



# **DOC Acquisition Program and Project Management Guidebook**

**29 March 2023**

**Version 2.0**

## 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
2.0	29 Mar 23	Streamlined revision of Framework and Guidebook to clarify approach and terminology, incorporate value-added OAM support provided to programs, and new artifacts reflecting evolution of standards/best practices.	D. Bare, OAM

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# 1. OVERVIEW

## 1.1. BACKGROUND

The Department of Commerce (DOC) makes acquisitions of all sizes for a variety of programs—from routine to complex—mission-critical programs and projects (within this document we will use the term “program” for ease of use to apply to both programs and projects of all sizes and scope). Programs of all types have similar considerations that drive successful outcomes—understanding mission needs, evaluating capabilities required to meet those needs, assessing alternatives to deliver capabilities, and determining a sound acquisition strategy. The Office of Acquisition Management (OAM) provides a clear path, process, and set of artifacts to support programs, as well as advisors to collaborate with programs to improve program management processes, best practices, and delivery of desired outcomes.

Over the past decade, the DOC has invested considerable time and effort to gain a deep understanding of a variety of industry and government standards and best practices in program initiation, planning, and acquisitions. The DOC has leveraged this knowledge to assess and enhance our ability to successfully evaluate and support program initiation, planning, and acquisitions.

## 1.2. FRAMEWORK APPROACH AND OUTCOMES

The Acquisition Program Management Framework (the Framework) provides guidance and information needed by Department and Bureau program managers to conduct effective and efficient acquisitions. The Framework, as elaborated in this Guidebook, prescribes a disciplined, repeatable, and comprehensive acquisition management process by which the Department manages programs, particularly those that are mission critical. This Guidebook supports Departmental [policy](#) and guidance to address what is described as “Big A” acquisition (see Figure 1 below), which focuses on the entire set of decisions and processes that must occur in order to properly synchronize requirements, resources, and procurements to deliver required capabilities (see Figure 1 below). It is meant to supplement existing Federal and Department regulations and guidance in support of procurement and contract-related activities (“Little A”), prescribed by the Federal Acquisition Regulation (FAR) and executed by the Senior Procurement Executive, which focuses on pre-solicitation planning, contract development, source selection, and contract administration activities. Additionally, financial assistance and other transaction authority can benefit from this Framework.

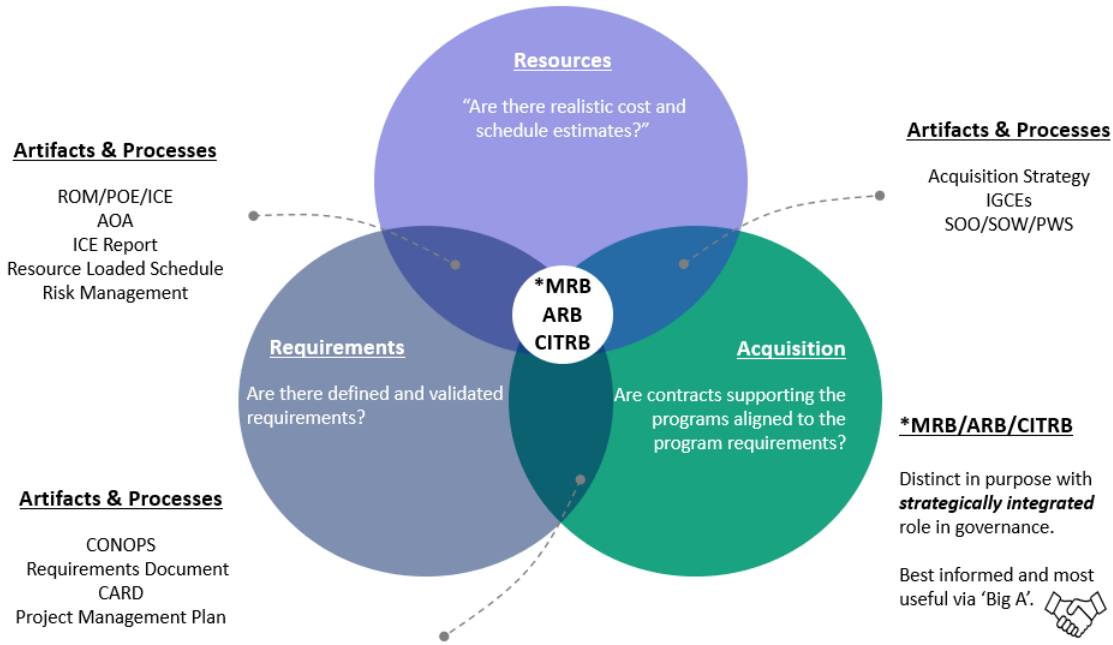


Figure 1. Big "A" Acquisition Model

The Framework defines the acquisition program management phases and major decision milestones required to manage the progression of those phases (see Figure 2 below) from initiation through disposal. The Framework’s integrated, structured approach is the required process developed specifically for the Department’s mission-critical programs, but its principles may be scaled appropriately and applied to any other DOC program.

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 efficient and effective way. In essence, first ensuring we are “doing the right things,” and then validating we are “doing things the right way.” The Framework is specific on what activities need to be accomplished during each acquisition management phase and what information and artifacts are required at decision milestones. Additionally, there may be specific requirements based on program type that may be applicable to meet the unique requirements of those disciplines.



Figure 2. DOC Acquisition Program and Project Management Framework

The Framework:

- Describes the minimum standard of processes, artifacts, and reviews at program milestones to which all mission critical programs must adhere
- Describes the minimum standard of processes, artifacts, and reviews at program milestones which all non-mission critical programs should consider adhering to
- Defines the program milestones when formal reviews will be performed

- Provides for a Milestone Review Board (MRB) to approve those programs for milestones 1 to 3 (the other noted milestones are the responsibility of the Bureaus)
- Is tailorable and scalable based on the program’s objective, size, complexity, and risk
- Describes the principles of a lifecycle approach to managing acquisition programs

NOTE: The focus of the Framework and its implementing policy is on the early phases of the process (Initiation and Planning). In the past, many of the early processes were ignored or minimized, leading to problems found (major scope changes, need for significant additional time/budget, performing acquisitions without the consideration of a variety of alternatives, lack of acquisition strategy, etc.) later in the Design and Production Phases. Focusing on the early phases prevents a multitude of problems in Operations and Disposal phases. 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 Execution and Disposal.

### 1.3. APPLICABILITY AND TAILORING

The principles outlined in the Framework apply to all DOC programs and projects but a special emphasis is placed on those that are mission critical, where strict adherence is required. The definitions for a Program, Project, and a Level of Effort Activity are provided below. As mentioned previously, we will leverage the term program to apply to both programs and projects throughout this document. Also note that the Framework does not specifically apply to level of effort activities (although many of the program management principles expressed here could apply to them).

- **Program:** 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. 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:** (as noted in the DAO-208-16 Policy) is “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.
- **Level of Effort Activity:** The DAO-208-16 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.

Programs and activities that are “High Risk,” “High Dollar,” or that received a “Special Designation” are considered “mission critical” and subject to Department-level Milestone Review Board (MRB) oversight (including milestone reviews). Programs fall into these categories if they meet one or more of the criteria listed in the table below. The MRB reviews each program by Milestone, provides a collective vehicle for members to review a mission critical program, and execute their individual approval authorities. The MRB is the authorizing body that conducts reviews in order to:

- Provide approval to proceed to the next phase/milestone or feedback on remediation steps required before the program is approved to proceed to the next phase/milestone.
- Approve procurements planned for the next acquisition phase (both information technology (IT) and non-IT).

- Increase the likelihood of program success (i.e., timely completion within budget and to identify and mitigate program risks).

The OAM as the Acquisition Framework Executive publishes a list of mission critical programs annually to track programs, projects, and activities that may be subject to MRB review. Note: The criteria below are consistent with the Mission Critical Criteria developed in the DOC Enterprise Risk Management (ERM) methodology.

PROGRAMS ARE MISSION CRITICAL IF DEEMED HIGH RISK, HIGH DOLLAR, OR BY SPECIAL DESIGNATION	
<b>"High Risk" programs warrant special attention due to meeting one or more of the following factors, regardless of dollar thresholds</b>	
<b>Criticality</b>	Key to mission goals/objectives and/or to achieving the objectives in the DOC Balanced Scorecard and/or Strategic Plan
	Will the organization be able to perform its mission without this program?
	-Does the program address the core mission or strategic goal of the organization?
	Do program outcomes have broad implications for the success of the organization and/or are multiple mission goals dependent on the program?
	What capability gap would the organization face without this program?
	-The capability gap will prevent the organization from performing on its mission.
	-The capability cannot be obtained from a third party or the program will cost less than the price to obtain the capability from a third party.
	Is the program addressing a mission critical need or is the mission need well publicized?
	-The program or mission goals are considered mission critical by Congress, OMB, or The White House.
	-The program is addressing a highly publicized public concern.
	Are other Bureau's dependent on the successful completion of this program?
<b>Complexity</b>	Multiple organizations' involvement and interfaces; complex and/or rare skills requirements; analogous characteristics to other challenged programs
	Are key program interfaces outside the DOC?
	-Are other Federal Agencies involved in this program?
	Does the program involve organizations from multiple DOC Bureaus?
	Is the implementation of the program so complex that there is a high risk of failure?
	-Does the implementation of the program require coordination across multiple organizations?
	-Is the program dependent on outside factors that increase the risk of failure?
	-Does the organization have the necessary staff (e.g. enough personnel, subject matter experts) to implement the program?
	Are required skills available within the Bureau?
	-Does the organization have a contractor with the required skills?
	-Has the organization determined that the necessary skills will be available when they are needed on the program?
	Have similar programs in the past either failed or faced serious challenges?
	Does the organization have adequate experience in this area in order to implement the program?
<b>Technology</b>	Challenges identified requiring probable research, development, and/or demonstration
	Is the technology needed for this program proven?
	Will the technology require extensive demonstration and testing?
	-Does the program schedule have adequate time for demonstration and testing?
	Is there a lot of development work needed before the technology can be used in this program?
<b>Visibility</b>	Subject to external review and extraordinary media or political attention and/or have the 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 program result in scrutiny by the media or political leaders?
	Has the program attracted the interest of political leaders?
	Would the media be interested in the program or the subject area?
<b>"High Dollar" programs exceed the following thresholds</b>	
<b>All Programs</b>	Development costs, valued in current year dollars, > \$75 million or lifecycle costs, valued in current year dollars, > \$250M
<b>"Special Designation" programs are nominated by an MRB member and approved by the Deputy Secretary</b>	

Figure 3. Mission Critical Criteria

The Bureau initiating a program is responsible for:

1. Evaluating all program concepts against the criteria identified in Figure 3. Mission Critical Criteria when initiated (prior to Milestone 1).
2. Continuously evaluating all programs against these criteria to see if changes to program characteristics result in the need for a mission critical designation at any time in the program’s life. Note: Changes resulting in a loss of this designation require Milestone Decision Authority (MDA) approval.
3. Notifying the MRB Executive Secretariat of all programs in their purview that meet or have the potential to meet one or more of the threshold criteria.

The framework allows the ability for a program to tailor their documentation within the bounds of the Framework. Tailoring refers to the flexibility of the Framework processes and artifacts to be modified to suit the needs of non-mission critical programs. Non-mission critical programs, while not subject to Departmental review, should adhere to the concepts established in the Framework but tailor at a level appropriate to their size, complexity, risk, and importance. Therefore, heads of Operating Units shall adopt and/or tailor written procedures that align with the Framework and meet the needs of non-mission critical programs in their purview. This includes developing, tailoring, and instituting analogous acquisition review boards and processes to implement the Framework for such programs. Note: If mission critical programs are sponsored directly at the Department level, the DOC sponsoring organization will take on the roles and responsibilities assigned to the Bureaus for the purpose of this Guidebook.

#### 1.4. INTEGRATING MISSION CRITICAL PROGRAMS

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

The purpose of each meeting is as follows:

Meeting	Topics
Introduction	<ul style="list-style-type: none"> <li>▪ Framework familiarization and project suitability</li> <li>▪ Determine the appropriate milestone for the program</li> <li>▪ Program team provides OAM with a general background on the program</li> <li>▪ OAM explains the basics of the Framework to the program team</li> <li>▪ Organize the team by reviewing the purpose, objectives, and outputs of the Integrated Product Team (IPT).</li> <li>▪ Familiarize members with secure team web site and Milestone document repository at:  <a href="https://community.max.gov/display/DOC/Acquisition+Improvement+Project+and+the+Milestone+Review+Board">https://community.max.gov/display/DOC/Acquisition+Improvement+Project+and+the+Milestone+Review+Board</a></li> <li>▪ Discuss documents to be reviewed and preliminary concerns. Establish how team members will provide feedback on documentation, by when, to whom, and how.</li> </ul>



Meeting	Topics
	<ul style="list-style-type: none"> <li>Assign IPT members homework to read and comment on available artifacts and the approach to managing the program</li> </ul>
Collaboration	<ul style="list-style-type: none"> <li>Review aggregated Team comments</li> <li>Provide the PM with suggestions for revision and improvement of artifacts and the approach to managing the program</li> <li>Discuss recommendations for the program office and its artifacts and the approach to managing the program</li> <li>Identify specific content of the Deputy Secretary’s Milestone Decision Memo (MDM) including any directed actions required to meet phase exit criteria</li> </ul>
Incorporation	<ul style="list-style-type: none"> <li>Review and approve the final milestone documentation</li> <li>Draft MDM and any IPT recommended actions or issues for MRB consideration</li> <li>Facilitate actions on behalf of the Deputy Secretary to include actions, issue resolution, and baseline performance tracking</li> </ul>

Occasionally a program will be large enough that several of its projects could be mission critical themselves, or the capabilities it intends to deliver have enough differences that they could also be considered for mission critical status separately. 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 program), when they will occur, what defines the start and end of a phase, and how decisions made on components will affect the whole.

### 1.5. ROLES AND RESPONSIBILITIES

This section provides an overview of the roles and responsibilities required throughout the acquisition process. Roles and responsibilities may vary depending on the program’s type, designation, size, or complexity. There are two primary categories of roles—those that apply to all programs and those that apply to mission critical programs. Roles from both may act as principals or participants in Milestone Review Boards (MRBs) for mission critical programs.

