of their occurrence and the damage that would occur if the risks were realized. Bureaus should follow Departmental guidance on the classification of risk found at [link to Departmental guidance].

3.2.   **Risk Assessment** – the severity of a risk, the effectiveness and efficiency of risk related controls, assigned responsibility for managing the risk, and the subjective priority ranking of the risk. Also includes the assessment of existing controls which may reduce the likelihood or consequence of the risk.

3.3.   **Risk Treatment**– planned or recommended strategies for treating those risks focusing on those with the highest rankings.

3.4.   **Risk Monitoring** – identify key risk metrics that used to monitor the effectiveness of risk treatment plans, as well as triggers for contingency plans. On a regular basis, evaluate key risk metrics to determine if risk treatment plans and existing controls are effective and efficient or determine if triggers were exceeded and contingency plans should be invoked.

SECTION 4: RISK REVIEW

4.1   **Risk Actions** - a report of actions taken or changes in risk conditions since the last report

4.2   **Risk Review** - description of the deliberations, findings, conclusions, and major dissenting opinions

Acquisition Strategy Process

Purpose

The primary purpose in developing an acquisition strategy and plan is to minimize the time and cost of satisfying an identified, validated need, consistent with common sense, sound business practices federal regulations, and statute. The acquisition strategy evolves through an iterative process, supporting milestone 2 and 3, and becomes increasingly more definitive in describing relationships of the essential elements of the project acquisition.

The acquisition plan follows the same process and template as the strategy, but includes much more specific details. The event-driven acquisition strategy explicitly links program decisions to demonstrated accomplishments in development, testing and initial production. The acquisition strategy and plan process is performed throughout the project lifecycle.

Process Description

The acquisition strategy and planning process is a comprehensive, integrated method of identifying the acquisition approach and describing the business, technical, and support strategies that an organization will follow to manage program risks and meet program objectives. The acquisition plan should define the relationship between the acquisition phases and work efforts, and key program events such as decision points, reviews, contract awards, test activities, production lot/delivery quantities, and operational deployment objectives.

The acquisition strategy and planning process ensures that all stakeholders, drivers, risks and alternatives for a successful acquisition are considered and a sound acquisition strategy is developed. The process brings together the efforts of all personnel responsible for an acquisition so their work is coordinated and integrated through a comprehensive plan for fulfilling the agency's need in a timely manner and at a reasonable cost.

The process begins by consolidating information gathered in other processes associated with the project such as the mission need analysis, cost estimating, analysis of alternatives, risk management analysis, etc. That consolidation forms the background and objectives section and the strategic factor section of the acquisition strategy/plan. In those first two sections of the document, a picture of the acquisition and the environment in which it is to be accomplished is described. Among the considerations:

- Type of requirement
- Market research – that include small business considerations
- Adequate resource availability
- Cost, schedule and performance risk management
- Contract type approach
- Management approach
- Funding types
- Project requirements
- The acquisition strategy concludes with a detailing of the strategy for implementing the acquisition:
    - What contractual vehicles are considered and selected as being most appropriate and effective?
    - What potential sources are there for this procurement?

o   What contracting approach will be used for this procurement?

o   How will the contract be administered?

Input

Analysis of Alternatives, Mission Need Statement, Cost Estimates, Risk Report

Output

The process produces an Acquisition Plan that will be updated when major changes to the project occur that require updates to the procurement/acquisition process.

Developing an acquisition strategy and plan is a key component of acquisition planning. Acquisition planning must acknowledge a variety of risks and their impact on acquisition strategy elements. The Federal Acquisition Regulation (FAR) requires acquisition planning for all federal procurements. Acquisition plans are execution-oriented and tend to contain more contracting-related detail than an acquisition strategy. Acquisition plans flow from the acquisition strategy and normally relate to a singular contractual action, whereas an acquisition strategy covers the entire project and may reflect the efforts of multiple contractual actions.

Roles and Responsibilities

The project manager and contracting officer shall develop an acquisition strategy and plan tailored to the particular acquisition project. This strategy is the project manager's overall plan for satisfying the mission need in the most effective, economical, and timely manner.

