U.S. Department of Homeland Security

United States Coast Guard

Major Systems Acquisition Manual (MSAM)

"Mission Execution Begins Here"

Version 2.1

COMDTINST M5000.10A Version 2.1
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U.S. Department of Homeland Security
United States Coast Guard

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COMDTINST M5000.10A

17 October 2008

COMMANDANT INSTRUCTION MANUAL 5000.10A

Subj: MAJOR SYSTEMS ACQUISITION MANUAL

Ref: (a) Acquisition Management Policy, Department of Homeland Security Acquisition Directive 102-01
(b) Acquisition Management Policy, Department of Homeland Security Acquisition Instruction/Guidebook 102-01-001

1. PURPOSE. To establish procedures and provide guidance for the implementation of the Department of Homeland Security Acquisition Review Process in reference (a).

2. ACTION. Area and district commanders, commanders of maintenance and logistics commands, commanding officers of Headquarters units, assistant commandants for directorates, Judge Advocate General, and special staff offices at Headquarters shall ensure compliance with the provisions of this Manual. Internet release is authorized.

3. DIRECTIVES AFFECTED. The Major Systems Acquisition Manual, COMDTINST M5000.10A dated October 17, 2008 is cancelled.

4. COAST GUARD MAJOR SYSTEMS ACQUISITION MANAGEMENT. This Major Systems Acquisition Manual (MSAM) is a guide for major systems acquisition projects. Procedures and guidance are provided for applying a uniform approach to acquisition planning and project management from mission analysis and requirements generation through design, development, production, and deployment. The purpose of this revision is to align Coast Guard major acquisition policy with the new DHS acquisition management policy and processes established in references (a) and (b).

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5. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS. Environmental considerations under the National Environmental Policy Act (NEPA) were examined in the development of this instruction. This instruction includes preparation of guidance documents that implement, without substantive change, the applicable Commandant Instruction or other Federal agency regulations, procedures, manuals, and other guidance documents. It is categorically excluded from further NEPA analysis and documentation requirements under Categorical Exclusion (33) as published in National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1D, Figure 2-1. An Environmental Checklist and Categorical Exclusion Determination (CED) are not required.

6. WAIVERS. Requests for exceptions to this Manual shall be submitted through the Coast Guard Acquisition Review Council (CGARC) Executive Secretary, Commandant (CG-924). Requests shall contain sufficient detail to clearly explain the basis of the request, procedures to be waived, and the recommended alternative action.

7. RESPONSIBILITY. This Manual is under continual review and will be updated as necessary. Recommendations for improvement or corrections shall be submitted directly to Commandant (CG-924).

8. FORMS/REPORTS. Chapter 8, Reports and Reviews, of this manual addresses the knowledge-based management processes for keeping senior management informed of the progress being made on major systems acquisition projects. All acquisition documents, plans, and briefing templates are provided in Appendix A of this manual.

G. T. Blore /s/
Assistant Commandant for Acquisition

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Chapter 1: Introduction

1. COAST GUARD ACQUISITION DIRECTORATE

The Coast Guard Acquisition Directorate (CG-9) was established in July 2007. It is a merger of the Coast Guard Acquisition Directorate (G-A) and the Coast Guard Deepwater (G-D) Directorate. Commandant (CG-9) was formed to provide a single point of management for all Coast Guard major system acquisitions and to leverage the processes identified in this manual to obtain capable, supportable, affordable, and sustainable systems, products, and services. In support of this objective, the Assistant Commandant for Acquisition has defined the Directorate's Vision, Mission, and Statement of Principles as follows:

Vision

The Coast Guard Acquisition Directorate empowers a workforce motivated by leadership, integrity, and teamwork to deliver the assets and systems that increase operational readiness, enhance mission performance and create a safer working environment.

Mission

Acquire and deliver more capable, interoperable assets and systems that support Coast Guard operational forces in executing missions effectively and efficiently.

Statement of Principles

WORKFORCE – We will develop and maintain a certified acquisition workforce by providing the training, resources and opportunities necessary to help our people succeed and maximize their individual potential.

INTEGRITY – We will conduct our business practices in accordance with acquisition regulations and the highest standards of ethics, integrity and professionalism.

EXCELLENCE - We will dedicate ourselves to technical excellence, supportability, cost consciousness, quality, innovation, and continuous improvement.

EMPOWERMENT - We will provide opportunities for our personnel to develop and use their leadership and decision making skills at all levels of the organization.

CUSTOMER FOCUS – We will provide the highest level of customer service possible, making it easy for our customers to work with us, anticipating, and responding promptly to their needs.

TEAMWORK – We will partner with our customers, industry and each other, leading the way to open and productive communications.

LESSONS LEARNED – We will learn from our mistakes, and apply the collective knowledge, experience and abilities of our workforce to improve the way we do business.

BUSINESS PRACTICES – We will standardize and continuously improve our core business processes to increase their effectiveness.

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a. Major Systems Acquisition Manual Objectives

The Acquisition Directorate employs a combination of acquisition approaches (System of Systems/Family of Systems and individual assets) to plan and coordinate the acquisition of capital assets for the Coast Guard. The Acquisition Directorate employs a portfolio management approach in planning and coordinating the acquisition of capital assets for the Coast Guard. Programmatic focus for management is to be at the asset level. Major acquisition assets and systems are to be acquired using a disciplined project management approach and structured methodology using the processes and procedures detailed in this Major Systems Acquisition Manual (MSAM) and MSAM Handbook.

The goal of the MSAM is to serve as guidance for Project Managers (PMs) and their staffs to help plan, coordinate, and execute major systems acquisition projects.

Objectives
Reduce acquisition cycle time to field useable, affordable, sustainable, and technically mature segments in capability
Manage major acquisition projects using a systems engineering approach that optimizes total system performance and minimizes total ownership costs
Develop cost estimates that document realistic total ownership costs with sufficient accuracy and rigor to enhance our credibility with the Department, Congress and the American taxpayer
Develop major systems acquisition processes and procedures that are flexible, responsive, and allow Project Managers to exercise innovation and creativity to deliver systems, products, and services to our customers in a timely manner
Align Coast Guard major acquisition process with the DHS acquisition management policy established in DHS Acquisition Directive 102-01.

b. Acquisition Knowledge

Several websites provide up-to-date acquisition information useful to the acquisition workforce. The Commandant (CG-9) CG Central website has links to major acquisition resources and information including:

- Federal Acquisition Regulations (FAR) (http://www.acquisition.gov/far/), specifically including FAR Part 34, Major System Acquisition: (http://www.acquisition.gov/far/current/html/FARTOCP34.html#wp223483)
- Department of Defense (DoD) Acquisition, Technology and Logistics (AT&L) Knowledge Sharing System (http://akss.dau.mil)
- DoD Acquisition Community Connection (http://acc.dau.mil)
- Defense Acquisition Guidebook (http://akss.dau.mil/dag)
- Defense Acquisition University (DAU) Program Manager's Tool Kit (www.dau.mil/pubs/misc/toolkit.asp)
- Standard Operating Procedure (SOP) 024, Formal Source Selection Procedures Best Practices Guide (http://cgcentralweb.uscg.mil/cLink/2463)

- DHS Practical Guide to Source Selection (https://dhsonline.dhs.gov/portal/jhtml/community.jhtml?community=MGMT&index=42&id=2009480007)

The above websites offer access to acquisition resources that provide the latest available acquisition knowledge, which can save time and increase productivity.