The roles and responsibilities below **apply generally to all programs.**

Role	Responsibilities
Office of Acquisition Management (OAM) Staff	<ul style="list-style-type: none"> <li>Provides a Framework all programs can leverage to drive better program outcomes and capability delivery.</li> <li>Provides artifacts that generate data and information used to initiate a program concept and to plan/define the program for successful execution.</li> <li>Provides distinct guidance for predictive (e.g., waterfall) and Agile programs.</li> <li>Advisors can provide programs with actionable feedback to improve success.</li> <li>Advisors provide insight and training in areas such as cost and risk.</li> </ul>
Bureau Chief Operating Officers	<ul style="list-style-type: none"> <li>Consistently evaluate all programs, from initiation throughout the program’s lifecycle, against the Mission Critical Criteria and notify the MRB Executive Secretariat of all programs meeting that criteria.</li> <li>Develop, tailor, and institute analogous acquisition review boards and processes to implement the Acquisition Framework for non-high-profile programs. Information on Bureau-level Frameworks should be shared with the OAM.</li> </ul>

Role	Responsibilities
	<ul style="list-style-type: none"> <li>Support MRB processes as defined in this guidebook.</li> </ul>
Bureau CFO/ Budget Officer	<ul style="list-style-type: none"> <li>Ensure activities taken are consistent with the requirements of the Chief Financial Officer Act, related strategy, and OMB requirements.</li> <li>Ensure alignment of the activities of the Framework and the Department’s ongoing budget planning activities as discussed in section 4 of this document – Framework Integration with the Budgeting Process.</li> </ul>
Program Sponsor	<ul style="list-style-type: none"> <li>Ensure programs align with organizational goals and objectives, is affordable, is in compliance with Framework processes, and produces the artifacts and information required by the Framework. May also be responsible for securing funding for the project.</li> </ul>
Program/Project Managers	<ul style="list-style-type: none"> <li>Understand the concepts of the Framework and Guidebook.</li> <li>Produce data, information, and artifacts to support effective Initiation, Planning, Design, Production, Operations and Maintenance, and Disposal.</li> <li>Ensure alignment of mission needs, capabilities, and requirements.</li> <li>Manage requirements, costs, schedule, performance, quality, risk, acquisition planning to established program baselines</li> <li>Prepare required artifacts while following the guidance and directions provided in the Framework.</li> <li>Notify Bureau leadership, the OAM, and the MRB (at minimum) if there is a deviation of 20% or more in any program baseline.</li> <li>Sponsor preparation of an Independent Cost Estimate (ICE) (as required).</li> <li>Adapt artifacts and approaches based on feedback from the OAM and MRB.</li> <li>Mission critical program managers must have experience equivalent to those defined for OMB A-11 major acquisitions.</li> <li>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.</li> </ul>
Bureau Procurement Official	<ul style="list-style-type: none"> <li>Provide oversight and support for the contracting officer in areas including contract/procurement planning, how to initiate, administer, and close-out contracts.</li> </ul>
Contracting Officer (CO), Contracting Office Representative (COR)	<ul style="list-style-type: none"> <li>Provide input and concurrences on acquisitions and contract/procurement planning (e.g., determining contract type, advising on source selection criteria, conducting pre-proposal conferences).</li> <li>Prepare solicitations, CD-570, Small Business Programs Review forms, determination and findings, and other contract artifacts.</li> <li>Review, concur, and as appropriate supplement justifications for other than full and open competition.</li> <li>Initiate, administer, close-out, or terminate contracts.</li> </ul>

The roles and responsibilities below **apply to mission critical programs and activities**:

Role	Responsibilities
Milestone Review Board (MRB)	<ul style="list-style-type: none"> <li>Authorizing body that reviews mission critical programs and provides approval to proceed to the next phase/milestone or feedback on remediation steps required before the program is approved to proceed to the next phase/milestone.</li> </ul>

Role	Responsibilities
	<ul style="list-style-type: none"> <li>▪ Provide a collective vehicle for members to review a program and execute their individual approval authorities.</li> <li>▪ Approve procurements planned for the next acquisition phase (both information technology [IT] [IT Investment Authority] and non-IT).</li> <li>▪ Ensure major acquisitions/mission critical investments: contribute to the Secretary’s strategic vision and mission requirements; employ sound, validated investment methodologies; generate the highest return on the investment possible at acceptable risk levels.</li> <li>▪ Identify staff to work with the MRB Executive Secretariat and OAM to ensure artifacts are submitted in support of each milestone review.</li> <li>▪ Participate in program presentations and ask questions of the presenter(s).</li> <li>▪ Make one of the following recommendations to the Chair: approve the program move to the next phase/milestone; disapprove that the program moves to the next phase/milestone (and provide remediation steps to gain approval); request further information or clarification before making a determination.</li> </ul>
<p>DOC Deputy Secretary/ Milestone Decision Authority</p>	<ul style="list-style-type: none"> <li>▪ Department Milestone Decision Authority (MDA) for all mission critical programs.</li> <li>▪ MRB Chair that leads MRB discussions.</li> <li>▪ Issue a Milestone Decision Memorandum (MDM) at the conclusion of each milestone review (typically within 15 calendar days).</li> <li>▪ Approve recommended program remediation activities and path forward.</li> <li>▪ Designate other participants in the MRB based on the program up for review.</li> <li>▪ Task specific reviews and studies necessary for upcoming milestone reviews.</li> <li>▪ Approve the policies reflected in this guidance.</li> <li>▪ May delegate (in writing and with a rationale), MDA and management of any mission critical program to the Head of an Operating Unit (which does not exempt that program from adherence to the Framework unless explicitly indicated in the delegation instrument).</li> </ul>
<p>MRB Executive Secretariat</p>	<ul style="list-style-type: none"> <li>▪ Schedule milestone reviews, distribute schedule information, and artifacts.</li> <li>▪ Establish meeting agendas, procedures, and attendance.</li> <li>▪ Provide artifact and presentation guidance to program sponsors and managers.</li> <li>▪ Schedule and test all equipment needed for the MRB.</li> <li>▪ Assist in preparing MRB members for milestone reviews.</li> <li>▪ Prepare, distribute, and maintain a record of MRB IPT and MRB proceedings.</li> <li>▪ Maintain a list of MRB IPT/MRB action items and track to ensure completion.</li> <li>▪ Prepare the MDM for MRB Chair’s issuance.</li> <li>▪ Notify the Department Chief of Staff and Bureau under review of a pending MRB.</li> <li>▪ Perform all functions in accordance with the MRB timeline and deadlines.</li> <li>▪ IPT Chair who organizes, kicks off, and convenes the IPT.</li> </ul>
<p>Milestone Review Board Principals</p>	<ul style="list-style-type: none"> <li>▪ MRB members bring the authorities inherent in their positions to the MRB.</li> <li>▪ Apply approved evaluation criteria to inform recommendations to the Chair.</li> <li>▪ Identify their staff to work with the MRB Executive Secretariat.</li> </ul>
<p>MRB Integrated Product Team (IPT)</p>	<ul style="list-style-type: none"> <li>▪ Kick off to socialize membership, duties, and timelines of reporting to MRB.</li> <li>▪ MRB IPT principals include representatives from the functional offices pertinent to the program under review: contracts, requirements development, budget, costing, project management, risk management, etc.</li> <li>▪ Form prior to a milestone review (at request of the MRB Executive Secretary).</li> </ul>

Role	Responsibilities
	<ul style="list-style-type: none"> <li>▪ Review artifacts to identify gaps, issues, and areas of uncertainty.</li> <li>▪ Submit issues to MRB Executive Secretariat to address with PMs and Sponsors.</li> <li>▪ Assess progress against mission needs/goals, program baselines, dependencies on other programs, and recommend if milestone review should occur.</li> <li>▪ Review the MDM from the previous milestone review and provide feedback on any outstanding issues to the PM.</li> <li>▪ Review draft MDM for the current milestone and provide feedback/concurrence.</li> </ul>
Office of the General Counsel	<ul style="list-style-type: none"> <li>▪ Ensure acquisition planning and execution adheres to Federal Law and regulation.</li> <li>▪ Involved early to help shape the acquisition process for mission critical programs.</li> </ul>
DOC Chief Financial Officer/Assistant Secretary for Administration (CFO/ASA)	<ul style="list-style-type: none"> <li>▪ Provide recommendations, guidance, and feedback in areas including but not limited to cost estimation, budgeting, and affordability.</li> <li>▪ Perform business and administrative functions in the Department in support of programs.</li> <li>▪ Develop policies reflected in the Framework and Guidebook.</li> </ul>
DOC Chief Information Officer (CIO)	<ul style="list-style-type: none"> <li>▪ Provide recommendations and guidance in areas including but not limited to software development, hardware, licensing, operations and maintenance, data, intellectual property rights, and architecture/integration with existing architecture.</li> <li>▪ Perform Department business/administrative functions in support of MRB and mission critical programs.</li> <li>▪ Develop policies that support those in the Framework and Guidebook.</li> </ul>
Director, Office of Facilities and Environmental Quality	<ul style="list-style-type: none"> <li>▪ Provide recommendations and guidance in areas including but not limited to facilities, real property, and construction activities.</li> <li>▪ Perform Department business/administrative functions in support of MRB and mission critical programs.</li> <li>▪ Develop policies that support those in the Framework and Guidebook.</li> </ul>
Director, Office of Budget	<ul style="list-style-type: none"> <li>▪ Provide recommendations and guidance in areas including but not limited to cost estimation, budgeting, and affordability.</li> <li>▪ Perform Department business/administrative functions in support of MRB and mission critical programs.</li> <li>▪ Develop policies that support those in the Framework and Guidebook.</li> </ul>
Director, Office of Financial Operations	<ul style="list-style-type: none"> <li>▪ Provide recommendations and guidance in areas including but not limited to program alignment to financial systems and finance execution.</li> <li>▪ Perform Department business/administrative functions in support of MRB and mission critical programs.</li> <li>▪ Develop policies that support those in the Framework and Guidebook.</li> </ul>
Director of the Office of Acquisition Management (OAM) and Senior Procurement Executive	<ul style="list-style-type: none"> <li>▪ Provide guidance and oversee the management and quality of all acquisition activity in the Department including implementation of the Acquisition Framework Policy and Guidebook.</li> <li>▪ Ensure the processes outlined in the Framework and Guidebook are consistent with the other components of a single, Department-wide integrated system that manages risk, budget, mission execution, and stewardship of dollars.</li> <li>▪ Provide coordination among senior management functions within DOC, including communication of review process outcomes and resulting acquisition activity.</li> <li>▪ Serve as the MRB Executive Secretariat (or delegate that authority as needed) and determine appropriate membership of the Milestone Review Board.</li> </ul>

Role	Responsibilities
	<ul style="list-style-type: none"> <li>▪ Ensure Bureau-level processes are in keeping with the practices and protocols outlined in the Policy and Guidebook.</li> <li>▪ Serve as the DOC organization responsible for Independent Cost Estimate (ICE) oversight, policy, training, and guidance.</li> </ul>
Heads of DOC Operating Units	<ul style="list-style-type: none"> <li>▪ Keep the MRB Secretariat informed of program/project review schedules and decisions from their internal milestone reviews.</li> <li>▪ If delegated as the MDA for a mission critical program by the Deputy Secretary, manage that program or project in accordance with the Framework and delivery artifacts defined in the Guidebook. This MDA authority cannot be re-delegated.</li> </ul>

The overall structure of the MRB is illustrated in Figure 11, section 3.1 – MRB Organization and Structure. The MRB is chaired by the DOC Deputy Secretary and is comprised of principals, participants that attend all MRBs, program-specific participants, and designees. Attendance will vary based on the program presenting to the MRB.

## 2. DOC ACQUISITION PROGRAM AND PROJECT MANAGEMENT FRAMEWORK

### 2.1. OVERVIEW AND POLICY

As shown in Figure 2, the overall program 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 capability gap or shortfall by starting a process to explore possible solutions. This kicks off the Initiation Phase. Bureaus may require formal documentation of a decision to begin the Initiation Phase, but there is typically no Departmental involvement at this time. At this time, Bureaus may consider if the program is “mission critical” and if MRB review should be required. If so, they should notify the OAM.

The Framework and its Policy focus on the Initiation, Planning, Design, and Production Phases, that lead to Milestones 1, 2, and 3, respectively. Each Milestone is a critical decision point that requires assessment of program readiness and risk before formal authorization to proceed to the next phase. Transitions from one phase to the next occur with a milestone approval by the MDA or as designated. The Deputy Secretary may delegate in writing, with rationale, MDA and management of any mission critical program to the Head of an Operating Unit. This does not exempt that program from adherence to the Framework (and its minimum artifacts) unless explicitly indicated in the delegation instrument.

The Initiation Phase focuses on ensuring we are “doing the right thing.” That is:

- Is there a real mission need (tied to strategic goals and objectives)?
- What are the capabilities and requirements needed?
- Have all stakeholders been identified and have they provided input on capabilities and requirements?
- What are the alternative solutions considered?
- What would it take to deliver the proposed solution?

The Planning Phase focuses on further elaborating “the right thing” and developing the plan to “doing the thing right.” During this phase detailed planning is generated in preparation for acquisition and a baseline is established to help drive program success.

- The right capabilities and requirements are defined.
- The correct solution is selected.
- The best acquisition strategy is selected.

This Framework intentionally focuses on those parts of a program leading up to a procurement, which is where the earlier Acquisition Improvement Study found the most serious problems. The later phases and milestones (Operations & Maintenance and Disposal) are where the team attempts to “do the thing right” and are primarily managed at the Bureau level. They deal mainly with executing contracts, implementing the solution, performing management/oversight, and operations/disposal. They are significant phases that complete the program management lifecycle. The Operations & Maintenance and Disposal Phases are not covered in depth in this Framework document, although subsequent versions of the Framework will expand upon these Phases. 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.

The table below provides a description, objectives, and milestone approval requirements of each phase.

Phase	Phase Description and Objective(s)	Milestone Approval
Initiation	<ul style="list-style-type: none"> <li>▪ Driven by the identification of a capability gap or need, often found as a result of strategic planning, changes to mission, reviews of capability needs, or external input.</li> <li>▪ Emphasis is on determining what capability is needed and an initial range of possible solutions/alternatives. This facilitates an initial determination of high level risks and drives a rough estimate of required resources and costs (affordability).</li> <li>▪ The Sponsor should provide their commitment to initiate planning.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The MRB ensures the program validates a mission need and/or gap in capabilities exists, stakeholders are considered and engaged, initial alternatives are identified, risks are identified and reviewed, the concept is affordable, and a sponsor is identified that supports the program.</li> <li>▪ Program meets additional requirements highlighted within the Framework (e.g., required artifacts) and provided by the OAM.</li> <li>▪ The MDM provides approval for Milestone 1 (MS1) so the program can move to the Planning Phase.</li> </ul>
Planning	<ul style="list-style-type: none"> <li>▪ Approval in initiation results in planning how to deliver mission outcomes leveraging defined capabilities.</li> <li>▪ A program manager is identified.</li> <li>▪ Capabilities are broken down into more detailed requirements with input from stakeholders.</li> <li>▪ 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</li> </ul>	<ul style="list-style-type: none"> <li>▪ The MRB ensures appropriate program planning occurs that further refines the information above; analyzes cost, schedule, and quality implications for a variety of alternatives, proposes a recommended alternative, and defines an acquisition strategy that meets Framework standards.</li> <li>▪ Program meets additional requirements highlighted within the</li> </ul>

Phase	Phase Description and Objective(s)	Milestone Approval
	<p>evaluated to assist with development of a preferred solution and the program manager conducts an analysis of the alternatives (AoA) based on their relative merits (advantages and disadvantages, degree of risk, feasibility, lifecycle cost, supportability, and cost-benefit) to determine the best solution.</p> <ul style="list-style-type: none"> <li>▪ The program manager further refines and plans the program - define and control scope, estimate schedule and cost, determine the best approaches to value delivery and risk, manage to/reporting on the program baseline, and define the best approach for acquisitions.</li> </ul>	<p>Framework (e.g., required artifacts) and provided by the OAM.</p> <ul style="list-style-type: none"> <li>▪ The Sponsor reaffirms commitment to the program based on updated initiation artifacts and new planning artifacts.</li> <li>▪ All issues/recommendations from previous MDM are resolved.</li> <li>▪ The MDM provides approval for Milestone 2 (MS2) so the program can move to the Design Phase.</li> <li>▪ NOTE: For some programs, this step may be to receive approval to acquire design services that may inform future build acquisitions and activities. When this is the case, the Planning approval may occur in two parts: 1) for the design; and 2) the subsequent build based off the design.</li> </ul>
Design	<ul style="list-style-type: none"> <li>▪ Approval in planning may result in the need for a design acquisition where significant unknowns exist that drive the need for an acquisition(s) to develop a design, perform significant R&amp;D, or to prototype to inform how to produce capabilities that meet mission need.</li> <li>▪ In certain circumstances, design and production milestone reviews may be combined for efficiency at the discretion of the OAM.</li> <li>▪ The outcome of this phase will inform how capabilities will be produced, what additional acquisitions are required, and how program artifacts and planning should be updated to incorporate new learning from this phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The MRB ensures appropriate design work has occurred that meets Framework standards and that artifacts are updated to incorporate how the result of the Design phase informs the Production phase.</li> <li>▪ Program meets additional requirements highlighted within the Framework (e.g., required artifacts) and provided by the OAM.</li> <li>▪ The sponsor reaffirms commitment to the program based on updated work performed in Design.</li> <li>▪ All issues/recommendations from the previous MDM are resolved.</li> <li>▪ The MDM provides approval for Milestone 3 (MS3) so the program can move to the Production Phase, where resourcing and procurements occur to field the solution.</li> </ul>

Some key consideration of the program phases, milestone reviews, and artifact production include:

1. The milestone phases above reflect a direct path from one milestone to the next. However, some programs may experience multiple iterations of a phase and repeat milestone reviews due to



- revisions to the program, changes to the nature of the program, a baseline(s) breach, incremental funding approaches, and failure to initially satisfy the phase.
2. The processes and artifacts described reflect streamlined and minimum requirements to prepare for a milestone review.
  3. Each program should be individually mapped to the Framework to determine and meet unique characteristics of the program. The processes followed and artifacts required may be tailored collaboratively with the OAM based on program type, program need, Department/Bureau guidance, and specific lifecycles of certain programs (e.g., satellites, facilities, IT, and programs requiring early design reviews, interim approvals, etc.).