Acquisition Strategy Template

PROJECT NAME

ACQUISITION STRATEGY REPORT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Coordinated by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The Acquisition Plan should be submitted by the project manager, coordinated by the project sponsor, and approved by the senior acquisition element (OAM for high-profile projects).

Description

The acquisition strategy is a roadmap for the acquisition portion of the project investment lifecycle. It describes the overall approach for acquiring the capabilities needed to fulfill the objectives of a major investment. It is a capstone document drawing from other documents developed for milestone review such as the risk plan, analysis of alternatives.

The primary function of an acquisition strategy is to document the factors, approach, and assumptions that will guide acquisition decisions related to the investment. The development of an acquisition strategy allows for identification of risks and consideration of tradeoffs needed to treat those risks. Acquisition strategy development is an iterative process allowing updates and refinements, including modified risk treatment approaches, as circumstances change.

The acquisition strategy should convey the overall purpose and need for the asset or system, how and where it will be used, the overall plan and schedule for the acquisition, competition and contracting considerations, and the overall business and technical management approach. The acquisition strategy is a living document that is updated at each phase of an acquisition. .

The acquisition plan, attached as an annex to the strategy, is the detailed plan that addresses technical, business, management, and other significant considerations that will control an acquisition. See FAR 7.105 for further guidance on the contents of written acquisition plans.

SECTION 1: BACKGROUND AND OBJECTIVES

1.1. **Purpose** – State the reason the acquisition strategy is being prepared or updated (e.g., milestone review, change in strategy, etc.).

1.2. **Description** – Provide a brief summary of the project using information found in the Project Plan. A single paragraph with a basic description is adequate.

- *Facilities Specific:* How is the facility need(s) being satisfied?

1.3. **Statement of Need**

1.3.1. Summarize the requirement using the "Mission Need Summary" found in the Mission Need Statement.

1.3.2. Summarize the expected operational mission of this program, using the Missions (Primary/Secondary) from the CONOPS. Indicate how the program fits into current and future integrated architectures.

- *Facilities Specific:* Identify if this is replacing an existing owned, permitted, or leased facility, including General Services Administration (GSA) controlled space.

  ⬙ ***Expectation: specify the required performance characteristics or performance standards being acquired and how they are related to the***

1.4. **Applicable Conditions** – Describe the significant conditions or constraints affecting the investment such as budget, political and technology environment, project management capabilities, etc.

Applicable Condition	Impact on Project

1.5. **Costs** – Described cost goals for the procurement, including rationale

    1.5.1.   Development Costs. Provide a separate consideration of development costs.

    1.5.2.   Lifecycle Costs. Discuss how lifecycle cost will be considered.

- Facilities Specific: Includes facility or land acquisition; Furniture, Fixtures, and Equipment (FF&E); maintenance; utilities; other operating costs; recapitalization of building systems; and offsets to space growth and related costs. All should be based on expected useful life of real property asset and systems.

1.6. **Risk** – List the top five risks as identified in the Risk Report. The severity rating will be determined by using the ERM risk matrix

Identified Risk	Severity Rating	Strategy (research, accept, watch, avoid, mitigate, elevate, or delegate)

1.7. **Milestones** – Address the major acquisition milestones.

SECTION 2: STRATEGIC FACTORS

2.1. **Market and competitive factors** – Describe the current procurement environment, including the opportunities for small businesses.

- Facilities Specific: Include commercial facility lease market analysis and construction market reviews.

2.2. **Budget and funding factors** – Describe the current and anticipated budget environment. Include a description of funds not directly appropriated such as reimbursable funds or funds transferred from other programs.

2.3. **Performance and technological factors** – Discuss any anticipated difficulties with this acquisition.

2.4.   **Logistics factors** – Discuss logistical considerations. Include assumptions determining contractor or agency support; the reliability, maintainability, and quality assurance requirements; requirements for contractor data and data rights; and standardization concepts.