Commandant (CG-9) has also included on its Commandant (CG-924) CG Central web site a repository for sample plans that have been used by past projects for the review and use as examples for future projects. Commandant (CG-913) CG-Central also provides guidance on acquisition, regulations, samples and procedures (http://cgcentralweb.uscg.mil/cLink/2068).

2. THE COAST GUARD ACQUISITION TEAM

Coast Guard Acquisition includes the conceptualization, initiation, design, development, test, contracting, production, deployment or fielding, logistics support, modification and disposal of systems, equipment, and services to satisfy approved needs intended for use in support of assigned missions. The professionalism of the acquisition team is a major priority for the Acquisition Directorate. Members of the *Coast Guard Acquisition Team* include, but are not limited to:

- Individuals in an acquisition billet,
- Individuals who are substantially involved in defining, determining, and managing requirements,
- Individuals involved in acquisition planning and strategy,
- Individuals who participate in the process of establishing the business relationship to obtain needed products and services, (e.g., contracting process, those involved in the solicitation, evaluation and acquisition contracts),
- Individuals who manage the process after business arrangements have been made to ensure that the government's needs are met (e.g., testing and evaluating, managing and monitoring the manufacturing and production activities, auditing, contract administration, performance management and evaluation, logistics support, etc.),
- Individuals who arrange disposal of any residual items after work is complete, (e.g., property management/disposal),
- Individuals who support the business processes of the above listed activities (e.g., project legal council, training, finance, or other subject matter experts), and
- Individuals who directly manage those involved in any of the above activities.
- Key billets that are part of the acquisition team include those that are involved in the following functions as they relate to acquisition projects:
    - program management

- information technology
- systems planning, research, development, engineering, and testing
- procurement, including contracting
- industrial and contract property management
- life cycle logistics
- quality control and assurance
- manufacturing and production
- business, cost estimating, financial management, and auditing
- construction and facilities engineering
- testing and evaluation

The *Coast Guard Acquisition Team* will support the program/project managers to deliver effective and affordable systems, equipment, and services to our users by:

- Understanding the users' operational concepts;
- Engaging the fleet and sponsors in a collaborative discussion of requirements (capability, cost and schedule) for all options before spending tax dollars;
- Prioritizing solutions which guarantee interoperability, reduced total ownership costs, and enhance operational efficiency;
- Accurately pricing projects and insisting the project and budget reflect realistic costs, recognizing technical and integration risks;
- Being accountable and delivering to realistic schedules and approved budgets;
- Responding appropriately to sponsor requirements within the boundaries of applicable law, regulations, policies, directives, and procedures;
- Using disciplined, tailored management practices which appropriately document acquisition requirements and approvals;
- Planning for and addressing test and evaluation, logistics, systems engineering, and other competencies commensurate with complexity, dollar value and risk;
- Obtaining the appropriate level of training, experience and acquisition certification;
- Adhering to the policies, processes and procedures published by the Coast Guard and the Department of Homeland Security;
- Clearly defining, in conjunction with the sponsor (or sponsor's representative) the strategy, concepts, capabilities, concept of operations (CONOPS), and requirements prior to commencing an acquisition program.

3. COAST GUARD ACQUISITION LEADERSHIP TEAM.

The *Coast Guard Acquisition Leadership Team* consists of the Commandant, the Component Acquisition Executive, the Assistant Commandants, and senior staff of Coast Guard Directorates, and assigned field activities and commands. Commanders and senior staffs of the Coast Guard Operations Command and the Coast Guard Force Readiness Command, as well as subordinate field and support activities, provide invaluable input via operational requirements and feedback on operational performance, and contribute to the development of a professional, experienced acquisition workforce via acquisition experience tours of duty for operational personnel.

4. ACQUISITION WORKFORCE TRAINING AND CERTIFICATION

An Acquisition Workforce Certification Board (AWCB) has been established to certify that each individual meets the standards (experience, education, and training) established for a career level (I, II, or III) in one of the acquisition career fields listed below:

1. Business, Cost Estimating and Financial Management
2. Facilities Engineer
3. Life Cycle Logistics
4. Information Technology
5. Production, Quality and Manufacturing
6. SPRDE - Systems Planning, Research, Development and Engineering
    - SPRDE (Systems Engineering)
    - SPRDE (Science and Technology)
    - SPRDE (Program Systems Engineer)
7. Test and Evaluation

The Acquisition Directorate's Standard Operating Procedure (SOP) #5, *Acquisition Workforce Certification* provides the process, procedures, and requirements for certification.

5. PROJECT MANAGER CERTIFICATION

Project Managers assigned to manage any DHS Level 1, 2, or 3 acquisitions (as defined below) shall be certified or eligible for certification within 12 months of designation at a level commensurate with the responsibilities of the acquisition being managed. DHS Acquisition Instruction (AI) 064-04-002, Acquisition Certification Requirements for Program Manager identifies the experience and training requirements for PM certification as shown in **Table 1-1 Project Manager Certification Levels**.

Table 1-1: Project Manager Certification Levels

DHS Acquisition Level	Life-cycle Cost[1]	PM Certification Level
1	≥ $1B	III
2	$300M - $1B	II
3	$50M-$300M	I

[1] Life-Cycle Cost includes Total Acquisition Cost plus operation and support costs in constant FY09 dollars.

6. PROJECT MANAGER AUTHORITY AND RESPONSIBILITY

The Project Manager (PM) is the chartered individual who has responsibility and authority to accomplish project objectives for developing, producing, and deploying a new asset with initial logistics support to meet identified operational requirements. The PM is accountable for meeting established cost, schedule, and performance parameters established by the Acquisition Decision Authority (ADA), and works under the guidance and supervision of the Program Executive Officer (PEO).