Each phase of the Framework should produce specific data and information (captured in artifacts, surveys, and interviews) required to inform and perform milestone reviews. Figure 4 below provides the list of minimum artifacts to satisfy each of the phases/milestones for mission critical programs and recommended for all other programs.

**Baseline Framework**

MS 0	MS 1	MS 2	MS 3
Initiation	Planning	Design	Production
<ul style="list-style-type: none"> <li>• Mission Needs Statement (MNS)</li> <li>• Stakeholder Management Plan</li> <li>• Work Breakdown Structure and Delivery Roadmap</li> <li>• Resource Plan</li> <li>• Risk Report</li> <li>• Program Cost Estimate</li> </ul>	<ul style="list-style-type: none"> <li>• Updates to Initiation Phase artifacts, as needed</li> <li>• Capability and Requirements</li> <li>• Concept of Operations</li> <li>• Tech Readiness Report (if applicable)</li> <li>• Analysis of Alternatives (AoA)</li> <li>• Integrated Master Schedule (IMS)</li> <li>• CARD (if applicable)</li> <li>• Independent Cost Estimate (ICE)</li> <li>• Acquisition Strategy Report</li> <li>• Program Baseline and Reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Updates to Initiation and Planning Phase artifacts, as needed</li> <li>• Program Baseline and Execution Report</li> <li>• Requirements Traceability</li> <li>• Execution Management, Oversight, and Adjustments</li> </ul>	

*Figure 4. DOC Acquisition Program and Project Management Framework Artifacts*

The necessary data and information to generate these artifacts are discussed in greater detail in Sections 2.2 through 2.4. All data, information, and artifacts are required to guide milestone reviews. The templates for the required artifacts were developed to assist program managers by providing the information necessary to perform milestone review in a streamlined and efficient manner that minimizes program level of effort. If a Bureau has pre-existing artifacts with similar information, it may provide those artifacts for review. However, if the artifacts lack clarity, are missing key information, or do not provide information in a manner that will result in efficient review, programs may be asked to leverage the Framework artifacts. If a Bureau uses its own templates, they must correlate and annotate sections of the Bureau template to the information requirements within the Framework templates.

The Department, through the MRB, shall provide for coordinated oversight, review, and approval of planning, acquisition, and management of mission critical acquisition programs and the professional services contracts that support them. Heads of Operating Units shall provide analogous oversight, review, and



approval of non-high-profile and delegated mission critical acquisition programs 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 (mission critical 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 are not limited to:

- Do proposed program capabilities address mission needs/gaps?
- Were a variety of alternatives identified and analyzed?
- Is the acquisition strategy sound and well-developed? How are programs approaching procurements and the award of contracts?
- Are program baselines (e.g., cost and schedule baselines) effectively estimated and clear/understandable?
- Are programs taking effective remedial action following a baseline deviation?

Mission critical programs, 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) and the Acquisition Review Board (ARB) for purposes of approving a program milestone, approving procurements that are planned for the next acquisition phase, or approving progression to the next acquisition phase. Although mission critical programs 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 programs.

All DOC designated mission critical programs shall have program baselines (e.g., cost, schedule, and performance) established at Milestone 2 that shall be tracked by the Program Manager. Deviation of any baseline by 20 percent or more shall be reported by the Program Manager to the MRB Chair or Operating Unit-designated MDA within 30 calendar days of when the date the deviation is identified.

As noted previously, the Operations and Maintenance and Disposal phases 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 these areas (e.g., change control, objectives, required artifacts, and events that could initiate a new review).

## 2.2. INITIATION PHASE

### 2.2.1. PROCESS

The Initiation Phase and the approval of Milestone 1 results in shared understanding, alignment, and agreement on **mission needs**, that analysis has been performed to identify gaps between existing and required **capabilities** to meet those mission needs, and that the proposed capabilities will close that gap. This will require **analyzing alternatives** to deliver those capabilities and meet those mission needs. A **stakeholder analysis**—identification and analysis of stakeholder, customer, and end-user needs will inform the process noted above. Program teams will then consider and **break down the work** that is required to deliver capabilities that drive the mission. Once the work is understood, **resource planning** will help determine the necessary internal and external resources required to deliver the necessary capabilities. Understanding the mission needs, capabilities, stakeholders, required work, and internal/external resources will allow the team to fully **identify, analyze, and respond to risk**. A rough order of magnitude (**ROM**) **cost estimate** will inform

and provide insight to **affordability** and **benefit**. Milestone 1 approval moves the program into Planning Phase, where more resources are made available to formally plan the program and necessary procurements. Programs will typically move through these processes sequentially (see Figure 5 below).

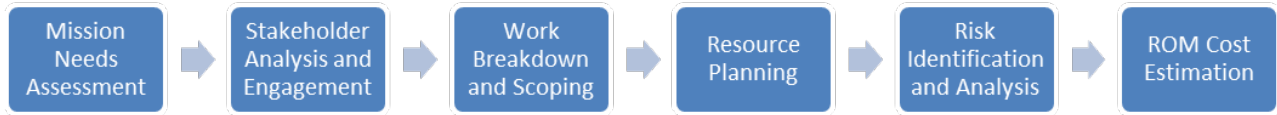


Figure 5. Initiation Phase Process Flow

Over the course of the Initiation Phase, programs will generate data, information, and insights that will be used to drive action and decision-making. This information is valuable to shape the program and ensure success. The OAM requires programs to capture this data/information in a set of concise and streamlined artifacts. The artifacts were developed to take advantage of data/information that should be well-known by the programs and to capture it in a streamlined manner to minimize the level of effort required to produce each artifact.

The **required artifacts and their intended usage/value are listed in Section 2.2.2**. Artifacts should be produced in a sequential order (unless otherwise noted), as information available from artifacts previously produced informs subsequent artifacts. Once all artifacts are produced, the Sponsor should review the artifacts and provide the MRB with **Sponsor Commitment** and assurance the Sponsor understands what is being proposed, believes the program aligns to DOC and Bureau mission needs, and they are prepared to commit the resources (staff, finances, time, etc.) necessary for the program to successfully achieve its outcomes.

Once Sponsor Commitment is provided, the OAM will perform a program review for Milestone 1 that is comprised of artifact reviews and OAM and program collaboration (e.g., discussions, surveys, interviews, feedback sessions). The outcome of this program review will be **OAM Feedback** on program direction, including feedback on individual artifacts and insights gained through surveys/interviews in preparation for **MRB review** which may culminate in **MDM Approval**. This approval moves the program into Phase 2 – Program Planning and Definition. The submission and approval process is illustrated in Figure 6 below.

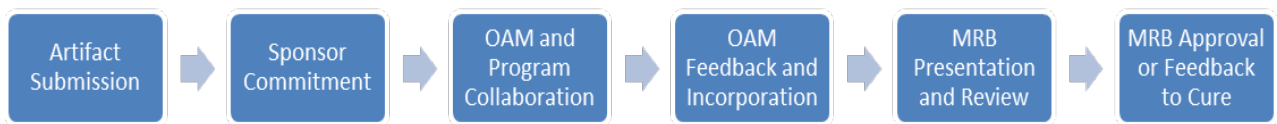


Figure 6. Initiation Phase Approval Process

## 2.2.2. ARTIFACTS

Artifact ID	Artifact Name	Artifact Usage/Value
1.1	Mission Needs Statement	The Mission Needs Statement artifact defines the specific mission need and functional capabilities required by the program and explains how it aligns to the DOC and Bureau’s mission. The MNS conveys the benefits and value of the program, alignment to mission, and the strategic framework for acquisition planning and capability delivery.
1.2	OAM Artifacts Checklist	The OAM Artifacts Checklist helps to plan and communicate the delivery of required program management artifacts. In this phase, provide target deliver dates for all artifacts.
1.3	Stakeholder Management Plan	The Stakeholder Management Plan artifact provides a thorough understanding and full picture of stakeholders, including those that will be impacted by the program, provide support to the program, or generate requirements for the program. This view should include a variety of customer and end-user stakeholder groups. The information contained in this artifact provides an understanding of program stakeholders, their level of influence and interest, and methods to engage stakeholders. In this phase, complete the Stakeholder Register and Influence/Interest Matrix portions of the Stakeholder Management Plan.
1.4	Work Breakdown Structure (WBS) and Delivery Roadmap	The WBS artifact provides a visual depiction of all the work required to deliver mission needs. This work is decomposed into larger work packages (e.g., capabilities) and smaller work packages (e.g., features) that define what the program will deliver in total. Decomposition should emphasize tangible deliverables (nouns not verbs) instead of the actions (steps/tasks/activities) required to complete the work. The Roadmap provides a visualization of the delivery timeline of MNS and WBS items.
1.5	Resource Plan	The Resource Plan artifact is used to provide insight on what is needed to deliver mission needs (decomposed into the work detailed in the WBS and Capabilities and Requirements artifacts). In this phase, the Resource Plan provides a high level/ROM breakdown of the resources (people, materials, equipment) required to complete the work in the WBS. It also highlights which resources are available internally versus those that are external (e.g., contracted/procured).
1.6	Risk Report	The Risk Report artifact provides insight on the unknown elements that could impact the program. It provides a summary of identified program risks, their characteristics, an analysis of probability and impact of each risk, and potential risk response strategies. This will eventually be used to build a contingency budget to address risk. The initial Risk Report will help the Sponsor and Milestone Review Board determine if the program is within established risk tolerances.
1.7	Program Cost Estimate - ROM	The Program Cost Estimate artifact provides insight on the costs the program requires to deliver its mission, including the decomposed work found in the WBS and Capabilities and Requirements artifacts. In this phase, a rough order of magnitude (ROM) of costs will be provided for at least two potential options. This ROM may be generated by evaluation of market analysis, the roadmap, work breakdown structure elements, stakeholder engagement needs, and resources necessary to deliver.
1.8	Sponsor Commitment	This artifact provides the Sponsor’s commitment to the program based on the information provided in all of the artifacts required for the Concept Initiation phase. The Sponsor Commitment provides the MRB with assurance the Sponsor believes the program aligns to DOC and Bureau mission needs, they understand what is being proposed, and they are prepared to commit the resources necessary (staff, finances, time, etc.) for the program to achieve its outcomes successfully.

Artifact ID	Artifact Name	Artifact Usage/Value
1.9	OAM Feedback Report (OAM Document)	This artifact provides the program with insights and feedback on artifacts developed during this phase to ensure the program is fully elaborated, clearly defined, and prepared for review with the MRB.
1.10	MDM Approval (OAM Document)	This artifact provides approval to move into Program Planning and Definition, rejection with feedback on where to improve to gain approval, or complete rejection of the concept.

## 2.3. PLANNING PHASE

### 2.3.1. PROCESS

The Planning Phase and the approval of Milestone 2 results in shared understanding, alignment, and agreement on the approach to executing the program, including acquisitions that will drive the program. As programs move from Initiation and through Planning, it is expected that significant learning will occur that may result in changes to underlying data and information about the program. Programs should anticipate new learning will drive updates to artifacts previously produced during initiation. Programs should share updated versions of the artifacts provided during Initiation and also communicate a summary of updates via the **OAM Artifact Checklist**. The OAM Artifact Checklist also provides anticipated delivery dates for newly created artifacts required to demonstrate thoughtful and comprehensive Planning.

As programs begin planning and defining their program, it is critical to explore and elaborate necessary capabilities and requirements, consider their impact to operations, and evaluate alternatives for delivery. The **Capabilities and Requirements** artifact leverages the insight from the MNS and WBS to relate work packages (e.g., capabilities, features) to specific requirements necessary to deliver them and to further relate them to the specific stakeholders who requested them. In this phase, provide all information (with the exception of the procurement information) prior to producing the AoA. After the AoA and Acquisition strategy are complete, you will revisit this artifact to relate each requirement to a specific procurement or highlight that the government intends to deliver that requirement. The **Concept of Operations** artifact provides insight on the future state asset, system, or capability, how it will be supported, and how it will impact current state operations. It should capture insights on all alternatives anticipated to be considered in the **Analysis of Alternatives (AoA)**. The AoA provides insights on alternatives that the program considered, what evaluation criteria and weighting was used to evaluate those alternatives, what alternative the program recommends, and a rationale for the recommendation. Submission of the AoA results in the generation of an **OAM AoA Memorandum** to provide quick-turn feedback on the alternatives considered, evaluation criteria and weighting, analysis, and the recommended alternative. The program should receive this memorandum before proceeding with additional planning to avoid extensive rework, lost time, and additional costs.

The Program will leverage the recommended alternative in the AoA to generate an **Integrated Master Schedule (IMS)** that provides insight on how the program will be executed. The IMS includes sequenced activities and tasks, with resources and (possibly) costs applied. It is typically generated to inform delivery timelines and cost/budget baselines. It may be produced in MS Project or a similar scheduling tool. The IMS is used in predictive/waterfall/hybrid programs only. Agile efforts will leverage a Roadmap and Product Backlog.

The program will use the recommended alternative above to estimate cost and budget. Programs will produce a **CARD** to explain how costs were estimated and a **detailed Program Cost Estimate** to share built up costs. The CARD artifact provides insight on the approach(es) used to estimate cost for the recommended

option in the AoA. The CARD is structured to provide work package level cost detail (taken from the WBS), including a summary of the work, anticipated cost estimation approach, basis of estimate, and the ultimate cost required to deliver that work. Information in the CARD will be leveraged to develop the Program Cost Estimate. The Program Cost Estimate provides a refined, structured accounting of all known lifecycle resources and associated cost elements required to develop, produce, deploy, and sustain the recommended option from the AoA. This should include a view of budget aligned to the proposed timeline/delivery roadmap that will serve as the Program Baseline used by the program team and the sponsor to monitor and control program execution and delivery by comparing actual results against baselined values. Once the CARD and the detailed Program Cost Estimate are produced, an **Independent Cost Estimate (ICE)** is performed by a third party for mission critical programs. Non-mission critical programs may consider if an ICE is valuable compared to the level of effort (and cost) required to produce the ICE. The ICE is performed to confirm program costs estimation and resulting budgets for the recommended option from the AoA. It provides a thorough review, analysis, and feedback of the CARD and the Program Cost Estimate artifacts provided by the Program team.