- *Facilities Specific*: Include building commissioning, Leadership in Energy and Environmental Design (LEED) certification, land acquisition, move and replication issues and FF&E procurement and installation actions in leases, and offsets to space growth.

2.5.   **Organizational factors** – Discuss the ability of the procurement organization to deliver.

- *Facilities Specific:* include GSA or OU lease procurement office capacity and capabilities.

2.6.   **Acquisition policy factors** – For each contract contemplated, discuss and provide rationale, where applicable, for the following factors:

2.6.2   Performance-based acquisition

2.6.3   Management information system requirements

2.6.4   Government-furnished property and information

2.6.5   Sustainability objectives

2.6.6   Security and privacy considerations

2.6.7   Information Technology accessibility

2.6.8   Organizational conflicts of interest

2.6.9   Intellectual property rights

2.6.10. Inherently governmental functions

SECTION 3: IMPLEMENTATION STRATEGY

3.1.   **Competition** – Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition

- *Facilities Specific:* include building leases

◈ *Expectation: if full and open competition is not contemplated, cite the authority and provide rationale*

3.2.   **Major Contracts Planned** – Fill out the following table with information on the major contracts planned

Contract	Purpose	Type	Value	Performance Period	Major Deliverables

3.3.   **Potential sources** – Indicate prospective sources of supplies or services, noting any required sources.

3.4.   **Contractual type selection** – Discuss the rationale for other than selection of firm, fixed price. Include a discussion on contracting alternatives.

3.5.   **Source-selection procedures** – Discuss the source-selection procedures for the acquisition, to include the timing for submission and evaluation of proposals.

3.6.   **Contract administration** – Describe how the contract will be administered, including (if required) inspection and acceptance of services.

- *Facilities Specific:* include building leases

ACQUISITION STRATEGY ANNEX A – ACQUISITION PLAN

Note: many of the following elements are also found in the Acquisition Strategy. These need to be expanded with additional details in the Acquisition Plan. The below follows the format of the Acquisition Plan described in FAR 7.105.

A.1.   **Sources** – Indicate prospective sources of supplies or services, noting any required sources.

A.2.   **Competition** – Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition—if different, include a description of the competition for each major component, subsystem, spares, or repair parts. Include description of subcontract competition if applicable.

⟦ *Expectation: if full and open competition is not contemplated, cite the authority and provide rationale*

A.3.   **Contract Type Selection -** Discuss the rationale for other than selection of firm, fixed price. Include a discussion on contracting alternatives.

A.4.   **Source-selection procedures** – Discuss the source-selection procedures for the procurement, to include the timing for submission and evaluation of proposals.

A.5.   **Procurement considerations** For each contract contemplated discuss and provide rationale, where applicable, for the following factors:

- Multi-year contracting, options, GSA leasing authority, specific legislation, or other special contracting methods
- Special clauses, special solicitation provisions, or FAR deviations required
- For IT, discuss how capital planning and investment control requirements of 40 U.S.C. 11312 and OMB Circular A-130 will be met
- Proposed strategy for transitioning to firm-fixed-price contracts

A.6.   **Budgeting and Funding** – Describe budget estimates and how they were derived. Include schedule for obtaining funding

A.7.   **Product or Service Description** – Describe choice of product or service, including performance-based acquisition descriptions.

A.8   **Priorities, Allocations, and Allotments** - Describe why the project is needed now. Include mission urgency, but also reasons for urgency if it results in concurrency of development and production or constitutes justification for not providing for full and open competition.

- *Facilities Specific:* Address lead times for facility leasing and construction.

A.9.   **Contractor Versus Government Performance -** Discuss the rationale for using contractor versus government services. (See OMB Circular A-76 for further explanation).

A.10. **Inherently governmental functions** – Discuss consideration given to ensuring contractors will not be performing inherently governmental functions. (See FAR Subpart 7.5 for further explanation).