To fulfill this role, the PM is empowered to manage cost, schedule, and performance of the acquisition (within the bounds established by Commandant (CG-9) Policy Statement #1, Program and Project Cost Management) and is thereby the program management authority accountable to the acquisition chain of command for meeting overall business and technical goals of their specific acquisition project. The PM is the single point of contact and single point of authority responsible for providing the strategic direction necessary for managing the asset through the acquisition process of design, development, production, and deployment.

The Project Manager is the key individual for acquisition program execution. Project Managers are accountable for the successful execution of their projects. Project Managers' span of control is such that they must be autonomous, trained, resourced, empowered, and accountable to senior management for the effort. This all encompassing level of authority and responsibility is the foundation for the Coast Guard's Program Manager-centric acquisition execution model.

Level 1 and Level 2 acquisition projects are considered major acquisition projects. In the Coast Guard, individual assets that are acquisition projects are managed by Coast Guard Project Managers. In the Coast Guard Acquisition Directorate (CG-9), Coast Guard Program Managers are assigned to provide integrated program management of surface, aviation, and C4I major acquisition (Level 1 and 2 acquisitions) product lines.

Program Managers are responsible for directing/managing a group or portfolio of related capability Projects.

Program Manager Roles and Responsibilities (cont.)
Strategic vision for the domain
Focus on efficiency across projects
Focus on standardization and business processes across projects

Program Manager Roles and Responsibilities (cont.)
Resource broker
Facilitate new starts and closeouts
External communications with technical authority and sponsor for items that have a program-wide impact
Project Manager Roles and Responsibilities
Cost
Schedule
Performance
Contract planning, pre-award and execution

7. PROGRAM EXECUTIVE OFFICER (DIRECTOR OF ACQUISITION PROGRAMS, CG-93)

The Program Executive Officer (PEO) has overarching responsibility for acquisition project management and execution. This includes the oversight of all Coast Guard major acquisition projects to modernize, recapitalize and sustain surface, air, C4ISR and logistics assets for the Coast Guard's multiple maritime missions. This portfolio of projects is grouped into three major domains (air, surface and C4ISR), each led by a Program Manager who reports directly to the Deputy PEO and PEO. Project Managers remain responsible to the PEO through their respective Program Managers for the cost, schedule and contract performance of their projects. Acquisition Logistics is also overseen by the PEO and matrixed in at the Project level.

8. TECHNICAL AUTHORITIES

The Commandant has designated Technical Authorities to serve as the Coast Guard's authoritative experts in providing the authority, responsibility, and accountability to establish, monitor, and approve technical standards, tools, and processes, in conformance with policy, requirements, architectures, and standards.

Commandant (CG-4) is designated as the Technical Authority for the design, construction, and maintenance, logistics support, and configuration management of Coast Guard Systems and assets, excluding Coast Guard Command, Control, Communications, Computers, and Information Technology Systems (C4&IT). Commandant (CG-6) is designated as the Technical Authority for the design, development, deployment, security, protection, and maintenance of all Coast Guard C4&IT systems and assets. Commandant (CG-1) is designated as the Technical Authority for the "human" component of the system design process and ensures systems are designed, produced, supported, fielded, and modernized through a complete and careful integration of the human component.

Technical Authority processes and the associated certifications are an essential aspect of an independent technical authority, providing objective evidence of effective, efficient, and affordable systems engineering.

The Program Authority is the acquisition program/project manager. The Program Authority has authority over the acquisition and acceptance of the asset or system, and acts on the government's behalf in all matters relating to procurement of the asset or system. In executing its acquisition responsibilities, the Program Authority shall work collaboratively with the Technical Authorities from program inception through deployment to include and administer established policies, standards, guidelines, architecture, and best practices provided by the Technical Authorities. The Program Authority also implements the results of the Technical Authorities' adjudication of changes and deviations to the established standards. The Program Authority will facilitate collaborative efforts between industry and government members.

Note: The Coast Guard is in the midst of a major modernization and logistics transformation process. The logistics transformation includes moving from the traditional three levels of maintenance to two levels of maintenance; centralized funding of support activities; and configuration-based, maintenance-driven supply support. To facilitate the development and implementation of this transformation, Commandant (CG-4) has set up an Asset Project Office (APO) to be the focus of the transformation. The intent is that all assets that are acquired and managed by the project managers will be assigned to the APO and a Product Line. APO/Product Lines play a major role in the transition from acquisition to sustainment.

9. MANUAL ORGANIZATION

This Manual documents the process and identifies the procedures for implementing Department of Homeland Security Acquisition Review Process, Acquisition Directive 102-01. This MSAM consists of Chapters 1 through 8, and Appendix A.

Chapter 1: Introduction

This chapter includes the vision, mission, and guiding principles of the Coast Guard Acquisition Directorate, plus Project Manager and acquisition workforce training and certification requirements, and the organization of this Manual.

Chapter 2: Major Systems Acquisition Management

This chapter discusses the process governing Coast Guard major systems acquisitions. It provides definitions of acquisition categories, acquisition phases, and principle decision milestones. It includes the roles and responsibilities of the key members of the acquisition management process.

Chapter 3: Systems Engineering Life Cycle

This chapter highlights the Systems Engineering Life Cycle (SELC) framework to efficiently and effectively develop and deliver new capabilities to operational users. The SELC guides the definition , execution, and management of an interdisciplinary set of tasks required to plan, define, design develop, implement, operate and dispose of systems.

Chapter 4: Requirements Generation Process

This chapter emphasizes the activities that are conducted to assess mission areas and identify mission needs prior to the designation of the project as a major system acquisition. It also addresses the requirements definition process conducted once a

project has been so designated.

Chapter 5: Project Management Documentation

This chapter discusses the documents that are needed as a part of the Major Systems Acquisition management process.

Chapter 6: Capital Investment Planning and Review

This chapter provides an overview of the Coast Guard Planning, Programming, Budgeting, and Execution process (PPBE); the Office of Management and Budget (OMB) Exhibit-300; and the Department of Homeland Security (DHS) Acquisition Review Process.

Chapter 7: C4&IT Projects

This chapter highlights the role of Commandant (CG-6) as the C4&IT Technical Authority and provides the C4&IT policy framework.

Chapter 8: Reports and Reviews

This chapter identifies the specific reports and reviews that are required as part of the knowledge-based management process to keep senior management aware of project performance.

Appendix A: U.S. Coast Guard Major Systems Acquisition Management Handbook

Appendix A provides additional guidance and templates for developing acquisition plans/documents and providing required project reviews and briefings.