The **Acquisition Strategy Report** artifact details specific procurements that are required for the recommended option in the AoA, provides the acquisition roadmap, and includes specific assumptions and constraints used to guide acquisition decisions. Completion of the Acquisition Strategy Report triggers an update of the Capabilities and Requirements artifact (procurement details information). The Acquisition Strategy Report is then used to update the procurement information fields in the **Capabilities and Requirements Document**. It captures the contract/procurement that will deliver each capability and requirement and each capability and requirement the government intends to deliver without contractor support.

Finally, Programs should provide a **Program Baseline** that demonstrates program health and progress toward capability delivery; compares planned results with actual results; and highlights successes/challenges impacting delivery. For example, this could tie together capability delivery over time with anticipated program budget/cost information for a capability. Programs should share the process for capturing program data, metrics, reporting, etc., necessary to monitor program health, demonstrate progress against the baseline, and inform on capability delivery. This should include how you will use this information to monitor, control, notify, and take corrective action (if necessary) to enhance overall program success.

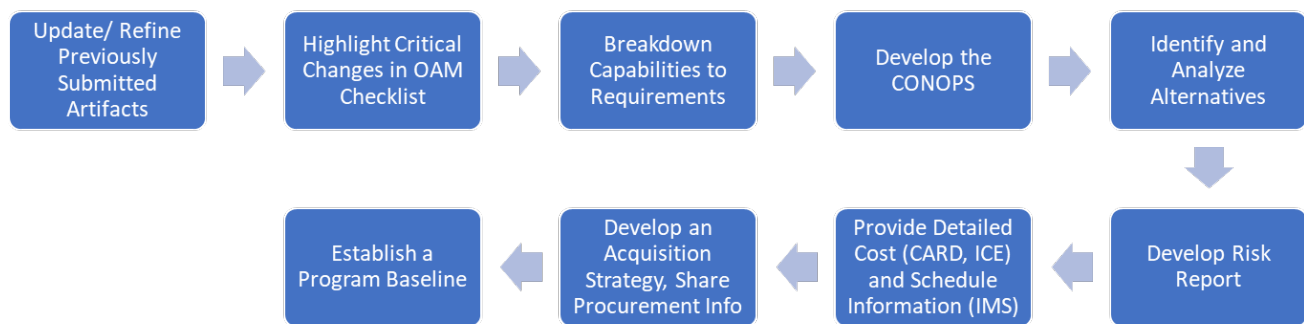


Figure 7. Planning Phase Process Flow

Over the course of the Planning Phase, programs will generate data, information, and insights that will be used to drive action and decision-making. This information is valuable to shape the program and ensure program success. The OAM requires programs to capture this data/information in a set of concise and

streamlined artifacts. The artifacts were developed to take advantage of data/information that should be well-known by the programs and to capture it in a streamlined manner to minimize the level of effort required to produce each artifact.

The **required artifacts and their intended usage/value are listed in Section 2.3.2**. Artifacts should be produced in sequential order (unless otherwise noted), as information available from artifacts previously produced informs subsequent artifacts. Once all artifacts are produced, the Sponsor should review the artifacts and provide the MRB with **Sponsor Commitment** and assurance the Sponsor understands what is being proposed, believes the program aligns to DOC and Bureau mission needs, and they are prepared to commit the resources (staff, finances, time, etc.) necessary for the program to successfully achieve its outcomes.

Once Sponsor Commitment is provided, the OAM will perform a program review for Milestone 2 that is comprised of artifact reviews, as well as OAM and program collaboration (e.g., discussions, surveys, interviews, feedback sessions). The outcome of this program review will be **OAM Feedback** on program direction, including feedback on individual artifacts and insights gained through surveys/interviews in preparation for **MRB review**, which may culminate in **MDM Approval**. This approval moves the program into the next Phase, which gives the Program authority to acquire a move toward a solution. The approval will typically be for entry into the Design Phase, which focuses on research and development, design, prototyping, technology development, etc. The results of the Design Phase inform requirements and acquisition strategies during the subsequent Production Phase. In these cases, artifacts would be updated to reflect the new design and how it impacts or changes anticipated production of capabilities.

However, certain programs with a clear understanding of the capabilities they need to produce and that do not require support in design, R&D, and/or prototyping a capability solution may request and receive approval by the OAM to combine the review for Milestones 2 and 3. If the OAM approves the program to follow this path and the MRB provides a combined Milestone 2 and 3 approval, the Program receives the authority to acquire the final capability. Programs seeking to pursue the combined approach should seek concurrence and approval from OAM as early in the lifecycle as known and practicable.

A summarized view of the submission and approval process is illustrated in Figure 8 below.

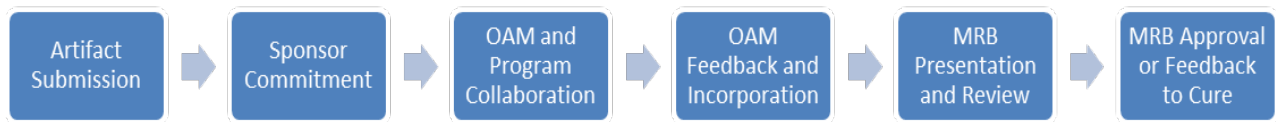


Figure 8. Planning Phase Approval Process

### 2.3.2. ARTIFACTS

Artifact ID	Artifact Name	Artifact Usage/Value
2.1	OAM Artifacts Checklist Update	The OAM Artifacts Checklist helps to plan and communicate the delivery of required program management artifacts. In this phase, update target delivery dates (if necessary) and highlight changes to information within each artifact. Highlighted changes should be provided for information used to gain approval in the Concept Initiation phase. You do not need to highlight changes that simply add new information requested in the Planning phase.
2.2	Stakeholder Management Plan Update	The Stakeholder Management Plan artifact provides a thorough understanding and full picture of stakeholders, including those that will be impacted by the program, provide support to the program, or generate requirements for the program. This view should include a variety of customer and end-user stakeholder groups. The information contained in this artifact provides an understanding of program stakeholders, their level of influence and interest, and methods to engage stakeholders. During this phase, update and refine information in the initial submission as needed. In addition, capture engagement strategies, communication events, and change management activities.
2.3	Work Breakdown Structure (WBS) and Delivery Roadmap Updates	The WBS artifact provides a visual depiction of all the work required to deliver mission needs. This work is decomposed into larger work packages (e.g., capabilities) and smaller work packages (e.g., features) that define what the program will deliver in total. Decomposition should emphasize tangible deliverables (nouns not verbs) instead of the actions (steps/tasks/activities) required to complete the work. In this phase, update and refine the WBS as needed.
2.4	Capabilities and Requirements	The Capabilities and Requirements artifact leverages the insight from the MNS and WBS to relate work packages (e.g., capabilities, features) to specific requirements necessary to deliver them and to further relate them to the specific stakeholders who requested them. In this phase, provide all information (with the exception of the procurement information) prior to producing the AoA. After the AoA and Acquisition strategy are complete, you will revisit this artifact to relate each requirement to a specific procurement or highlight that the government intends to deliver that requirement.
2.5	Concept of Operations	The Concept of Operations artifact provides insight on how the future state asset, system, or capability will function, how it will be supported, and how it will impact current state operations. It should capture insights on all alternatives anticipated to be considered in the AoA.
2.6	Resource Plan Update	The Resource Plan artifact is used to provide insight on what is needed to deliver mission needs (decomposed into the work detailed in the WBS and Capabilities and Requirements artifacts). In this phase, the Resource Plan provides all known resource requirements for all alternatives anticipated to be considered in the AoA artifact.
2.7	Tech Readiness Report (As Applicable)	The Tech Readiness Report artifact is only required for programs where the development of new technology is required. It should be performed for each applicable alternative anticipated to be considered within the AoA. The Tech Readiness Report should be presented in a manner and using language easily understood by decision makers.
2.8	Analysis of Alternatives Report (AoA)	The AoA provides insights on alternatives that the program considered, what evaluation criteria and weighting was used to evaluate those alternatives, what alternative the program recommends, and a rationale for the recommendation.



Artifact ID	Artifact Name	Artifact Usage/Value
2.9	OAM AoA Memorandum	The OAM generated memorandum on the AoA is used to provide feedback on the alternatives considered, evaluation criteria and weighting, analysis, and the recommended alternative. Programs should receive this memorandum before proceeding with additional planning to avoid extensive rework, lost time, and additional costs.
2.10	Risk Report Update	This is an update to the initial Risk Report artifact with risk identification, analysis, and response based on the recommended option in the AoA. This includes newly identified risks, highlights expired risk events that did not occur, provides fresh analysis of probability and impact for all risks, and includes updated risk response strategies (as necessary).
2.11	Integrated Master Schedule (IMS)	The IMS provides insight on how the program will be executed, using the recommended alternative in the AoA. The IMS includes sequenced activities and tasks, with resources and (possibly) costs applied. It is typically generated to inform delivery timelines and cost baselines. It may be produced in MS Project or a similar scheduling tool. The IMS is used in predictive/waterfall/hybrid projects only. Agile efforts will leverage a Roadmap and Product Backlog.
2.12	CARD	The CARD artifact provides insight on the approach(es) used to estimate cost for the recommended option in the AoA. The CARD is structured to provide work package level cost detail (taken from the WBS), including a summary of the work, anticipated cost estimation approach, basis of estimate, and the ultimate cost required to deliver that work. Information in the CARD will be leveraged to develop the Program Cost Estimate.
2.13	Program Office Cost Estimate - Refined	This artifact provides a refined, structured accounting of all known lifecycle resources and associated cost elements required to develop, produce, deploy, and sustain the recommended option from the AoA. This should include a view of budget aligned to the proposed timeline/delivery roadmap that will serve as the Program Baseline used by the program team and the sponsor to monitor and control program execution and delivery by comparing actual results against baselined values.
2.14	Independent Cost Estimate (ICE)	The ICE is performed to confirm program costs estimation and resulting budgets for the recommended option from the AoA. It provides a thorough review, analysis, and feedback of the CARD and the Program Cost Estimate artifacts provided by the Program team.
2.15	Acquisition Strategy Report	The Acquisition Strategy Report artifact details specific procurements that are required for the recommended option in the AoA, provides the acquisition roadmap, and includes specific assumptions and constraints used to guide acquisition decisions. Completion of the Acquisition Strategy Report triggers an update of the Capabilities and Requirements artifact (procurement details information).
2.16	Capabilities and Requirements (Procurement Information Update)	This update leverages the Acquisition Strategy Report for the recommended alternative from the AoA to highlight which contract/procurement will deliver each capability/requirement or if the government intends to deliver a capability/requirement without contractor support.
2.17	Program Baseline	The Program Baseline ties together capability delivery over time with anticipated budget/spend to produce that capability. It provides detailed mechanisms on program data, metrics, reporting, etc., necessary to monitor program health, demonstrate progress against the baseline, and inform on capability delivery. This should include how you will use this information to monitor, control, notify, and take corrective action (if necessary) to enhance overall program success.



Artifact ID	Artifact Name	Artifact Usage/Value
2.18	Sponsor Commitment	This artifact provides the Sponsor’s commitment to the program based on the information provided in all of the artifacts required for the Program Planning and Definition phase. The Sponsor Commitment provides the MRB with assurance the Sponsor believes the program aligns to DOC and Bureau mission needs, they understand what is being proposed, and they are prepared to commit the resources necessary (staff, finances, time, etc.) for the program to achieve its outcomes successfully.
2.19	OAM Feedback Report	This artifact provides the Program with insights and feedback on artifacts developed during this phase to ensure the program is fully elaborated, clearly defined, and prepared for review with the MRB.
2.20	MDM Approval	This artifact provides approval to move into Program Execution, rejection with feedback on where to improve to gain approval, or complete rejection of the program.

## 2.4. DESIGN PHASE

### 2.4.1. PROCESS

The Design Phase focuses on research and development, design, prototyping, technology development, etc. During this phase, programs may contract vendor(s) to help develop that design/prototype or perform R&D to inform what capabilities the program needs to produce and what it will take to produce them (e.g., underlying technology requirements). This will inform how the program will deliver in the Production Phase and what acquisition(s) and contract(s) the program will need to perform in the Production Phase. Once the design contract(s) have been awarded, executed, and objectives achieved, the Program should assess those results for incorporation into the Program’s Production Phase acquisition approach. The Program should update all relevant artifacts from the previous phase with specific focus on the Capabilities and Requirements, Acquisition Strategy Report, and Cost Estimates.

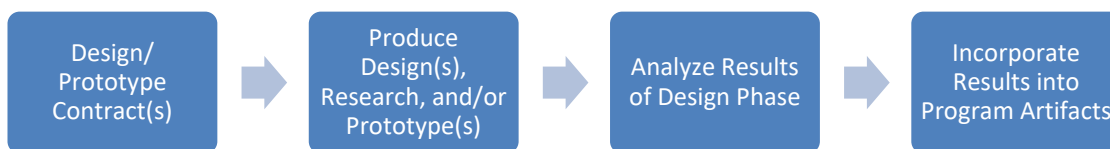


Figure 9. Design Phase Process Flow

The **required artifacts and their intended usage/value are listed in Section 2.3.2**. Artifacts should be updated in a sequential order (unless otherwise noted), as information available from artifacts previously produced informs subsequent artifacts. Once all artifacts are updated or produced, the Sponsor should review the artifacts and provide the MRB with **Sponsor Commitment** and assurance the Sponsor understands what is being proposed, believes the program aligns to DOC and Bureau mission needs, and they are prepared to commit the resources (staff, finances, time, etc.) necessary for the program to successfully achieve its outcomes.

Once Sponsor Commitment is provided, the OAM will perform a program review for Milestone 3 that is comprised of artifact reviews, as well as OAM and program collaboration (e.g., discussions, surveys, interviews, feedback sessions). The outcome of this program review will be **OAM Feedback** on program

direction, including feedback on individual artifacts and insights gained through surveys/interviews in preparation for **MRB review**, which may culminate in **MDM Approval**. This approval moves the program into the next Phase, which gives the Program authority to acquire the final capability solution or to enter into capability production.

A summarized view of the submission and approval process is illustrated below.

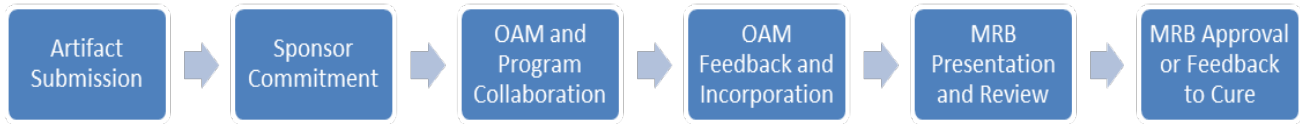


Figure 10. Design Phase Approval Process

### 2.4.2. ARTIFACTS

Incorporate all information gathered in the Design phase to update all artifacts listed in Section 2.3.2 to reflect what is needed by the Program to deliver the approved capabilities. Submit these artifacts to the OAM and MRB for milestone review.

## 3. MILESTONE REVIEW BOARD (MRB)

### 3.1. MRB ORGANIZATION AND STRUCTURE

As described in this Guidebook, DOC review of mission critical programs will be conducted by the MRB supported directly by an MRB 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 programs between milestones. For membership, roles, and responsibilities, see MRB roles and responsibilities listed in Section 1.5 Roles and Responsibilities.



Figure 11. Milestone Review Board Membership

### 3.2. OAM SUPPORT

The OAM supports programs throughout the entire MRB process by providing:

- Advice on program initiating and planning activities.
- Guidance to navigate the MRB process.
- Assistance in acquiring independent reviews (e.g., Independent Cost Estimates).
- Support across a variety of program management knowledge area (e.g., risk, cost).
- Support in preparing program artifacts.
- Feedback to ensure successful reviews at future MRBs.