A.11. **Management Information Requirements –** Discuss what management system will be used by the Government to monitor the contractor's effort

A.12. **Make or Buy –** Discuss consideration given to make-or-buy programs

A.13. **Test and Evaluation** – Describe the test program of the contractor and the Government for each major phase of a major system acquisition

A.14. **Logistics Considerations –** Describe the assumptions determining contractor or agency support, reliability/maintainability/quality assurance requirements, requirements for contractor data (including repurchase data) and data rights, their estimated cost, and the use to be made of the data, and standardization concepts

A.15. **Government-Furnished Property –** Indicate government property to be furnished to contractors

A.16. **Government-Furnished Information –** Discuss any Government information, such as manuals, drawings, and test data, to be provided to prospective offerors and contractors

A.17. **Environmental and Energy Conservation Objectives -** Discuss all applicable environmental and energy conservation objectives associated with the acquisition

A.18. **Security Considerations**

- Classified acquisitions - discuss how adequate security will be established, maintained, and monitored
- IT acquisitions – discuss how agency information security requirements will be met.
- Contractor access – for routine contractor physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system, discuss how agency requirements for personal identity verification of contractors will be met

A.19. **Contract Administration** – Describe how the contract will be administered, including (if required) inspection and acceptance of services

A.20. **Other Considerations –** As applicable, discuss:

- Standardization concepts
- The industrial readiness program
- The Defense Production Act
- The Occupational Safety and Health Act
- Support Anti-terrorism by Fostering Effective Technologies Act of 2002 (SAFETY Act)
- Foreign sales implications
- Special requirements for contracts to be performed in a designated operational area or supporting a diplomatic or consular mission

- Any other matters germane to the plan not covered elsewhere

A.21. **Milestones for the Acquisition Cycle –** Address the key acquisition milestones, to include:

- Acquisition plan approval
- Statement of work
- Specifications
- Data requirements
- Completion of procurement-package preparation
- Purchase request
- Justification and approval for other than full and open competition where applicable and/or any required D&F approval
- Issuance of synopsis
- Issuance of solicitation
- Evaluation of proposals, audits, and field reports
- Beginning and completion of negotiations
- Contract preparation, review, and clearance
- Contract award

A.22. **Participants –** List the individuals, with contact information, who participated in preparation of the acquisition plan

Sponsor Commitment Template

PROJECT NAME

SPONSOR COMMITMENT

VERSION __

Supporting Milestone 3

[Date]

****

Submitted by:

_____   _____
Signature Block/Date   Organizational title and project role

Approved by:

_____   _____
Signature Block/Date   Organizational title and project role

The Project Sponsor must approve the Sponsor Commitment

Description

Reviewers at each milestone review need to have a firm assurance that the program sponsor understands what is being proposed and is prepared to commit the staff, finances and other resources to see to the project's successful completion. This commitment, first made for the project initiation approval milestone, needs to be reaffirmed at each subsequent milestone review. The document, while a simple document, needs to be as explicit as possible about the financial and staff resources being committed and any limitations to that commitment. The Sponsor Commitment document should become more detailed at each milestone.

SECTION 1: SPONSOR COMMITMENT

1.1.   **Project Title and Description** - Describe the project. This description does not have to contain the detail provided in other documents

1.2.   **Brief Description of the Need** – Provide a brief summary of the need information contained in the Mission Need Statement. Include a description of what would constitute project success.

1.3.   **Summary of the milestone schedule** – Provide a high-level summary of the planned schedule for meeting the next milestone as well as the expected timing of the entire project.

1.4.   **Project Sponsor's Commitment to and Planned Involvement in the Project -** Include a description of the sponsor's planned approach to the project.

1.5.   **Resources to be devoted to moving project to next milestone** – Specify the amount of each type of resources (personnel, dollars, facilities, contractors, etc.) being committed to reaching the next milestone.

Resource Type	Amount and Source of the Resource

◈ *Expectation: The project should not move forward without the resources to reach the next milestone. Reviewers need to understand exactly what the Sponsor is willing and able to commit to the project. This description should provide substantial detail.*

1.6.   **Any Applicable Conditions to the Sponsor's Commitment** – Specify any limits or requirements governing the commitment.