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Chapter 2: Major Systems Acquisition Management

1. MAJOR SYSTEMS ACQUISITION PROCESS

The Coast Guard's major systems acquisition process implements the capital asset acquisition policy embodied in the Federal Acquisition Regulations (FAR), OMB Circular A-11 and DHS Acquisition Directive 102-01, Acquisition Review Process.

a. Major Systems Acquisition Management

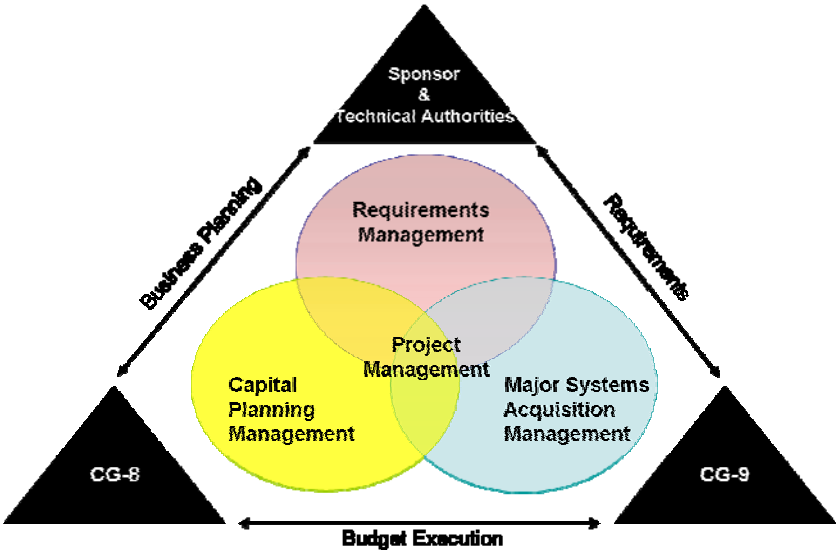


Figure 1: Management Interfaces

Project Managers (PMs) are required to integrate the three primary management areas shown in **Figure 1: Management Interfaces** into a coherent strategy to achieve specific cost, schedule, and performance parameters for their assigned projects.

Requirements Management is the "Sponsor and Technical Authority managed" process with the Sponsor defining mission needs and translating them into sponsor requirements and the Technical Authority ensuring proper Coast Guard technical standards and resources are incorporated. Business planning will identify the deficiencies (gaps) that exist between current Coast Guard functional capabilities and the required capabilities of current or projected missions. A Mission Need Statement (MNS), derived from business planning activities, describes specific functional capabilities required to accomplish Coast Guard missions that can only be met with material solutions. Requirements are then identified and captured in the Operational Requirements Document (ORD).

Major Systems Acquisition Management is the "Project Manager-owned" process of planning project activities and organizing a project staff to achieve cost, schedule, and performance requirements identified in the ORD and funded in the budget.

Capital Planning Management is the planning, programming, budgeting, and execution process that is a calendar-driven budgetary process and is owned by the Assistant Commandant for Resources (CG-8). Capital planning and management has two interdependent functions - providing project budget planning (for funding and personnel) and establishing affordability constraints. Project resource planning and management is coordinated by the PM in collaboration with the Sponsor, Technical Authorities and the Commandant (CG-8) staff.

b. Major Systems Acquisitions

Major systems acquisitions include equipment, services, and intellectual property (e.g., software, data, etc.) that are acquired by the Coast Guard through purchase, construction, manufacture, lease, or exchange and may also include improvements, modifications, replacements, or major repairs.

DHS Acquisition Directive 102-01, Acquisition Review Process provides governing guidance and knowledge-based management requirements for oversight of DHS acquisitions. Based on total acquisition cost and life cycle cost estimates, acquisitions are categorized into Acquisition Levels with differing levels of oversight. DHS Level 1 and 2 are Major Systems Acquisitions and Level 3 is Non-Major Acquisitions. The DHS acquisition thresholds are provided in **Table 2-1: DHS Acquisition Thresholds**.

Initially, an acquisition is assigned a level based on its estimated total life cycle cost, but it may be changed to a higher or lower level for one of the following reasons:

- Importance to DHS's strategic and performance plans disproportionate to its size;
- High executive visibility;
- Impacts more than one DHS Component or has significant program or policy implications;
- Other reasons, as determined by the DHS Under Secretary for Management.

Table 2-1: DHS Acquisition Thresholds and Decision Authorities

Capital Asset Threshold/Decision Table					
Acquisition Decision Event (ADE)[1]	**1**	**2A**	**2B**	**3**	**4 (CG only)**
DHS BOARD	**ARB/JRC[2]**	**ARB**	**ARB**	**ARB**	**none**
MAJOR	**Acquisition Decision Authority (ADA)[3]**				
Level 1 ≥ $1B LCC	**S2**	**USM**	**USM**	**USM/DUSM**	**CAE**
Level 2: $300M - $1B LCC	**S2**	**USM**	**USM**	**USM/DUSM**	**CAE**
NON - MAJOR	**Acquisition Decision Authority (ADA)**				
Level 3[4]: (Component) < $300M LCC	**CAE[5]**	**Component Equivalent**	**Component Equivalent**	**Component Equivalent**	**CAE**

1. ADE 0 Decisions conducted by the Components
2. For ADE 1, the JRC will approve the Mission Need Statement, the ARB will approve the Capability Development Plan
3. Delegations at the discretion of the indicated position
4. Level 3 programs from $50M to $300M LCC follow DHS EAB procedures and submit E-300s to DHS
5. Level 3 programs determined initially by component, but must be verified at ADE -2A

JRC: Joint Requirements Council
ARB: Acquisition Review Board
S2: Deputy Secretary of DHS
LCC: Life Cycle Cost (in constant FY09 $)
USM: Under Secretary for Management
CB: Component Board equivalent to DHS ARB
APMD: DHS Acquisition Program Management Division
CPO: Chief Procurement Officer
DUSM: Deputy Under Secretary

Note: Any proposed IT procurement greater than or equal to $2.5 Million must be reviewed and approved by the Coast Guard CIO and the DHS CIO. IT procurements are defined as services for IT, software, hardware, communications, and infrastructure. The $2.5M and over requirement includes embedded IT of $2.5M and above in a non-IT acquisition. The requisitioner is responsible for getting Component and DHS CIO approval prior to submittal of the PR package to acquisition for further processing.

c. Major Systems Acquisition Process Structure

The major systems acquisition process, for the Coast Guard, is based upon the DHS Acquisition Policy established in Acquisition Directive 102-01. As shown in **Figure 2: Major Systems Acquisition Process**, the overall acquisition lifecycle is composed of five distinct acquisition phases: Project Identification; Need; Analyze/Select; Obtain; and Produce/Deploy/Support.