### 3.3. MRB PRESENTATION REQUIREMENTS AND GUIDING QUESTIONS

Wherever possible, PMs should leverage required MRB artifacts as presentation materials. Where summarized views of the artifacts are desirable (e.g., cost artifacts), PMs will produce these summarized views based on data and information contained within the artifacts. PMs will combine information from these artifacts and summarized views to electronically share both the artifacts and additional presentation materials to the Secretariat in accordance with the MRB Proposed Timeline found in Section 3.4. Read ahead materials will be 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. Briefings should use a reasonable number of slides to succinctly convey the message. The scope and current status of the program and history of reviews will dictate the time allotment for the agenda item. 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 and presentations and all required MRB documents should be paginated. Programs leveraging the recommended artifacts can simply leverage those as the presentation for the MRB.

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

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

Milestone	Guiding Questions
1	<ul style="list-style-type: none"> <li>▪ Is the Mission Need Statement clear on what capability gap exists and what requirement(s) is to be satisfied with this proposed program?</li> <li>▪ What strategic goals for the Department are linked to this program? And if applicable, what supporting Bureau strategic goals are linked to this program?</li> <li>▪ Have all pertinent stakeholders been involved in developing the requirement?</li> <li>▪ 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?</li> <li>▪ Do the rough estimates of projected cost seem reasonable?</li> <li>▪ Have the risks of the proposed program been identified?</li> <li>▪ Have the risks of not pursuing the program been identified?</li> <li>▪ Is the sponsor identified and supportive of the program?</li> </ul>
2	<ul style="list-style-type: none"> <li>▪ Has the scope from MS1 changed? If so, is the program still valid and reasonable?</li> <li>▪ Were all reasonable alternatives considered by the analysis of alternatives?</li> <li>▪ Does the analysis of alternatives support the selected alternative?</li> <li>▪ Is it clear in the concept of operations how the new capability will operate and integrate with existing capabilities?</li> <li>▪ Have all risks been identified and treated properly, particularly technical risks?</li> <li>▪ Does the evolving solution meet the stated mission need?</li> <li>▪ Have any of the following changed since MS1, and if so, explain: cost, schedule, performance, strategy, risk, requirements? Have the program baselines changed? If so how/why?</li> <li>▪ What are the key performance parameters and what is the status for achieving?</li> <li>▪ Do planned program management and acquisition activities appear adequate?</li> <li>▪ Do external reviews support the technology considerations and cost projections?</li> <li>▪ Is the sponsor fully supporting the program (with resources, staffing, organizational support)?</li> </ul>
3	<ul style="list-style-type: none"> <li>▪ Have risks been addressed properly, particularly technical risks?</li> <li>▪ Does the evolving solution meet the stated mission need?</li> <li>▪ What is the status of the program management and acquisition activities?</li> <li>▪ Do go-forward plans seem adequate for successful acquisition and delivery of necessary capabilities?</li> </ul>

Milestone	Guiding Questions
	<ul style="list-style-type: none"> <li>▪ Does the execution to date align with the approach provided during Milestone 2? Are deviation impacts understood, have they been socialized; are they approved and deemed acceptable?</li> <li>▪ Are plans sufficient to ensure necessary support for the effective and efficient operation of the fielded capability?</li> <li>▪ Have any of the following changed since MS2, and if so, explain: cost, schedule, performance, strategy, risk, requirements? Have the program baselines established at MS2 changed? If so how/why?</li> <li>▪ Do external reviews support the technology considerations and cost projections?</li> <li>▪ Is the sponsor fully supporting the program (with resources, staffing, organizational support)?</li> </ul>

### 3.4. MRB PROPOSED TIMELINE

PMs will follow the MRB Proposed Timeline below unless otherwise agreed to with the Secretariat. All days expressed below are calendar days.

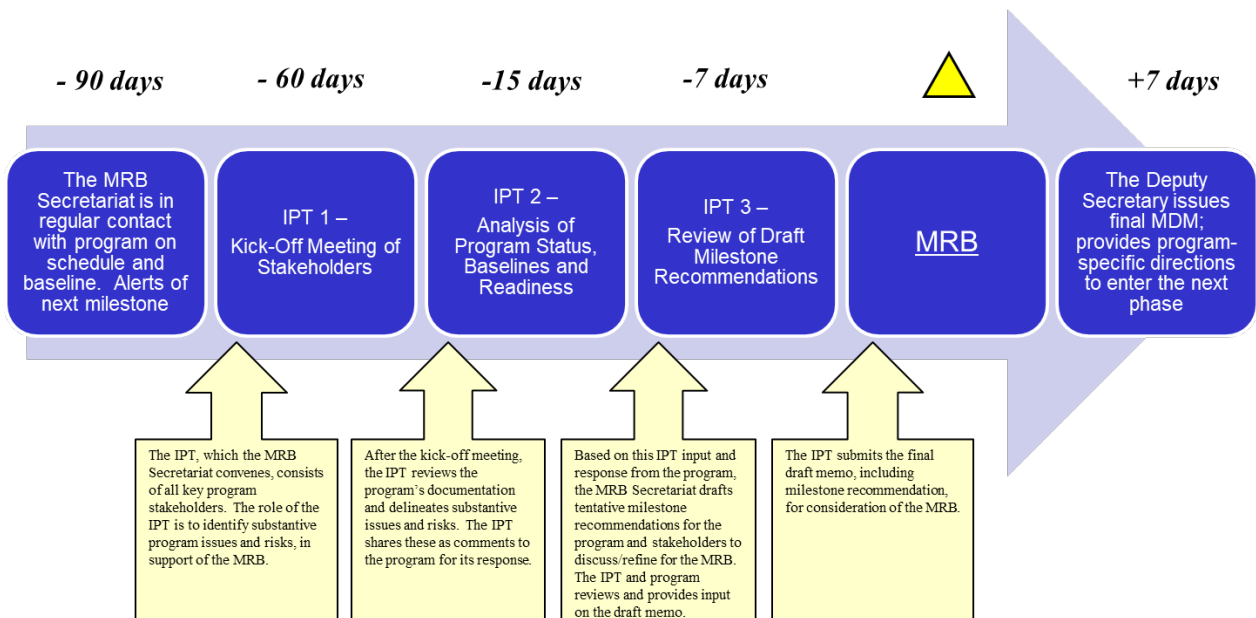


Figure 12: MRB Timeline

<b>90 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat contacts program manager and notifies of required artifacts and schedule</li> <li>• Secretariat /PM jointly agree to proceed with MRB schedule</li> </ul>
<b>70 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat receives artifacts and supporting materials from Program Manager</li> </ul>
<b>60 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat convenes MRB IPT kick-off meeting (IPT1)</li> </ul>
<b>30 Days Prior</b>	<ul style="list-style-type: none"> <li>• IPT Members provide feedback to the Secretariat</li> </ul>
<b>20 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat provides program with feedback on artifacts prior to IPT 2</li> </ul>

<b>15 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat convenes meeting for IPT to provide feedback on artifacts to Program Manager (IPT 2)</li> </ul>
<b>7 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat provides PM with IPT feedback on MRB briefing and draft decision memorandum with known issues and required corrective actions (IPT 3)</li> <li>• PM provides final MRB artifacts and briefing to the Secretariat</li> <li>• Secretariat provides MRB final artifacts and briefing to MRB principals and responds to any questions from MRB members</li> <li>• IPT representatives pre-brief their respective MRB members and undertake other required activities to prepare them for the upcoming MRB</li> </ul>
<b>3 Days Prior</b>	<ul style="list-style-type: none"> <li>• Secretariat staff distributes final agenda, all artifacts, briefing, and draft Milestone Decision Memorandum to MRB principals and program manager</li> <li>• Secretariat staff uploads all materials to shared drive</li> </ul>
<b>MRB Meeting</b>	<ul style="list-style-type: none"> <li>• Secretariat staff is responsible for making preparations for the meeting and making sure it runs smoothly</li> <li>• Secretariat staff takes meeting minutes and captures all decisions and action items</li> </ul>
<b>1 Days After</b>	<ul style="list-style-type: none"> <li>• Secretariat staff sends revised draft Milestone Decision Memo (MDM) to MRB principals, MRB IPT, and program manager</li> </ul>
<b>3 Days After</b>	<ul style="list-style-type: none"> <li>• MRB Executive Secretariat forwards the coordinated, revised MDM to MRB Chair for signature</li> </ul>
<b>7 Days After</b>	<ul style="list-style-type: none"> <li>• Deputy Secretary signs MDM</li> <li>• MRB Executive Secretariat distributes the signed MDM to MRB members and enters actions into tracking system</li> <li>• OAM completes an Independent Cost Estimate (ICE) report that documents the ICE results used to establish the Department’s baseline.</li> </ul>

### **3.5. OTHER MRB PROCEDURES**

#### **3.5.1. MILESTONE DECISION MEMORANDUM**

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

Or, in the case where a program 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.

#### **3.5.2. APPEALS PROCESS**

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

### 3.5.3. ESTABLISHING THE PROGRAM BASELINE AND MANAGING DEVIATIONS

Every mission critical program following a predictive/waterfall approach shall be defined by at minimum three baselines starting in Milestone 2. These will be defined in the Program Baseline artifact and refined, as necessary with justification, at subsequent milestones:

1. **Cost:** 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 over its planned lifespan, without regard to funding source or management control. Development costs (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 Design phase (Milestone 2) through Operations and Maintenance (Milestone 4) without regard to funding source or management control, for the life of the program.
2. **Schedule:** the program time planned from Milestone 2 to achievement of operational readiness.
3. **Performance:** the key performance parameters or metrics established at Milestone 2 that define program operational capabilities and readiness.

All Department-designated mission critical programs, regardless of size or MDA shall:

- At Milestone 1:
  - Prepare the range of costs at a rough order of magnitude (ROM) that corresponds to the alternatives proposed
- At Milestone 2:
  - Have cost (lifecycle and development), schedule, and performance baselines established
  - Be responsible for preparation of an ICE
  - Submit a revised ICE following a baseline deviation. The Program Manager (PM) shall track all baselines.
- At Milestone 3:
  - Have cost (lifecycle and development), schedule, and performance baselines established
  - Be responsible for preparation of an ICE
  - Submit a revised ICE following a baseline deviation. The Program Manager (PM) shall track all baselines.

For mission critical programs 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 not subject to MRB oversight, program 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. FRAMEWORK INTEGRATION WITH BUDGETING PROCESS

The Acquisition Framework must interface with the Department's budget process to ensure efficient and effective project management, resource allocation, and ability to fulfill its mission. This requires consistent and complete information exchanges between the Framework and the budget processes.

To fully leverage the benefits of the Acquisition Framework and the milestone review process, the life cycle cost estimate must:

- Tie directly to the Bureau budget submissions and appropriations
- Avoid erroneous mapping schemas
- Identify who can charge against program appropriations
- Identify who has charged against program funds

Program traceability from budget formulation and cost estimation through budget execution provides numerous benefits, including:

- Allowing the program manager to measure program performance against a funding baseline
- Management of carryover funds
- Comparison of actual costs to estimated costs by year
- The ability to assess the degree of accuracy of the team's cost estimate
- The ability to continuously improve cost estimation capabilities and methodologies
- Allowing for better decision support to program and Department of Commerce leadership

Aligning the life cycle cost estimate to budget formulation and execution requires that the program cost reporting is structured so each element is identifiable for budgeting and execution purposes. For example, one cost element might be a single contract, a single Contract Line Item Number (CLIN), or a single federal branch that can be identified in a system of record such as the Department of Commerce financial system of record.

In some cases, programs utilize umbrella contracts that provide support and staff to multiple other programs. In these cases, program must utilize a mechanism (e.g., cost reporting, unique lines of accounting) to identify program specific costs and tie them back to capability delivery. Programs that lack this mechanism will not have proper cost traceability.

The process of thoroughly defining the program cost, schedule, and performance metrics provides a strong basis for program funding stability. OAM analysis has shown that historically, programs that have been baselined through the MRB process, received at least 95% of their requested funds and many baselined programs were fully funded. Without complete cost estimates it is possible required work content will not be funded. Budgets formed without proper cost estimates may struggle to assess affordability and the impact of changes with an appropriate level of PM control.

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., a Program's progression along the Framework). The budget development process follows a predictable schedule throughout the year, while a program's milestones may occur at any point during the year. Therefore, participants in both processes must be aware of the timing of both sets of activities. Further, the program office must provide current estimates of schedule, budget, and resources to support the budget process both when necessary and as requested.



## APPENDIX A – ARTIFACT PRODUCTION, USAGE, & OUTCOMES

### Introduction

Appendix A 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. All artifacts can be found in the OMB Max PM COP PM Took Kit.

### MISSION NEEDS STATEMENT

#### Usage and Value

All program investment and effort should start with mission need and a clear understanding of Department and Bureau strategy. Programs are typically initiated to ensure mission needs are fulfilled and gaps to fulfillment are identified and addressed via the development of new capabilities. The Mission Needs Statement (MNS) artifact captures information on required mission needs, identified gaps in capabilities that may lead to an inability to deliver the mission, and an overview of the capabilities required to deliver on mission and fill identified gaps. Note: the MNS provides a high-level overview of required capabilities but does not provide a highly detailed solution or set of requirements.

#### Recommended Resources

- The Program Sponsor, Program Manager, Program Subject Matter Experts, End Users, External Stakeholders

#### 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 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
- Description of possible alternative to be evaluated for filling the capability gap to include material or non-material solutions. These solutions will be the alternatives analyzed in the next phase’s AoA

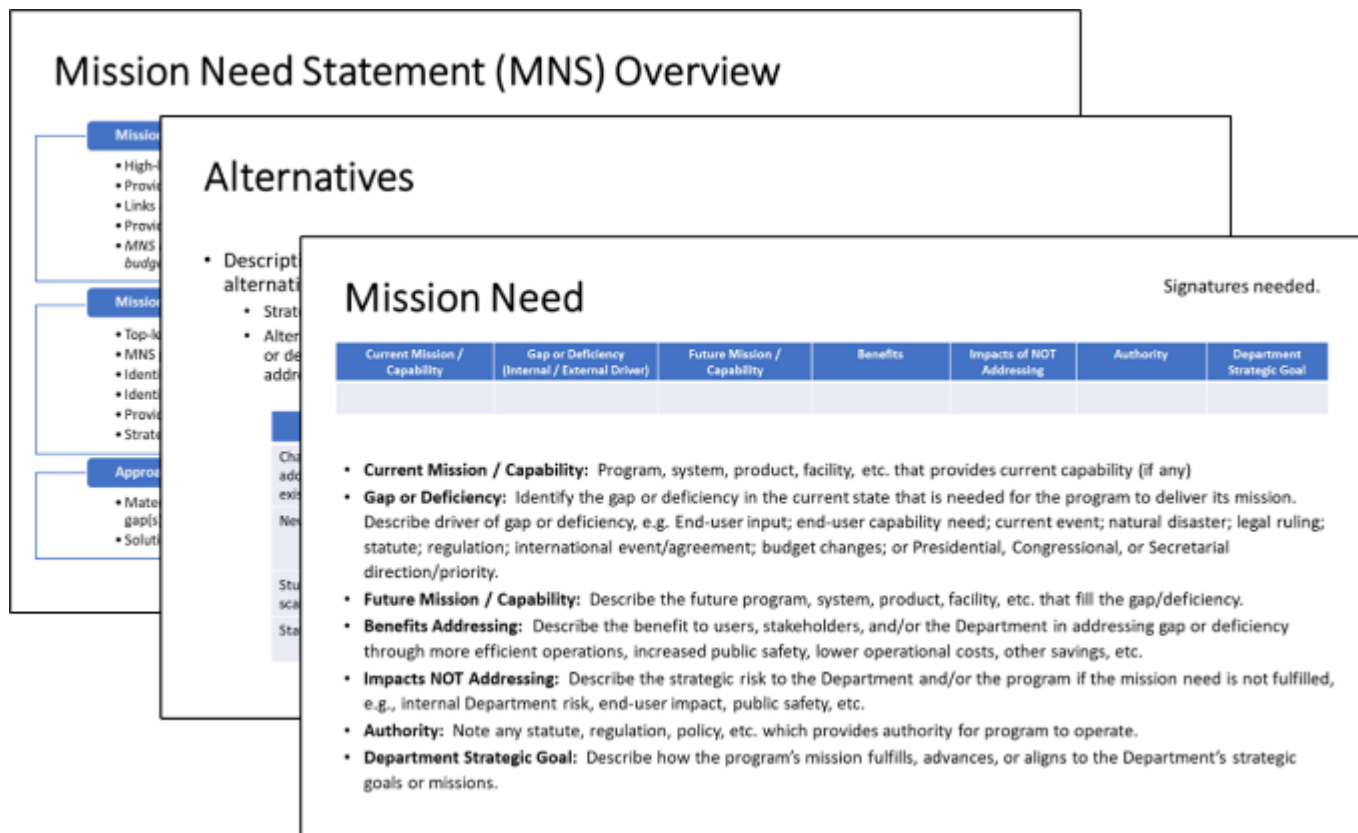
The MNS must be sufficiently detailed to justify an acquisition start. Approval of a MNS provides formal agency executive level acknowledgment of a justified and supported requirement to a user or stakeholder need with a material or non-material solution.