APPENDIX C – NOTIONAL MRB SUPPORT CHECKLIST

This is a checklist for actions to be performed in support of Milestone Review Boards. It was drafted for use by OAM, but provides Bureaus a template of MRB support actions that they can use, as desired, when designing their internal processes.

OAM Schedule	OAM Tasks
March/September	• Update milestone review schedule • Distribute schedule information to MRB participants and PMs
As needed	• Provide assistance to PMs and MRB members to prepare for MRBs

As needed	• Maintain MRB archives online, include:
	  o outstanding MRB and MRB IPT action items
	  o PM documentation
	  o MRB and MRB IPT-generated documents

Before MRB	**MRB Actions**
MRB – 90 days	Executive Secretariat will: • Contact PM and notify of required documents and schedule • Confirm (with PM) proceeding with MRB schedule

MRB – 80 days	Executive Secretariat will:
	• Confirm Kick-Off Meeting participant roster with OAM staff
	• Reserve Conference room for Kick-Off Meeting and include laptop and phone with dial in instructions
	• Send invitation to Kick-Off Meeting participants and block OAM calendars, which will include:
	  o purpose of meeting
	  o preparation for read ahead documentation
	  o need to provide designee if unable to attend

MRB-65 days	Executive Secretariat will: • Contact PM and Dep Dir OAM for read aheads • Distribute read aheads to Kick Off Meeting participants
MRB – 60 days	*Kick Off Meeting* – Executive Secretariat will: • Record minutes • Coordinate minutes, task assignments and suspense dates within OAM then distributes to meeting participants • Track suspense dates and provide updates to OAM staff

MRB – 50 days	Executive Secretariat will: • Request MRB documents from PM (see Sections 2.2., *Conceptual Phase and MS1*, 2.3., *Project Definition Phase and MS2*, and 2.4., *Project Development Phase and MS3,* for specific lists of documents, as the lists are different for each milestone)
MRB – 40 days	Executive Secretariat will: • Confirm MRB IPT participant roster with OAM staff • Reserve Conference room for Issues Meeting and include laptop request and phone with dial in instructions. • Send invitation for Issues Meeting to MRB IPT participants and block OAM calendars, which will include: o purpose of meeting o description of duties o preparation for read ahead documentation o need to provide designee if unable to attend
MRB – 45 days	Executive Secretariat will: • Provide MRB documents from PM to OAM staff for initial review prior to distribution to MRB IPT members • Distribute MRB documents to MRB IPT with: o specific guidance for action necessary o suspense date • Consolidate input from MRB IPT and provide to OAM staff for review
MRB – 40 days	OAM staff will: • Prepare feedback report for MRB IPT • Provide feedback report to PM to allow preparation time for Issues Meeting
MRB – 30 days	*Issues Meeting* – Executive Secretariat will: • Record minutes • Coordinate minutes, task assignments and suspense dates within OAM then distributes to MRB IPT • Confirm MRB roster and provide MRB IPT Issues Meeting report to MRB • Track suspense dates and provide updates to OAM staff (See Section 3.1.1., *MRB*, and Section 3.3., *MRB Procedures*)

MRB – 30 days	Executive Secretariat will:
	 • Confirm MRB participant roster with OAM staff
	 • Reserve Conference room for MRB and include laptop and phone with dial in instructions
	 • Send invitation to MRB participants and block OAM calendars, which will include:
	     o purpose of meeting
	     o description of duties
	     o preparation for read ahead documentation
	     o need to provide designee if unable to attend