The transition from one phase to the next occurs with approval of an Acquisition Decision Event (ADE). The appropriate decision authority for ADEs is specified in Table 2-1. Indicated by the triangle (△) in Figure 2, ADEs are critical junctures throughout the acquisition life cycle process that require assessment of project readiness and risk before formal authorization to proceed to the subsequent phase.

The major systems acquisition life cycle is intended to be flexible and may be tailored, with appropriate Acquisition Decision Authority (ADA) to meet the specific circumstances of each acquisition project.

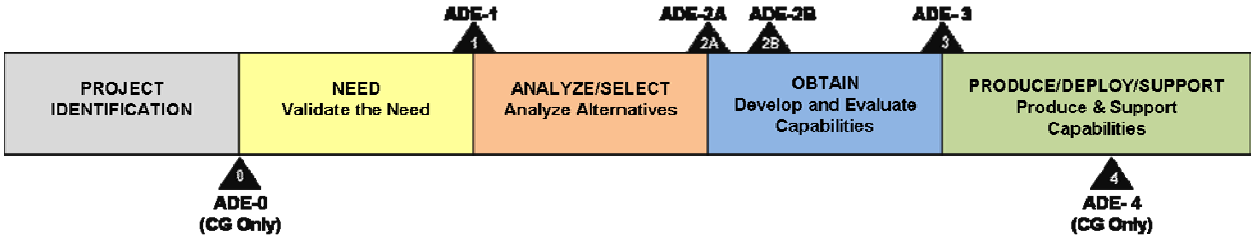


Figure 2: Major Systems Acquisition Process

Major Acquisition Phases

1. Project Identification Phase: Before a major systems acquisition formally begins, a capability gap must be identified. Coast Guard Mission Analyses and Operational Analyses are performed by Assistant Commandant for Policy and Plans (Commandant (CG-5)) and the operating program Sponsor during this phase to identify Coast Guard capability gaps. These analyses must include integration with Coast Guard Technical Authorities (Commandant (CG-1), Commandant (CG-4), and Commandant (CG-6)) to ensure the inclusion of mission support needs as well as mission capabilities. The result of this ongoing mission analysis is a Mission Analysis Report (MAR). The MAR is endorsed at ADE-0 with direction to proceed with the development of a Mission Need Statement (MNS), a Concept of Operations (CONOPS), and a preliminary OMB Exhibit-300 business case (if applicable) for the material solutions accepted during the review that are expected to result in a major acquisition.
2. Need Phase: During the Need Phase, the ongoing mission analyses are completed. The resulting Concept of Operations and Mission Need Statement describes specific functional capabilities required to address the capability gaps in Coast Guard mission performance. In addition, initial project management documentation, including the Capability Development Plan, initial Acquisition Plan and a preliminary OMB Exhibit-300 business case (if applicable), are developed. The Need Phase culminates with the ADE-1 review.
3. Analyze/Select Phase: The Analyze/Select Phase identifies and explores alternative ways to fill validated user mission capability gaps in the MNS. A Concept of Operations is prepared and used to inform the AoA/AA. Feasible alternatives are evaluated (Alternatives Analysis) and system requirements are identified (Operational Requirements Document) to jointly provide a basis for assessing the relative merits (e.g., advantages and disadvantages, degree of risk, life-cycle cost, and cost-benefit) of the alternatives and ultimately determine a preferred solution. A Life Cycle Cost Estimate (LCCE) is prepared for the selected alternative. Logistics support planning (Integrated Logistics Support Plan) is performed for the preferred solution culminating in the initial definition of the project's performance, schedule, cost baseline (Acquisition Program Baseline) and test planning. Typically the Analyze Select Phase concludes with a joint ADE-2A/ADE-2B review, unless a project is managed in discrete segments, in which case, each subsequent discrete segment will go through ADE-2B.
4. Obtain Phase: The Obtain Phase of the acquisition is focused on demonstrating

feasibility of the preferred alternative and refining the solution prior to a full production commitment. During this phase, project test plans are implemented, essential systems engineering activities are performed, and integrated logistics support is accomplished and refined as the project design evolves. If appropriate, a Low Rate Initial Production decision is made at ADE-2B, with overall project approval to proceed into production, deployment and support occurring at ADE-3.

5. Produce/Deploy/Support Phase: The execution phase with the objective to produce and deploy discrete segments of operational capability with established logistics support. Steady state support of the delivered capability occurs after the acquisition project has transitioned full support to the sustainment community. During the capability's operational life, the operating program continues operational analysis to ensure the asset is meeting performance, supportability, and cost goals.

Acquisition Decision Events

The Coast Guard Acquisition Review Council (CGARC) reviews major acquisition projects prior to all DHS Acquisition Decision Events (ADE). At each ADE review, the project must demonstrate progress; successful satisfaction of the established Exit Criteria, and a readiness to move forward to the next acquisition phase. The DHS Acquisition Review Process is explained in Chapter 8, Section 3.b of this manual.

Acquisition Decision Events come at the end of the specified phases of the acquisition process and mark the logical completion of the phase and the beginning of the next phase in the acquisition development cycle. The decision authority for ADE's is specified in Table 2.1. The specific Acquisition Decision Events used by DHS and the Coast Guard include:

1. ADE- 0 Project Identification – Provides authorization for a prospective project to enter into the Need Phase. It is intended to provide a budgetary decision to support funding a new-start project. Because of the budget process, it is the only ADE that is calendar driven instead of event driven. ADE-0 should include all Coast Guard new start projects and is not normally intended to be an isolated review for an individual project.
2. ADE-1 Validate the Need – The purpose of ADE-1 is to ensure alignment of needs to strategic Coast Guard and DHS direction along with adequate planning and resourcing for upcoming phases. ADE-1 validates the need for a major acquisition project and initiates the Analyze/Select Phase.
3. ADE-2A Approve the Major Acquisition Project – Approves the alternative to be pursued , the Acquisition Program Baseline (APB) and for the project to enter into the Obtain Phase. It is also where the Low Rate Initial Production (LRIP) quantity is approved (if LRIP is planned by the project).
4. ADE-2B Approve the Acquisition Types – This review will occur only after the project's Critical Design Review (CDR) is complete to ensure risks are appropriately adjudicated prior to LRIP. ADE-2B approves discrete segments in the APB (if needed). It is combined with ADE-2A when the project is managed as a single segment or when the project's first segment reaches ADE-2A. Subsequent segments will each go through ADE-2B. ADE-2B also servers as a review to approve commencement of LRIP.
5. ADE-3 Approve Production – Based upon successful testing reports, production readiness, satisfactory sustainment reviews, and verification of sufficient production and

operational resources (staffing and funding) the ADA may authorize the project to enter the Produce/Deploy/Support Phase.