**Anticipated Outcomes**

- Document a high-level synopsis of specific functional capabilities needed to accomplish agency mission and objectives.
- Provide a strategic Framework for acquisition planning and capability delivery. 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.
- Identify alternatives to fill the capability gap that will be further evaluated and explored in the next phase.

**Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.



## OAM ARTIFACT CHECKLIST

### Usage and Value

The OAM Artifact Checklist provides an overview of the processes and documents required within each phase of the acquisition lifecycle. This list of artifacts (unless otherwise noted) should be created sequentially. The checklist helps programs ensure they understand the requirements for phases and milestone reviews. The purpose of the OAM Artifact Checklist is to facilitate early planning within the program, provide targeted availability of artifacts to establish a review and feedback schedule with the OAM, and to communicate major changes/updates to the artifacts.

### Recommended Resources

- The Program Manager and Program Staff

### Process Description

- Complete documentation of mission need
- Develop initial plan to complete program initiation activities
- Complete OAM Artifact Checklist
- Provide checklist to OAM for coordination

After a program has identified Mission Need, it should complete the OAM Artifact Checklist to denote which processes and documents it will complete and the timeframe in which it expects each to be completed. The overall schedule, resources, and scope of the acquisition should be considered when establishing the anticipated need dates for milestones and artifacts. The program manager should provide the completed checklist to OAM for planning purposes and to facilitate any support that may be required.

### Anticipated Outcomes

- The OAM Artifact Checklist is updated with anticipated completion dates for each of the required artifacts to support each Milestone.
- As programs enter new phases, significant updates or changes to any artifacts should be communicated using the OAM Artifact Checklist.
- The OAM Artifact Checklist should be provided to OAM for communication and collaboration purposes.

### Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

Milestone ID	Milestone Name	Artifact ID	Artifact Name	Artifact Usage/Value	Link to Artifact Template	Target Delivery Date	Changes Since Last Update
1	Concept Initiation	1.1	Mission Needs Statement	The Mission Needs Statement artifact defines the specific mission need and functional capabilities required by the program and explains how it aligns to the DOC and Bureau's mission. The MNS conveys the benefits and value of the project/program, alignment to mission, and the strategic framework for acquisition planning and capability delivery.			

## **STAKEHOLDER MANAGEMENT PLAN**

### **Usage and Value**

By completing the Stakeholder Management Plan, the program will identify key stakeholders, their level of influence, and how each individual stakeholder will be engaged. The Stakeholder Management Plan will ensure that the program is addressing the needs and minimizing any risks for the stakeholders throughout the entire process. The Department of Commerce OAM will use the Stakeholder Management Plan to verify that the correct stakeholders are being engaged at the appropriate level throughout the program's lifecycle.

In subsequent phases, the program should be able to update and validate the Stakeholder Management Plan and Engagement Plan. By completing the Stakeholder Management Plan Update, the program will refine the list of key stakeholders, their level of influence, and how each individual stakeholder will be engaged. Updating and verifying the accuracy of the Stakeholder Management Plan will ensure that the program is addressing the needs and minimizing any risks for the stakeholders throughout the entire process. The Department of Commerce OAM will use the Stakeholder Management Plan to verify that the correct stakeholders are being engaged at the appropriate level throughout the program's lifecycle.

### **Recommended Resources**

- The Program Manager, Internal Stakeholders, External Stakeholders

### **Process Description**

- Identify stakeholders
- Conduct stakeholder analysis to determine influence and interest
- Conduct ongoing stakeholder management by creating stakeholder engagement plan

### **Stakeholder Identification**

The Stakeholder Management Plan artifact provides a complete view of stakeholders, including those that will be impacted by the program, provide support to the program, or generate requirements for the program. This view should include a variety of customer and end-user stakeholder segments/groups. The information contained in this artifact provides important characteristics of each program stakeholders/group, analysis of their level of influence over the program, their level of interest in the program outcomes, and approaches to engage stakeholders over the course of the program.

The Stakeholder Management Plan is initially created during the Initiation Phase. During this phase, the program will begin identifying and understanding stakeholders via the Stakeholder Register. During the Planning Phase, the program manager should continue identifying stakeholders and refining the stakeholder register, develop the influence/interest matrix, and leverage the influence/interest matrix to inform the defining of engagement events and activities.

### **Anticipated Outcome**

- As part of ongoing Stakeholder Management where the program evolves and executes, stakeholders will need to be engaged, managed, and monitored over time using a Stakeholder Engagement Plan.

### **Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

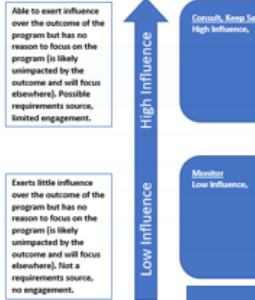
## Stakeholder Identification using the Stakeholder Register

ID	Stakeholder (or stakeholder group)	Position/ Role on the Project	High Level Business Needs	Contribution	Influence	Interest	Impact of the Project
1							
2							
3							
4							
5							

- **Stakeholder** – Identify all p
- **Position** – the stakeholder
- **Business Needs** – High-level
- **Contribution** – Describe ho
- **Influence** – a qualitative as
- **Interest** – a qualitative asse
- **Impact of the Project** – des

## Stakeholder Analysis using the Influence/Interest Matrix

- Leverage the stakeholder register results to identify high and low interest and influence ratings.
- List (do not plot) each stakeholder in the appropriate quadrant below.
- Use the results to identify initial targets for requirements gathering, to determine the appropriate level of engagement and to structure stakeholder engagement events/activities.



## Stakeholder Engagement Plan

Communication Name	Objective	Owner	Audience	Message(s)	Medium	Frequency/Timing

- **Communication Event Name** - Name of the communication activity/event
  - **Objective** – The purpose/intended result of the communication activity/event
  - **Owner** – Determine who owns production of the message/content, as well as who owns distribution (if different)
  - **Audience** – Determine who the communication is for to help craft appropriate messaging
  - **Message(s)** – The key message(s) that you intend to communicate. Note: each audience may require its own communication and may respond to different message(s).
  - **Medium** – Determine the appropriate medium to meet the objective [in-person, by phone, video conference, chat, email, etc.]
  - **Frequency/Timing** – Determine how often the meeting will occur
- Note: The stakeholder engagement plan may be included in a broader communications management and/or change management plan.*

## **WORK BREAKDOWN STRUCTURE**

### **Usage and Value**

The purpose of the work breakdown structure is to provide 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 program. The initial WBS may be high level as the program is further defined.

In subsequent phases, the program should have sufficient detail to develop a more formal and complete WBS. 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 program.

### **Recommended Resources**

- Personnel resources to include the program manager, program personnel, and cost estimators

### **Process Description**

- Review provided WBS examples for alignment to program.
- Tailor examples to program or define the product, or products, to be developed and/or produced followed by elements of work to be accomplished in support of acquiring or developing the product(s).
- Emphasizes work product (nouns) over phases or tasks/activities (verbs), so answers the questions “what we need” and “why” but does not explain how.
- Define elements that may be related to the future operating posture or model.
- Solicit feedback from program personnel, end users, external stakeholders, etc.

The initial WBS is informed by stakeholder inputs and the gaps identified in the MNS. In addition, the WBS is informed by roles and responsibilities typically found in all programs. It provides a visual depiction of all work packages (deliverables) for programs (a product-oriented family tree composed of hardware, software, services, data, and facilities). It informs resourcing (both internal needs and acquisition/contracting needs. Finally, it generates clarity on scope (what will be delivered and what is not going to be delivered) for communication with stakeholders and in the acquisition process.

### **Anticipated Outcomes**

A completed WBS outline that provides a structured hierarchy future program definition.

### **Example**

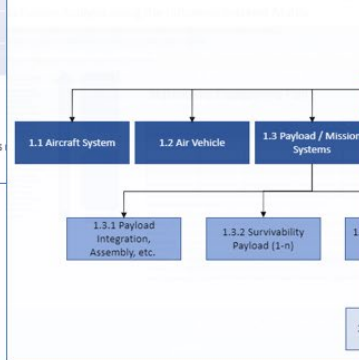
An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

# WBS Elements

WBS ID	Level	Title	Description
1.0	1	Program	Overall program.
1.1	2	Capability 1	
1.1.1	3	Feature 1	
1.1.2	3	Feature 2	
1.1.3	3	Feature 3	
1.2	2	Capability 2	

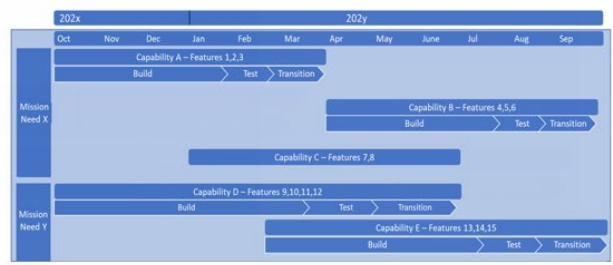
**WBS ID:** Level-numbered unique identifier.  
**Level:** Level of the element in the WBS hierarchy.  
**Title:** Title of the WBS element for short identification.  
**Description:** Definition of what the WBS element is and why it is.

## WBS Elements (Aircraft Sensor Example)



## Building a Roadmap

- Develop a high-level roadmap to communicate the anticipated timeline of the project (see example below).
- The roadmap should display the overall timeframe, lay out capabilities along that timeframe, and include phases of that delivery. Consider including known features.
- This information will guide future planning efforts (e.g., resourcing, cost, procurements, etc.).
- For Milestone 1; focus on key program decision dates (e.g., MNS, AoA, etc.) and any future capability delivery constraints (e.g., must field capability by certain date due to statute / regulation, etc.)



## **RESOURCE PLAN**

### **Usage and Value**

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

### **Recommended Resources**

- The program manager, program personnel, cost estimators

### **Process Description**

This process is performed by the organization that is going to undertake the program, 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 program needs to be assembled and analyzed:

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

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

- Budget authority currently and potentially available
- Technical expertise within and available to the organization
- Experience in program 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 program sponsor:

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

To ensure the program-led affordability analysis is conducted using the same set of requirements as the independent cost review, the program 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 for a comparison of the two cost estimates to be credible.



### Anticipated Outcomes

The analysis should provide the first rough order magnitude estimate of resources required to complete this program for each of the alternatives, including key assumptions and risks. The estimates should be aligned to the WBS and cover materials, equipment, and labor. An example of the mapping is provided below:

Work Pkg. Element (WBS Deliverable)	Material	Equipment	Specifications	Quantity	Price Range	Acquisition Method (Internal / External)	Estimated Lead Time (Order to Receipt)
1.1.1.3.1 (Fire Control – Detect)	N/A	Over the horizon target detection radar	<ul style="list-style-type: none"> <li>High frequency, low flying, and accounts for target acceleration</li> <li>Runs at 6.9 GHz.</li> </ul>	1	\$200K - \$250K	External	120 days
1.1.1.3.2 (Fire Control – Aim)	N/A	Aim with simulated lock on feature	<ul style="list-style-type: none"> <li>Lock for target on land, water and air.</li> <li>Compatible with ABC Fire System</li> </ul>	1	\$400 - \$500K	External	180 days
<ul style="list-style-type: none"> <li><b>Work Package Element</b> – Refers to the WBS and specific deliverable that is to be produced. Facilitates tracking cost to WBS.</li> <li><b>Material</b> – Items required to meet the deliverable as described in the WBS. May be inputs consumed by the process (raw materials or sheet metal, or components of an end product (computer chips)</li> <li><b>Equipment</b> – Specific items to produce deliverable not consumed in the process.</li> <li><b>Specifications</b> – Description of what is required to satisfy the demands and expectation of the work package – standards to meet.</li> <li><b>Quantity</b> – amount to be purchased. Specify amount as each, dozen, case, truckload, etc.)</li> <li><b>Price Range</b> – dollar value of procurement based on normal purchasing standards and delivery time. Be clear on any vendor preparation required.</li> <li><b>Acquisition Method</b> – Acquire goods through internal or external means which impacts lead time.</li> <li><b>Estimated Lead Time</b> – amount of time from order to receipt. Allow enough time incorporate competitive bid practices, etc.</li> </ul>							

It may be a large range due to the fact that the preferred solution has not yet been selected. The complete estimate and summary of findings must be included as part of the Sponsor Commitment.

### Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

## Resource Requirements Overview

### Resource Requirements Process – Aligned with the WBS

The Resource Requirements Process is performed by the project office and may require expertise from outside the organization.

Align Project Cost Elements with the WBS

### Resource Requirement Schedules – Personnel and Labor Resources

Work Pkg. Element (WBS Deliverable)	Knowledge, Skills and Abilities (KSAs)	Quantity (Number of Hours)	Hourly Rate	Total Cost	Timing of Resource Utilization	Acquisition Method (Internal / External)	Estimated Lead Time (Order to Labor Charging)
1.1.1.3.1 (Fire Control-Detect)	<ul style="list-style-type: none"> <li>10+ years in radar detection and operation</li> <li>5+ years active combat experience</li> <li>Top Secret Clearance</li> </ul>	900 Hours (6 months)	\$80/hr.	\$72,000	Months 2-8	External	3 months
1.1.1.3.2 (Fire Control – Aim)	<ul style="list-style-type: none"> <li>10+ years in radar detection and operation</li> <li>5+ years active combat experience</li> <li>3+ years Fire Controlman</li> <li>Top Secret Clearance</li> </ul>	1000 Hours (9 months)	\$100/hr.	\$120,000	Months 4-12	External	3 months

Refer to Program Organizational Chart to ensure completeness of the Personnel and Labor Resources Schedule (Sample on Pg.7)

Additional terms in *italics* not included in the Materials and Equipment Schedule

- **Knowledge, Skills and Abilities (KSAs)** – Describe what is required in a given role to perform a role or task(s) and can include years of experience, roles and positions held, degrees and certifications, etc. KSAs can be hard skills like a degree or programming capability or soft skill such as leadership, teamwork, communications, etc.
- **Quantity of Hours and Hourly Rate** – Most resources sourced from a third part are contracted at an hourly rate. The hourly rate times the number of hours is **Total Cost**. Frequently, a blended rate is provided for multiple resources filling a specific role.
- **Timing of Resource Utilization** – Specifying the number of hours required as well as the calendar period a resource is needed. This is important to set expectations with the supplier especially if the resource is committed less than full time. Availability of a part time resource is critical to meeting deadlines. Applies to both internally and externally sourced staffing.