MRB – 21 days	Executive Secretariat will: • Upon receipt of MRB briefing, provide briefing to OAM staff and MRB IPT for review and comment o email to distribute MRB briefing will include instructions for review and comment and deadline date
MRB – 18 days	Executive Secretariat will: • Consolidate MRB IPT comments for OAM staff review • Draft Decision Memorandum
MRB – 14 days	OAM staff will: • Provide draft Decision Memorandum to PM • Provide PM with MRB IPT feedback on MRB briefing
MRB – 7 days	Executive Secretariat will: • Collect final MRB briefing and MRB documents from PM • Distribute MRB briefing, MRB documents and draft Decision Memorandum to MRB participants • Draft MRB agenda for OAM staff review
MRB – 3 days	Executive Secretariat will: • Distribute MRB agenda to MRB principals
During and Post MRB	**MRB Actions**
MRB	*During MRB* – Executive Secretariat will: • Record minutes • Coordinate minutes, decisions and action items within OAM
MRB + 2 days	Executive Secretariat will: • Distribute draft minutes, decisions and action items to MRB participants for review and comment • Consolidate MRB input for OAM staff review
MRB + 4 days	MRB participants will: • Submit comments to Executive Secretariat

MRB + 6 days	Executive Secretariat will: • Finalize minutes • Submit minutes and DOC Decision memorandum to co-chairs for signature
MRB + 11 days	MRB co-chairs will: • Sign Decision Memorandum Executive Secretariat will: • Archive DM and other MRB documents

APPENDIX D – KEY TERMS

Acquisition project management*:* management of a project over its entire lifecycle, including initial concept identification, needs analysis, requirements development, design and development, fielding and operations, and disposal

Activity*:* an action that supports a project and objective

Acquisition Framework*:* the Framework describes acquisition project management phases and the major decision milestones required to manage the progression of those phases (see Figure 1). The Framework
- Describes the minimum standard processes, documents, and reviews to which all high-profile acquisition programs and projects must adhere;
- Places emphasis on early program and project planning: requirements development and traceability, risk identification, and resource and cost expectations;
- Is scalable depending on the program's or project's size, complexity, and risk; and
- Describes the principles of a life-cycle approach to managing acquisition programs/projects.

Baseline: every high-profile program or project shall be defined by three baselines beginning at Milestone 2. These will be defined in the Program or Project Baseline document (see the *Guidebook* for the suggested template) and refined, as necessary with justification, at subsequent milestones:
- Cost.
    a) Lifecycle Cost means the total of the direct, indirect, recurring, and nonrecurring costs, including the construction of facilities and civil servant costs and other related expenses incurred or estimated to be incurred in the design, development, verification, production, operation, maintenance, support, and retirement of a program or project over its planned lifespan, without regard to funding source or management control.
    b) Development Cost (a component of lifecycle cost) means the total of all costs, including construction of facilities and civil servant costs, from the period beginning with the approval to proceed into the Project Development phase (Milestone 2) through the achievement of operational readiness (Milestone 4) without regard to funding source or management control, for the life of the program or project.
- Schedule – the program time planned from Milestone 2 to achievement of operational readiness at Milestone 4.
- Performance – the key performance parameters or metrics established at Milestone 2 that define the program's or project's operational capabilities.

Baseline Deviation*:* exceeding either development or lifecycle cost baselines by 20 percent or more

CARD*:* the Cost Analysis Requirements Description (CARD) is a complete description of the project whose costs are to be estimated. It is intended to define the project to a sufficient level of detail such that no confusion exists among the many parties who may be concerned with estimating the project's cost. Extensive information about an acquisition project is required in order to estimate its cost to the detail required by the various display formats identified in the lifecycle cost model. The office responsible for the project shall write a detailed statement of the scope consistent with the project's Work Breakdown Structure (WBS), if the WBS is available at that phase of the project. Each CARD should be comprehensive enough to facilitate identification of any area or issue that could have a significant effect on lifecycle costs and therefore must be addressed in the cost analysis. It also must be flexible enough to accommodate the use of various estimation methodologies. In some sections of the CARD, it may be possible to convey the

information pertinent to cost estimation in a few sentences or a single matrix and/or table. In other sections, more detailed information may be required. The level of detail of the information presented in a CARD will vary depending upon the maturity of the project. Understandably, projects at Milestone 1, and possibly at Milestone 2, are less well-defined than projects at Milestone 3.

Enterprise: an entire business organization. When talking about DOC Enterprise Risk Management, "Enterprise" means the entire Department of Commerce.