6. ADE-4 Project Transition – Provides authorization for the project to move into sustainment and is then managed by the Support Program Manager. It is a Coast Guard unique milestone.

d. Source Selection Overview

Within the major systems acquisition framework, the Source Selection process is managed by the Head of Contracting (HAS), the process owner for selecting sources for high dollar, competitive, negotiated acquisitions. Major system acquisitions exceed $300 million or those that require special management attention. Coast Guard Standard Operating Procedure (SOP) 024, Formal Source Selection Procedures Best Practices Guide (http://cgcentralweb.uscg.mil/cLink/2463). This SOP generally applies to competitive, negotiated actions over $20 million. While this SOP addresses formal source selection procedures for major acquisitions, these procedures also apply on a customized basis to other than major acquisitions that equal or exceed $20 million. Additionally, DHS offers a Practical Guide to Source Selection (See DHS Practical Guide to Source Selection).

e. Contracting Officer

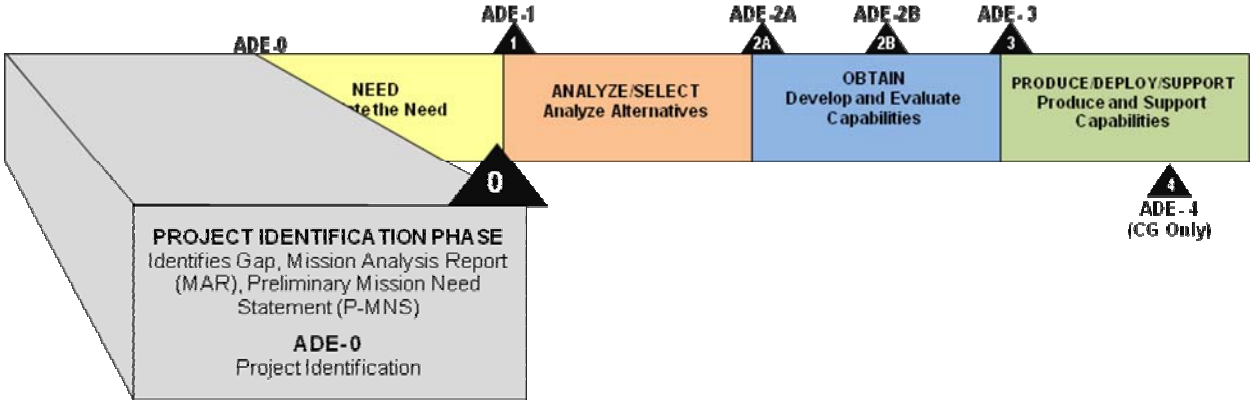
The Contracting Officer (KO) has a unique role and responsibility in supporting project execution. In particular, expertise in the contracting field requires:

- Acting as the sole Government authority to enter into, administer, or terminate contracts and make related determinations and findings.
- Ensuring performance of all necessary actions for effective contracting, ensuring compliance with the terms of the contract, and safeguarding the interest of the United States in its contractual relationships.
- Ensuring that all requirements of law, executive orders, directives, regulations, and all other applicable procedures, including clearances and approvals, and ethics have been met.
- Ensuring that sufficient funds are available for obligation.
- Ensuring that contractors receive impartial, fair, and equitable treatment.
- Requesting and considering the advice of subject matter experts in audit, law, engineering, information security, transportation, and other fields, as appropriate.

The proper exercise of this expertise requires the ability to act independently without improper influence on business decisions. The functional independence of the KO is of paramount importance to the success of any program. Their ability to exercise independent business and professional judgment will result in excellent customer service to the Project Manager and facilitate timely and accurate documentation resulting in a successful contract award and ultimately, a successful program. Therefore, the KO should be identified early in the acquisition process to ensure they are part of the

acquisition team from the beginning.

2. PROJECT IDENTIFICATION PHASE



During the Project Identification Phase, a MAR (Mission Analysis Report) is developed by Commandant (CG-5) with support by the Sponsor to identify capability gaps in Coast Guard mission performance. Evaluation of doctrine, organization, training, material, leadership and education, personnel, and facilities (DOTMLPF) assists in determining whether a material solution is needed to resolve the capability gap(s). Material alternatives to close the capability gap are identified and prioritized at the Need Phase. The MAR is critical to the Coast Guard Sponsor's ability to effectively document and communicate its mission capability gaps in the Mission Need Statement.

a. Project Identification Objectives

The Commandant (CG-5) and the Sponsor(s) are responsible for conducting mission analyses on an ongoing basis to identify capability gaps in Coast Guard missions that support National, DHS, and Coast Guard strategic goals and objectives. Commandant (CG-5) has the lead role in implementing the mission analyses.

The primary objective of the Project Identification Phase is to prioritize ongoing mission analyses that review/endorse emerging needs. The analyses should be capabilities oriented and should identify new requirements or gaps in the Coast Guard capabilities. A secondary objective is to develop rough-order-of-magnitude (ROM) cost estimates as part of an acquisition forecast to allow a preliminary affordability determination prior to inclusion in the Capital Investment Plan.

b. Project Identification Phase Activities

The Sponsor has to ensure that the following activities are accomplished.

CG-5 Project Management Activities
Initiate mission analysis and coordinate with the Sponsor(s) to identify capability gaps
Develop Mission Analysis Report(s) with support from the Sponsor(s)

Sponsor's Project Management Activities
Support CG-5 in the mission analysis to identify capability gaps and in developing the Mission Analysis Report(s)
Submit Mission Analysis Report(s)
Develop initial acquisition forecast for each alternative
Work with CG-821 budget/program review to develop a preliminary affordability assessment

Systems Engineering Activities
Perform mission analysis
Identify the operational tasks, conditions and standards needed to achieve Coast Guard objectives
Initiate integration with the Technical Authorities
Describe the capability gap, overlap, or problem in operational and/or broad effects-based terms
Describe what additional functional areas may be involved in the problem or solution
Describe the key attributes of a capability or capabilities that would resolve the issue in terms of purpose, task, and conditions
Identify potential solutions to address the needs
Determine if an integrated doctrine, organization, training and education, material, leadership, personnel, and facilities (DOTMLPF) approach can fill the capability gaps. If the sponsor determines that the capability can be partially or completely addressed by an integrated DOTMLPF approach, the sponsor will coordinate an appropriate implementation recommendation

Human Systems Integration Activities
Describe the human performance gaps, safety issues, and user environments

c. Project Identification Phase Significant Accomplishments

Accomplishments
Completed Mission Analysis Report
Prioritized list of capability gaps and human performance deficiencies
Identified non-material solutions
Prioritized list of recommended material alternatives
Development of a ROM cost estimate and early affordability assessment
Receive early stage spectrum supportability determination (if applicable)

d. Project Identification Phase Documentation

Documentation required to enter the Need Phase is presented in **Table 2-2: Project Identification Phase Documentation**.