## **RISK MANAGEMENT**

### **Usage and Value**

In the Initiation Phase, an organization is still in the early discovery process, determining if they should develop a program. The purpose of the initial risk management report is to identify potential risks, providing the program sponsor and the MRB members with a more complete understanding of the program.

In subsequent phases, the purpose of the risk management report is to document potential risks, providing the program sponsor and the MRB members with a more complete understanding of the program at the time of the milestone.

Risk management is an ongoing, iterative process and the program's risk register should routinely be updated based on new risks or mitigations taken for current risks. Risk can be associated with any aspect of a program (e.g., technology maturity, supplier capability, design maturation, performance against plan) and may affect any element of the acquisition process from program initiation through all tasks in the work breakdown structure to program completion. Risk management is an ongoing process, not a static event.

### **Recommended Resources**

- The program manager, technical SMEs, cost analysts, budget analysts, end users, external stakeholders, etc.

### **Process Description**

Risk management begins during the Initiation Phase of a program, when little information is available, and continues throughout the program as increasing amounts of information are available. During subsequent phases, the Program should have a formalized risk management process from which the updated risk reports will be provided during milestone reviews.

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 process includes:

- Identify existing risks/adverse events and populating the Risk Register
- Determine underlying root causes/trigger events that may lead to the risk event occurring
- Evaluate probabilities and consequences if the risk event occurs
- Consider related program consequences (e.g., to scope, schedule, budget, quality, value/benefits)
- Determine risk response strategies, owners, and actions ahead of time to modify their probability and/or consequence (as necessary)
- Establish a regular cadence to review and update risks, response strategies, and status

### Anticipated Outcomes

- Identification of a comprehensive list of program risks developed by subject matter experts from a variety of disciplines, incorporating unique perspectives.
- Qualitative and quantitative analysis and grouping of risks to inform suitable risk response strategies.
- Clearly defined risk response strategies that minimize risk exposure

### Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

ID	Risk Summary	Risk Statement	Risk Category	Status	Probability	Impact	Response Strategy	Response Plan	Risk Owner
1	Risk 1	IF ... THEN ... IMPACT			5	3		PM to initiate review of contractor's system to [...] to reduce probability by 50%.	PM
2	Risk 2	IF ... THEN ... IMPACT			2	5		CE to complete design review of	Chief
3		Etc.							

**Risk Profile Summary**

Heat Map

5	Green	Yellow	Red
4	Green	Yellow	Red
3	Green	Green	Yellow
2	Green	Green	Green
1	Green	Green	Green

1 2 3

**Risk Scoring Criteria**

Criteria serves as a model and can be tailored with thresholds that align to the strategic goals and objectives of each Bureau, specific program, project, or other area of priority.

Level	What is the likelihood the opportunity will occur?	SEVERITY RATING MATRIX
5	Extremely likely. Current controls will not prevent this risk. 81-100%	
4	Likely. Current controls have significant uncertainties. 61-80%	
3	Moderately likely. Current controls have some uncertainties. 41-60%	
2	Not likely. Current controls have minor uncertainties. 21-40%	
1	Extremely unlikely. Strong controls in place. 0-20%	

Level	5	4	3	2	1
PERFORMANCE (including cost and schedule)	Max sig. pos. impact on DDC goals	Significant pos. impact to multiple DDC objectives.	Significant pos. impact to single DDC objective.	No pos. impact on multiple DDC objectives.	No pos. impact on ability to meet DDC Goal
REPUTATION	Max. boost to DDC or Administration reputation	Reputation sig. enhanced with 0 losses.	Reputation enhanced but at moderate price.	Reputation enhanced but at heavy price.	No chance of enhanced or strengthened reputation. Losses never recoverable.
BUDGET	Major impact (+-\$5M)	Major impact (+\$10M up to \$50M)	Significant impact (+\$1M up to \$10M)	Moderate impact (+\$100K up to \$1M)	Minimal impact (+-\$100K)
COMPLIANCE	Legally-administratively required with penalty for non-compliance	Required by policy with no penalty for non-compliance	Recommended	Best Practice	Not required
SAFETY AND SECURITY (includes Cyber)	Max. optimization, longevity and sustainment of personnel/assets.	Positive impact	Moderate impact	Little impact	No impact

## **PROGRAM OFFICE COST ESTIMATE**

### **Purpose**

The program office cost estimate provides the foundation for the Department’s business decisions concerning program affordability at each milestone. It provides a complete accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program or capability.

### **Recommended Resources**

- The program manager, program team members, subject matter experts, cost estimators

### **Process Description**

The program estimate is the responsibility of the program manager and its development is essential to successfully managing a program within cost and affordability guidelines. All known costs should be included in the cost estimate template, but for programs in the early planning, where their technical baseline usually hasn’t been defined enough to identify or quantify specific cost elements; rough approximations of cost (i.e., a “ROM”) may be all that’s feasible and that is acceptable at this stage. Over time, as the program technical baseline matures there will be more available supporting data to populate the WBS template with, resulting in a more refined level of cost detail.

The inputs for this process include: A Statement of Work (SOW), Performance Work Statement (PWS), Mission Needs Statement (MNS), Integrated Master Schedule (IMS), Analysis of Alternatives (AoA), analogous program input, or other requirements documents to inform the potential scope of the program capability.

The process of developing a program cost estimate should involve the following:

- Determine the estimate’s purpose and define the product, capability, or service to be developed or acquired.
- Develop the estimating plan and required resources.
- Define the program or capability; define the scope of the estimate and what is known about the technical baseline (i.e., functional and performance characteristics).
- Use a program work breakdown structure (WBS) to link schedule, requirements, costs, and risks.
- Begin documenting the ground rules and assumptions, data, and methodologies underlying the cost estimate.
- Collect the data for the estimate and develop the initial draft by summarizing all cost elements in the time-phased WBS or cost element structure (CES).
- Conduct sensitivity, risk, and uncertainty analysis.
- Document the steps used to develop the estimate to show it was done correctly and can be replicated with similar results.
- Update and document the estimate to reflect any changes and/or at subsequent decision points as a best practice.

### **Anticipated Outcomes**

The program cost estimate covering the entire life of the program from initiation through to sustainment and disposal that establishes the program baseline, and informs program planning, budget, and milestone review decisions.

### Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

WBS No.	Level	WBS NAME	WBS Definition						
1.1	2	Configuration, Development & Customization	The hardware, software, and associated effort used to analyze, design, integrate, and test the entire system.						
1.2	2	System Level Integration	WBS #	Level	Cost Element	Approp.	FY21	FY22	FY23
			System XYZ				\$0.0	\$0.0	\$0.0
			<b>1.0</b>	<b>1</b>	<b>Investment/Implementation</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
			1.1	2	Config., Development & Customization	RDT&E	\$0.00	\$0.00	\$0.00
			1.2	2	System Level Integration	RDT&E			
			1.3	2	System Engineering	RDT&E	\$0.00	\$0.00	\$0.00
			1.4	2	Program Management	RDT&E	\$0.00	\$0.00	\$0.00
			1.5	2	Change Management	RDT&E	\$0.00	\$0.00	\$0.00
			1.6	2	Data Management	RDT&E			
			1.7	2	System Test & Evaluation (T&E)	RDT&E	\$0.00	\$0.00	\$0.00
			1.8	2	Training	RDT&E	\$0.00	\$0.00	\$0.00
			1.9	2	Data (Documentation)	RDT&E	\$0.00	\$0.00	\$0.00
			1.10	2	Operational Infrastructure/Site Activation	RDT&E	\$0.00	\$0.00	\$0.00
			1.11	2	Industrial Facilities	RDT&E	\$0.00	\$0.00	\$0.00
			1.12	2	Initial Spares & Repair Parts	RDT&E			
			<b>2.0</b>	<b>1</b>	<b>Operations &amp; Maintenance (O&amp;M)</b>				
			2.1	2	Program Management	O&M			
			2.2	2	Systems/Sustainment Engineering	O&M			
			2.3	2	Change Management	O&M			
			2.4	2	Help Desk	O&M			
			2.5	2	Data Cleansing/Data Maintenance	O&M			

## **CAPABILITIES REQUIREMENTS DOCUMENT**

### **Usage and Value**

The Capabilities and Requirements Document will initially serve as a repository for tracking the capabilities and showing the mapping of capabilities to decomposed elements (e.g., Features, Requirements). This allows the program to ensure that all requirements are traceable back to a particular capability. Additionally, once the acquisition strategy is developed and procurements are identified, requirements can be mapped to specific procurements or flagged for production by government staff. This will ensure that there is a planned approach for delivery of all requirements underlying the capabilities required to satisfy mission needs. OAM will use this document to ensure that the existing gaps and deficiencies are being addressed and that the program is properly planning for future procurements.

The Capabilities and Requirements artifact leverages the insight from the MNS and WBS to relate work packages (e.g., capabilities, features) to specific requirements necessary to deliver them and to further relate them to the specific stakeholders who requested them. In this phase, provide all information (with the exception of the procurement information) prior to producing the AoA. After the AoA and acquisition strategy are complete, you will revisit this artifact to relate each requirement to a specific procurement or highlight that the government intends to deliver that requirement.

### **Recommended Resources**

- Personnel resources to include Program Manager, Program Personnel

### **Process Description**

- Identify Capability Requirements
- Determine constraints that influence or mandate specific requirements
- Develop requirements

Capabilities, features, and requirements can be captured at any time but are required during the Planning Phase (prior to Milestone 2). Capture of capabilities, features, and requirements typically will occur early on in the Planning Phase but must be revisited towards the end of the phase after the Acquisition Strategy is completed and specific procurements are known so they can be tied back to specific requirements.

To develop the capability requirements, the program should begin by referring to the Mission Needs Statement and Analysis of Alternatives to get a thorough understanding of the program needs. The program will also use the Stakeholder Management Plan to determine the stakeholders' participation and needs when determining the capabilities. Based on the information from the Mission Needs Statement, Analysis of Alternatives, and Stakeholder Management Plan, the program should then record the capabilities and associated requirements in the capabilities tab in the spreadsheet template. If possible, determine the category of the requirement (see "Identifying Categories of Requirements" in the Directions tab of the Capabilities and Requirements template). Each requirement will need to be vetted with the stakeholders to ensure that they are appropriate and accurate. The program should plan to revisit and revise the requirements as needed.

The Capability Requirements Template shows how the program should track the capabilities and explain the added value or risks of not addressing the gap or deficiency. The program should start by listing and describing all capabilities (this information should be pulled from the MNS). The program should list all constraints that influence or mandate specific requirements for the program described in the Capabilities and Requirements

template, including explanations for each constraint. The program will then decompose each capability into supporting features and requirements necessary to deliver that capability and meet stakeholder needs. Requirements may be developed in the following format: “As a (stakeholder group), I want to (do something), so I can (capture a benefit).”

After determining the Acquisition Strategy and specific procurements that will be made, the program should determine the priority of the requirements and the associated WBS item. Additionally, the program will need to incorporate the defined constraints for the requirements for testing, verification, and validation. The program will need to validate that the requirements are sufficient to fulfill the mission need and that the requirements are feasible and complete. The most important step when completing this portion of the template will be to determine which requirements will need to be fulfilled by a procurement. The program is expected to continue revalidating the requirements over the course of the program.

**Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

Capability ID	Capability Name	Current Capability Description	Gap or Deficiency	Future Capability Description	Benefits	Impacts of NOT Addressing	Anticipated Start Date	Anticipated End Date

Capability ID	Capability Name	Feature ID	Feature Name	Requirements ID	Requirement Name	Requirement Description	Related Stakeholder(s)	Priority	Acceptance Criteria	Validation Method

Procurement (Yes/No)	Procurement ID/Reference Number



## **CONCEPT OF OPERATIONS (CONOPS)**

### **Usage and Value**

The Concept of Operations (CONOPS) is developed during the Planning 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 program 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 describes how an asset, system, or capability will be used and supported.

### **Recommended Resources**

- The program manager is responsible for managing the CONOPS process with input from key stakeholders and end users.

### **Process Description**

The CONOPS process includes:

- Define and describe each of the missions that the solution will contribute to or perform and how they align to the MNS.
- List and briefly describe the various groups of people/user classes who will interact with the system.
- Describe the type of interaction each user group will have with the mission, e.g., operational users, data entry personnel, trainers, etc.
- Develop user focused description and/or illustration to provide insight into how a capability will perform and fit into the processes, activities, organizations, etc. in fulfilling the mission(s).
- Provide multiple scenarios and operational descriptions for how the asset or system will operate if there are differing workflows, interfaces, inputs, etc.

Stakeholder and end user inputs define the operational scenarios in which the new system or asset will be utilized. The operational environment(s), factors, and constraints further define how the system will be used.

### **Anticipated Outcomes**

The process produces a CONOPS that is essential for communicating the high-level conceptual function of the new system or asset.

- Describes the operational view of a required capability from the user's perspective.
- Communicates high-level, conceptual, future business and mission operations to program sponsors, end-users, planning and design teams, and other stakeholders.
- Permits stakeholders to assess solution alternatives in the context of "real-world" (scenario-based) operational environments.
- Describes how an asset, system, or capability will be used and supported.

### **Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

## Concept of Operations (CONOPS) Overview

### CONOPS

- Describe
- Communicate
- Permit
- Describe
- Follow guidance

### User Scenario

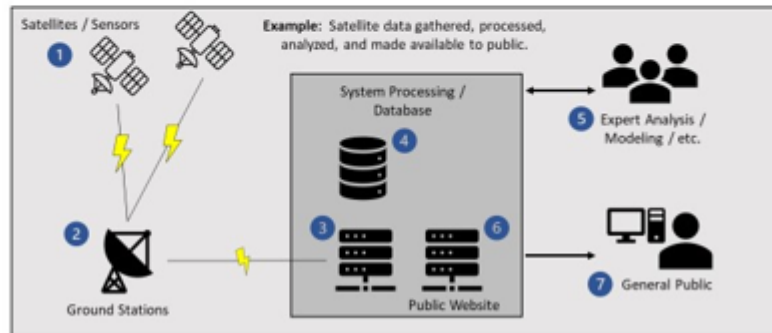
- The role
- How it
- Describe

### Operational

- Provide Capability
- Describe
- Provide
- Provide

## User Scenario(s)

- Develop user focused description and/or illustration to provide insight into how a capability will perform and fit into the processes, activities, organizations, etc. in fulfilling the mission(s).
- Utilize illustrated system operational view and operational description on slide 5.
- Provide multiple scenarios and operational descriptions for how the asset or system will operate if there are differing workflows, interfaces, inputs, etc. (See next slide for multiple scenarios example.)



## **TECHNICAL READINESS ASSESSMENT**

### **Usage and Value**

A Technical Readiness Assessment (TRA) is not required for all programs, 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 should:

- 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 program.
- Identify at-risk technologies that need increased management attention or additional resources for technology development.
- 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 program risk.

### **Recommended Resources**

- The program manager is responsible for managing technical assessment process with an independent evaluator or team.

### **Process Description**

Program 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 program 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 program. 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
- Evaluating the problems of integrating the technologies both with each other and with the program as a whole
- Reaching consensus on the technical readiness level (TRL) and integration maturity
- Documenting the results of the assessment

### Anticipated Outcomes

The 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.