Level of Effort Activity: a funded activity that does not meet the definition of a program or project. It may have some of their characteristics, but not all. These activities are usually the on-going efforts of an organization.

Milestone Decision Authority: the Deputy Secretary, who has statutory authority, or an individual who has been formally delegated authority to make acquisition investment decisions at program/project milestones in the DOC. This authority may be delegated, in writing with rationale.

Milestone Review Board (MRB): the authorizing body for approval of an identified DOC high-profile acquisition program or project to proceed from one phase of the Framework to the next (see Figure 2). The authorities of the MRB are derived from those vested in or delegated to its members. It provides a collective vehicle for members to review a program or project and execute their individual authorities regarding approval to proceed to the next milestone or directing corrective action to proceed into the next phase. Specifically, the authorities vested in the Board include approval of procurements planned for the next acquisition phase (both information technology (IT) (IT Investment Authority) and non-IT).

MRB Chair: the DOC Deputy Secretary will be advised by the Board's members on a program's or project's readiness and risk to proceed to the next phase and recommend specific exit criteria for the phase. The Deputy Secretary may designate an individual to Chair an MRB, but the MDA shall remain with the Deputy Secretary unless formally delegated in writing with rationale.

Mission Need: a high level statement of the capability required to perform an organizational function or close a capability gap or recognized capability need

Procurement Requirement: the articulation of what the government is purchasing as its selected solution in a form that industry can successfully implement

Program: a consolidated effort to achieve a defined goal. a collection of projects that have objectives that achieve a specific purpose or outcome of a DOC Strategic Plan goal or as required by statute or regulation

Project: a collection of discrete activities, acting as a system, with specific output that achieve a clearly defined objective and support an overall program goal. Projects have a finite duration with a clearly defined start and end.

Requirement: a desired capability (e.g., service or product) necessary for accomplishing the organization's mission, goals, or objectives

Research and development: research and development (R&D) activities comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

Sponsor*:* the identified individual (or organizational element) that develops and documents a capability need or gap, commits to providing specific resources for the project, defines and validates functional requirements, and accepts the final mission capability produced by the project

System: a collection of components and/or activities organized to accomplish a specific function or set of functions

APPENDIX E – ACRONYMS

AIP	Acquisition Improvement Project
AIS	Acquisition Improvement Study
AOA	Analysis of Alternatives
BFIP	Budget Formulation Improvement Project
BPO	Bureau Procurement Official
CARD	Cost Analysis Requirements Descriptions
CFO/ASA	Chief Financial Officer/Assistant Secretary for Administration
CITRB	Commerce Information Technology Review Board
CIO	Chief Information Officer
CONOPS	Concept of Operations
CTE	Critical Technical Elements
DOC	Department of Commerce
ERM	Enterprise Risk Management
EVM	Earned Value Management
FAR	Federal Acquisition Regulation
FF&E	Furniture, Fixtures, and Equipment
GSA	General Services Administration
ICE	Independent Cost Estimate
IPT	Integrated Product Team
IT	Information Technology
KPP	Key Performance Parameter
LEED	Leadership in Energy and Environmental Design
MDA	Milestone Decision Authority
MDM	Milestone Decision Memorandum
MNS	Mission Need Statement
MRB	Milestone Review Board
MS0	Milestone 0
MS1	Milestone 1
MS2	Milestone 2
MS3	Milestone 3
NOAA	National Oceanic and Atmospheric Administration

NIST	National Institute of Standards and Technology
O&S	Operations and Sustainment
OAM	Office of Acquisition Management
OCIO	Office of the Chief Information Officer
OFEQ	Office of Facilities and Environmental Quality
OGC	Office of General Counsel
OMB	Office of Management and Budget
PMP	Project Management Plan
ROM	Rough Order of Magnitude
TRA	Technical Readiness Assessment
USPTO	US Patent and Trademark Office
WBS	Work Breakdown Structure

APPENDIX F – Policy on Commerce Acquisition Project Management

https://max.omb.gov/community/display/DOC/Acquisition+Improvement+Project+and+the+Milestone+Review+Board