Table 2-2: Project Identification Phase Documentation

Document	Preparation	Review	Approval
Mission Analysis Report	CG-5/CG-7	CG-01	CAE
Preliminary Affordability Assessment	Sponsor's Rep	CG-82	N/A

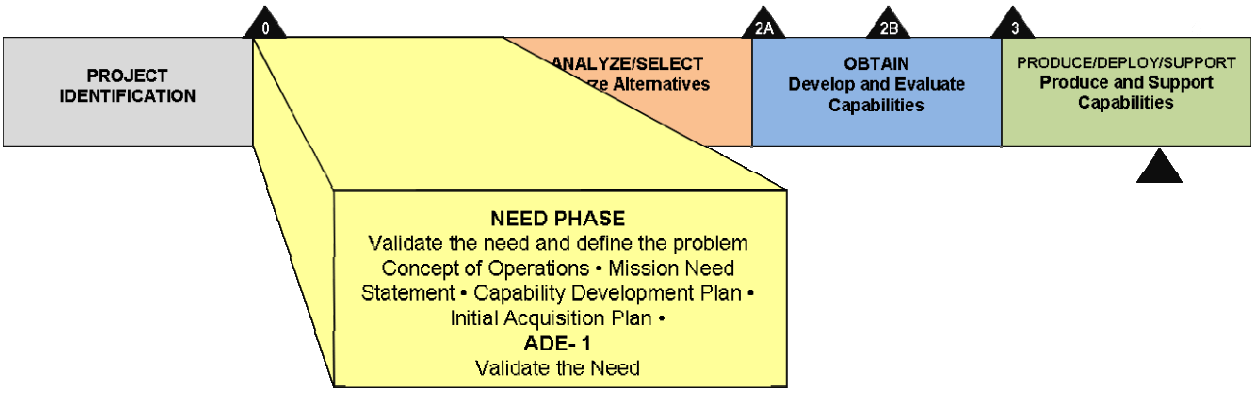
e. ADE-0 Review and Expected Outcomes

CGARC ADE-0 Review
Early review for affordability and identification of resources needed for next phase
Direction to prepare a Resource Proposal, preliminary Exhibit-300 business case (if applicable), and the Mission Need Statement
If appropriate, approval to proceed with advanced concept technology demonstration(s)
Direction to assign a Project Manager prior to approving the supporting acquisition, recognizing priority and need for early project management discipline for success and provides the opportunity for the Program Manager to broker resources with PEO approval

f. IT Activities

See SDLC C4&IT phase requirements in Command, Control, Communications, Computers Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 (series). For assistance, contact the Commandant (CG-6) assigned C4&IT system asset manager. Note: DHS has promulgated the Systems Engineering Life Cycle (SELC) Guide as part of Acquisition Instruction 102-01-001. All projects are required to comply with the DHS SELC.

3. NEED PHASE



The Need Phase includes activities to describe the specific fundamental capabilities required to address the capability gap in Coast Guard mission performance and culminates with a Mission Need Statement, the Concept of Operations, an initial OMB Exhibit-300, and inclusion in the Capital Investment Plan. The Mission Need Statement, Capability Development Plan and Acquisition Plan (if required) are approved by the DHS Acquisition Decision Authority (ADA) as part of the Acquisition Decision Memorandum. The completion of this phase signifies the start of the acquisition activities by entering the Analyze/Select Phase.

a. Need Phase Objectives

The Coast Guard Sponsor is responsible for preparing a MNS, with support from Commandant (CG-5), and appropriate input from the acquisition community, technical authorities and industry representatives (through market research and Requests for Information (RFI). The MNS describes the mission(s) and capabilities, justifies the project and sets the project boundaries. In addition, the Sponsor will develop the initial OMB Exhibit-300 (if appropriate), documenting the business case for the acquisition, and defining proposed cost, schedule, and performance goals.

The Capability Development Plan (CDP) and initial Acquisition Plan (if needed) are prepared in the Need Phase and implemented in the Analyze/Select Phase. The CDP identifies the planned Analyze/Select Phase activities as well as defines the necessary resources to perform these activities. The CDP establishes an agreement between the acquisition project and Coast Guard and DHS leadership on the activities, cost, schedule and performance boundaries for the Analyze/Select Phase. The initial Acquisition Plan encompasses any acquisitions necessary to accomplish the specified CDP activities. The CDP may be approved at or within 90 days after ADE-1.

b. Need Phase Activities

Sponsor Representative Activities
Prepare the Mission Need Statement
Prepare the Concept of Operations document
Prepare initial OMB Exhibit-300

Prepare a Resource Proposal for the initial project funding and staffing
Ensure the project is included in the Capital Investment Plan

Project Management Activities
Prepare the Capability Development Plan
Prepare the initial Acquisition Plan (If required)

Human Systems Integration Activities (CG-1B3)
Develop staffing predictions.
Define human performance initiatives
Define notional Performance Support & Training (PS&T) needs
Submit Requests For Analyses (RFAs) as needed to identify PS&T requirements
Develop strategy for conducting Human Performance Training (HPT) analyses
Initiate Manpower Estimate Report using CG-1B3* format
Develop strategy for acquiring long lead time, high dollar training aids prior to delivery of first asset.