- Assessment of prototyping, developmental testing, integration testing activities, etc. that have been performed by the program on the system or sub-systems.
- Provides independent assessment of quality, quantity, and types of environments in which the technology was tested.
- TRR documents the findings that will guide the program manager, independent reviewers, and those performing the milestone review in making key program decisions and crafting a sound program plan.
- Provides stakeholders and decision makers with data to judge if the technology is mature enough for the program to proceed in the acquisition lifecycle.

### Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

## Independent Assessment Team

Team Member	Technical Expertise	Role

- **Team Member:** Name of team member
- **Technical Expertise:** Technical expertise of team member
- **Role:** Describe role of team member

## Mission and Technology

Technology	Mission	Priority Level	TRL	TRL Rationale	Test Activities

- **Technology:** Description of the technology being assessed.
- **Mission:** Identify the mission the technology aligns to from the Mission Need Statement.
- **TRL:** Readiness level of subject technology.
- **Priority Level:** Describe what priority the technology has in the success of the program.
- **TRL Rationale:** Description on why technology is assessed at the TRL level.
- **Test Activities:** Describe types of test activities performed for the subject technology, e.g., proof of concept, breadboard, relevant environment, etc.

## **ANALYSIS OF ALTERNATIVES**

### **Usage and Value**

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.

### **Recommended Resources**

- The program manager, technical SMEs, cost analysts, end users, external stakeholders, etc.

### **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. 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 program-level information on alternative costs may not be readily available at this point.

## Anticipated Outcomes

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. Programs should submit the AoA for feedback once completed to ensure the selected alternative is aligned with leadership objectives.

- Evaluate alternate courses of action for allocation of resources to best deliver capabilities and solve problems
- Define and weight evaluation criteria (e.g., operational effectiveness, cost, schedule, risk) to analyze alternatives
- Document the rationale for the recommended solution(s)
- Optimization through trade-off analysis of actions to improve performance
- Exercise “what-if” scenarios to better understand decision space
- Forecast anticipated value, cost, and schedule across alternatives (at rough order of magnitude)

## Example

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

Alternatives Considered							
Alternative Name*	Alternative Description			Rationale			
<b>Evaluation Criteria and Weights</b>							
Evaluation Criteria	Unit of Measurement	Weight	Rationale				
Ex: Deliver solution by end of FY2025	\$ value, days, rating scale, etc.		For both the criteria and the weight				
<b>Alternative Analysis Results</b>							
Alternative Name	Is Alternative Viable?	Overall Rating	Criteria 1 Rating *	Criteria 2 Rating*	Criteria 3 Rating*	Criteria 4 Rating*	Criteria 5 Rating *
<b>Summary of Alternative [##: Alternative Name]</b>							
Element	Description						
Alternative Name	Name of alternative						
Alternative Description	Give description of the alternative; what are key differentiators from other alternatives						
Assumptions	Provide key assumptions that are specific or unique to this alternative						
Constraints	Provide key constraints that are specific or unique to this alternative						
Estimated Cost	Provide estimated cost of the alternative						
Estimated Schedule	Provide estimated delivery date of the alternative						
Estimated Performance	Provide an overall performance assessment of the alternative; does the alternative not provide for any needed capabilities						
Key Risks	Provide an overview of any high risks that may impact delivery of the alternative						

## **INTEGRATED MASTER SCHEDULE**

### **Usage and Value**

Creating and maintaining an IMS is valuable as it allows the program to track who is responsible for each task and dependencies between tasks. The IMS will allow the program manager to determine the tasks on the critical path and analyze any risks to the schedule. The Department of Commerce OAM will review the IMS to determine that it is realistic and includes all of the necessary tasks that could lead to future schedule delays.

### **Recommended Resources**

- Program manager, program team members, subject matter experts, cost estimators

### **Process Description**

The Integrated Master Schedule (IMS) provides a roadmap for the program's execution and the ability to track a program's progress. By utilizing an IMS the PM is able to manage the tradeoffs between cost, schedule, and scope throughout the lifecycle of the program. The IMS will allow the PM to forecast the effects of delayed, deleted, and added tasks on the entire program. The WBS is the starting point and captures the nouns (the tangible things we need to produce to complete our program). The next step captures the verbs (steps/tasks/activities) necessary to deliver on our WBS items and requirements. Then resources that will do the work can be added; sequencing the work appropriately helps to build out the schedule (time) to complete the program. The program is expected to submit the IMS in Microsoft Project. As the work is completed there may be changes to the schedule that need to be built back into the IMS.

The steps to create and continually update an IMS throughout the program's lifecycle include:

- Understand capabilities, features, and requirements
- Decompose these elements into necessary milestones, activities, and/or tasks
- Logically sequence the above work, showing predecessors and dependencies
- Determine the resources required to complete the above work
- Estimate the duration of the work to be performed
- Level resources and baseline the IMS
- Review the schedule for accuracy and efficiency
- Identify and manage to schedule
- Revisit the schedule periodically and analyze/report on the impacts of new program information (status updates, issues, etc.)

### **Anticipated Outcomes**

A comprehensive view of the anticipated work required to deliver capabilities that fulfill mission needs and the time-based schedule the program will follow to deliver those capabilities.

### **Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

## Integrated Master Schedule Template

ID	Owning Organization	Resource	Task Name	Duration	Start	End	% Complete	Predecessors	Associated Risk ID	PM Comments
1										
2										
3										
4										
5										

**\*This Integrated Master Schedule will be tracked in a scheduling tool.**

- **Owning Organization** – Provide the name of the organization that is responsible for the task and will be held accountable for its successful completion.
- **Resource** – Provide the resource name for scheduling and accounting purposes.
- **Task Name** – Provide the name of the task.
- **Duration** – Provide the expected duration of the task in days.
- **Start** – Provide the task’s start date.
- **End** – Provide the task’s end date.
- **% Complete** – Provide the percent completion of the task and update the percent complete as the task progresses.
- **Predecessors** – Provide the ID for the required preceding tasks.
- **Associated Risk ID** – Provide the corresponding Risk ID for the Task.
- **PM Comments** – The PM should provide comments regarding the task’s status, risks, next steps, etc.



## **COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD)**

### **Usage and Value**

The Cost Analysis Requirements Document (CARD) is a comprehensive, detailed description of a program for use in preparing the program cost estimate. The primary purpose of the CARD is to explicitly describe the key technical, programmatic, operational, and sustainment characteristics of a program. The foundation of a credible cost estimate is a well-defined program, and the CARD is intended to provide that foundation.

### **Recommended Resources**

- The program manager, program team members, subject matter experts, cost estimators

### **Process Description**

The CARD should document and define the program baseline to include:

- Program scope and content
- Major schedule milestones for the life of the program
- System overview, description, and characteristics
- Technical definition and quantitative parameters

The program CARD is to be developed prior to the drafting of the program cost estimate and once both are completed, they should be kept current, updated, and shared with program stakeholders as the program evolves through the acquisition lifecycle and/or its requirements change.

### **Anticipated Outcomes**

A completed, formal CARD for major programs or an abbreviated CARD-like document for smaller programs will result in a written program description suitable to support a credible program cost estimate.

### **Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

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## **INDEPENDENT COST ESTIMATE**

### **Usage and Value**

An Independent Cost Estimate (ICE) is an estimate of a program's lifecycle costs undertaken by an entity outside of the program's chain of command. The ICE is developed to support new program starts or to support milestone decisions for a program's stakeholders. It is relied upon to validate the reasonableness of the program cost estimate and to identify any gaps or risks related to the program's cost or funding baseline.

### **Recommended Resources**

- The program manager, program team members, subject matter experts, cost estimators, independent cost estimators. The program manager is responsible for ensuring that the ICE is developed and for working with the entity responsible for compiling the ICE to resolve any outstanding items or issues in achieving consensus.

### **Process Description**

Programs may have an independent cost estimate (ICE) or review done on them at certain pre-determined points in time by those with the required cost estimating expertise but having no involvement in the program. The processes involved in developing the ICE are largely the same as the program cost estimate, and the ICE is usually based on the same technical and program information used to derive the program estimate. The independent estimator uses the available programmatic documents (e.g., AoA, WBS, CARD, MNS, IMS) or other description of the solution or capability to develop the ICE by estimating each WBS element using the best methodology from the available data. The individual WBS elements are then summed to arrive at the point estimate. The GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs, GAO-20-195g has detailed information on developing a cost estimate: <https://www.gao.gov/assets/gao-20-195g.pdf>

### **Anticipated Outcomes**

- Independent point estimate that includes all estimated costs for developing, acquiring, and supporting the capability being pursued.

### **Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

Cost Estimate Planning				
Question	Yes	No	Partial	Comments/Source
• Has the program office (PO) or other DOC organization acquired similar services and/or products? If yes, provide list of programs/services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Is this a new (YES) or existing contract (NO)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Cost Estimate Methodology				
Question	Yes	No	Partial	Comments/Source

Direct Labor				
Question	Yes	No	Partial	Comments/Source
• Are the labor categories consistent with the PWS or SOW?				

Other Direct Costs - Material				
Question	Yes	No	Partial	Comments/Source
• Do the proposed materials meet the technical requirements in the CARD/PWS/SOW?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Have the quantity, unit price, and data source been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Closeout & Review				
Question	Yes	No	Partial	Comments/Source
• Are there any special provisions which need to be accounted for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Have any duplicative costs been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Have all major cost drivers been documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
• Have stakeholder and/or leadership reviews occurred for acceptance of the estimate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## **ACQUISITION STRATEGY**

### **Usage and Value**

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 Milestones 2 and 3, and becomes increasingly more definitive in describing relationships of the essential elements of the program acquisition.

The acquisition strategy includes the critical events that 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 program lifecycle.

### **Recommended Resources**

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

### **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.

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 program and may reflect the efforts of multiple contractual actions.

The process begins by consolidating information gathered in other processes associated with the program 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
- Program 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?

**Anticipated Outcomes**

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

**Example**

An example of the type of information and data captured in this artifact is depicted below. Directions for developing the artifact are found within the artifact itself.

### Implementation Strategy (1 of 3)

- **Major Procurements / Contracts Planned:** Provide data in following table with information on the major contracts planned.

Procurement	Purpose	Value	PoP	Admin	AP	Embed

### Implementation Strategy (2 of 3)

- **Contract Type Selection**

Procurement	Contract Type	Type of Deliverable	Rationale

### Implementation Strategy (3 of 3)

- **Sources (Name of Major Procurement Planned):**

Procurement	Market Research Activity	Description	Sources Identified	Source Capability	Small Business Identified	Small Business Capability

- **Procurement:** Contract name or title.
- **Market Research Activity:** List market research activities planned or performed (e.g., Sources Sought, Industry Days, RFIs, Draft RFPs, etc.)
- **Description:** Description of activities performed for market research.
- **Sources Identified:** List other than small business sources identified through the market research activity.
- **Source Capability:** Indicate if the sources identified are capable of performing the anticipated effort.
- **Small Business Identified:** List small business sources identified through the market research activity.
- **Small Business Capability:** Indicate if small businesses identified are capable of performing the anticipated effort.

## **PROGRAM BASELINE**

### **Usage and Value**

The program baseline provides insight on overall program health and reflects the level of program monitoring, insight, and control. It represents a snapshot of the program at certain points at time (e.g., milestone approvals) that can be measured against program progress as it executes. The overall program health and level of monitoring/control are typically captured in dashboards, metrics, and data visualizations supported by language that provides context and thoughtful analysis. The metrics and data presented should be actionable (near real-time), low cost to produce (automated wherever possible), and accurate/reliable.

Program metrics and data should be captured at milestone events and compared against actuals to reflect trends and critical changes. The data captured in the program baseline should contain at minimum schedule, cost, and performance information but should also relay changes and issues related to scope, resources, quality, risks, benefits, and procurements. Many programs leverage Bureau and program-specific tools, metrics, and data and implementation of a fixed artifact to capture; These may create additional work. Therefore, the Framework provides guidance on areas of programmatic control without providing a set of metrics or a template for delivering those metrics to the OAM and MRB. The OAM and MRB may however provide recommendations and direction on the suitability and completeness of proposed Program Baselines. Mission critical programs may be required to provide this information on a regular cadence to the OAM.

For mission critical programs 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 not subject to MRB oversight, program 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.

### **Recommended Resources**

- The program manager, program team, technical SMEs, cost analysts, end users, external stakeholders

### **Process Description**

In the Planning Phase, program planning takes into account all program activities. The plan includes expected program costs, delivery dates for capabilities, and delivery of capabilities that meet key requirements and/or end user needs. As the program 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 program. 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 program's scope or requirements?
- What are the latest results of risk management? Have new risks been identified? Have previously identified risks been treated? How have they impacted the program?
- 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 program dependencies?

- Are there any communications issues to consider?
- Are there any adjustments that need to be considered before procurement actions?

As the program baseline is established, OAM will work with programs to:

- Determine if the proposed Program Baseline provides a complete set of metrics and data to inform on overall program health
- Provide feedback on which baselines will be measured and tracked for deviations
- Establish the process and audiences required for notification and action deviation thresholds

**Anticipated Outcomes**

Program defined program health indicators (e.g., metrics, data, visualizations) and supporting information for critical areas (e.g., cost, schedule performance). These indicators should share critical information on program capability delivery identified during planning (for Milestone 2) and compared against actual progress and results periodically thereafter. This will help ensure appropriate programmatic monitoring and control over the life of the program and provide actionable information to the OAM, MRB, and DOC leadership.

**Example**

An example for Program Cost and Schedule is depicted below. Programs are encouraged to leverage existing dashboards and reporting suitable to meet Bureau requirements or for general program management so no artifact is provided by the OAM.

Cost: Baseline; projected costs by Fiscal Year.

Type	FY00	FY01	FY02	FY03	FY04	FY05	FY06-10	Total Lifecycle
Planned Baseline	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$
Actual Expenditures	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$	\$\$
Variance	%	%	%	%	%	%	%	%

Schedule: Baseline; projected capability delivery dates.

Capability Description	Delivery Baseline	Actual / Planned Delivery	Variance
Initial Operational Capability	Q#FY##	Q#FY##	##
Final Operational Capability	Q#FY##	Q#FY##	##



## APPENDIX B – DEFINITIONS

**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

1. Describes the minimum standard processes, documents, and reviews to which all mission critical acquisition programs and projects must adhere.
2. Places emphasis on early program and project planning: requirements development and traceability, risk identification, and resource and cost expectations.
3. Is scalable depending on the program's or project's size, complexity, and risk.
4. Describes the principles of a life-cycle approach to managing acquisition programs/projects.

**Baseline:** A snapshot of key program metrics and data taken by Milestone 2 that will include at minimum, schedule, cost, and performance data. The Program Baseline compares the snapshot of data at critical points throughout the project (e.g., milestones) to actual program results.

**Baseline Deviation:** Exceeding either development or lifecycle cost baselines by 20 percent or more.

**Cost Analysis Requirements Description (CARD):** The 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 mission critical 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 and includes a collection of ongoing activities and projects that have objectives that achieve a specific purpose or outcome of a DOC Strategic Plan goal or as required by statute or regulation. The Framework will apply to all Department and Bureau programs.

**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.

**Prototype:** A working product, system, service, or capability that is used to view of the product or capability and evaluate design, usability, and fitness for use. Typically, prototypes generate a real, working product that can be assessed by end-users at a lesser level of investment and effort than the full and final product.

**Requirement:** A desired capability (e.g., service or product) necessary for accomplishing the organization's mission, goals, or objectives. Framework requirements may need to be adjusted to fit the specific lifecycle of certain programs.

**Research and development (R&D):** 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 C – 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
IMS	Integrated Master Schedule
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 Needs 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
PM	Program/Project Manager
PMO	Project Management Office
PMP	Project Management Plan
ROM	Rough Order of Magnitude
TRA	Technical Readiness Assessment
USPTO	US Patent and Trademark Office
WBS	Work Breakdown Structure