*CG-1B3: Human Systems Integration for Acquisitions

Enterprise Architecture Activities (if applicable)
Complete Part II (IT projects) of the Exhibit-300 in addition to the Non-IT sections
Complete USCG Enterprise Architecture Board (EAB) Review (Select Phase)
Complete DHS Enterprise Architecture Board Review

c. Need Phase Significant Accomplishments

Accomplishments
Describe the mission need
Describe the concept of operations
Develop OMB Exhibit-300 to justify entry into the budget
Develop the Capability Development Plan and initial Acquisition Plan (if required)
The Capability Development Plan will be completed by the Acquisition Organization. DHS Acquisition Directive 102-01-001 allows up to 90 days to complete CDP after ADE-1
Obtain CAE authorization to proceed to DHS ADE-1 to obtain ADA authorization to enter the Analyze/Select Phase
Obtain ADA approval at Project Authorization to enter the Analyze/Select Phase

d. Need Phase Documentation

Documentation required for DHS ADE-1 approval is presented in **Table 2-3 Need Phase Documentation.**

Table 2-3: Need Phase Documentation

Document	Task	Preparation	Approval
Mission Need Statement	Prepare	Sponsor's Rep	CAE/ADA
Concept of Operations Document	Prepare	Sponsor's Rep	CG-DCO
Affordability Assessment	Prepare	Sponsor's Rep	N/A
OMB Exhibit-300 Business Case	Prepare	Sponsor's Rep	N/A
Manpower Estimate Report	Prepare	CG-1B3	N/A
Capability Development Plan	Prepare	CG-93	CAE/ADA
Acquisition Plan (if required)	Prepare	CG-93	Contracting Off
Analyze/Select Phase Exit Criteria	Prepare	Sponsor's Rep	CAE/ADA

e. ADE-1 Reviews and Expected Outcomes

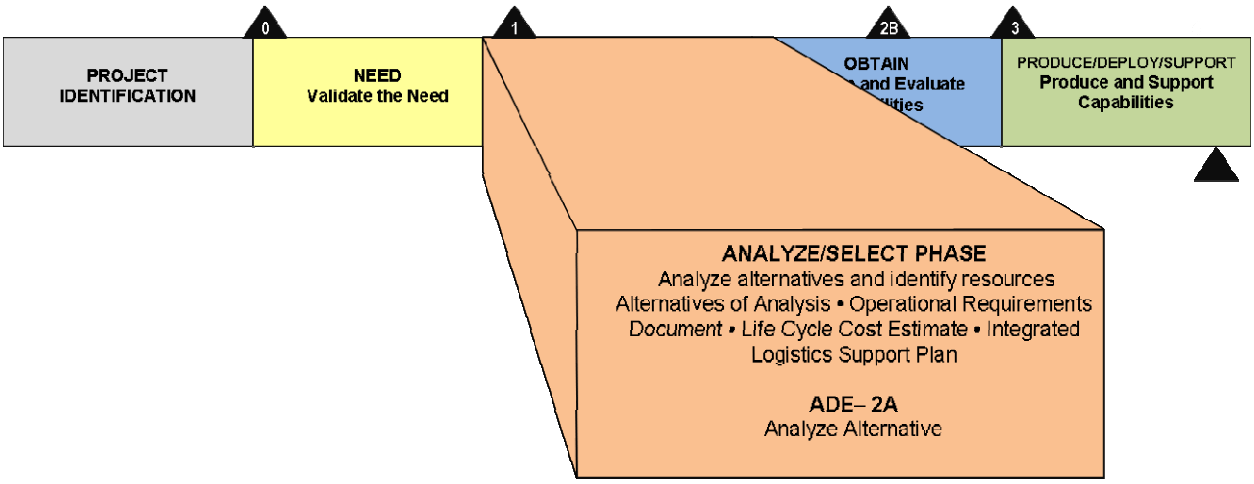
CGARC ADE-1 Review
CAE authorize project to proceed to DHS for ADE-1 approval to enter into the Analyze/Select Phase
Approve the MNS and CDP and forward to DHS for final approval

DHS ARB ADE-1 Review
ADA approve Project Authorization for Level 1 and Level 2 acquisitions and authorize entry into the Analyze/Select Phase
ADA approve Mission Need Statement
ADA approve Capability Development Plan (at or 90 days of ADE-1 Review)
ADA approve proposed Analyze/Select Phase Exit Criteria
ADA issues an Acquisition Decision Memorandum

f. IT Activities

See SDLC C4&IT phase requirements in Command, Control, Communications, Computers Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 (series). For assistance, contact the Commandant (CG-6) assigned C4&IT system asset manager in Commandant (CG-6). Note: DHS has promulgated the Systems Engineering Life Cycle (SELC) Guide as part of Acquisition Instruction 102-01-001. All projects are required to comply with the DHS SELC.

4. ANALYZE/SELECT PHASE



The Analyze/Select Phase explores alternatives to fill validated user mission capability gaps in the Mission Need Statement with effective, suitable and affordable solutions. The Capability Development Plan provides the overall guide and schedule for the activities to be conducted during the Analyze/Select Phase.

Alternative solutions are identified through market research and feasibility studies with emphasis placed on innovation and competition. Promising alternatives are evaluated through an Alternatives Analysis and a Life Cycle Cost Estimate is developed for the preferred solution. Opportunities for tradeoffs are explored and an initial acquisition strategy and a test and evaluation strategy are developed during this phase.

a. Analyze/Select Phase Objectives

The objectives of the Analyze/Select Phase are to establish the requirements, evaluate the feasibility of alternatives that will achieve the requirements, and provide a basis for assessing the relative merits (e.g., advantages and disadvantages, degree of risk, life cycle cost, supportability, and cost-benefit) of the alternatives to determine a preferred solution.

Requirements Development. During the Analyze/Select Phase, the initial concept provided in the Mission Need Statement is refined through a systematic requirements generation process (defined in Chapter 4), identifying alternatives, and developing a technology development strategy (if the preferred solution involves technology that is still under development) to define requirements.

Technology Development. The purpose of Technology Development (normally for advanced development only) is to (1) reduce technology risk and determine the appropriate technologies to be integrated into the proposed system solution; (2) determine that critical product technologies are mature enough to enter the Obtain Phase and to commence Low Rate Initial Production (as appropriate); and (3) reduce risk and mature the system design in preparation for the Obtain Phase. A technology plan will be developed to identify the specific technologies the project will pursue for incorporation.

Logistics Support Planning. Logistics support concepts, specific logistics support

requirements (i.e., metrics such as Reliability, Maintainability, Availability, etc.), and any logistics support constraints must be satisfied are identified during Analyze/Select Phase. The initial Integrated Logistics Support Plan (ILSP) must be developed and approved. The Configuration Control Board (CCB) is chartered and the Configuration Management Plan is developed and approved. An Independent Logistics Assessment (ILA) must be completed with satisfactory results and any discrepancies identified prior to ADE-2A.

Low Rate Initial Production (LRIP). If the project plans to incorporate a LRIP to obtain test articles and/or to prove a production process, the quantities planned for LRIP have to be determined during the Need Phase and identified during the ADE-2A brief. The Acquisition Decision Authority will approve LRIP quantities at ADE-2A, with approval to proceed with LRIP production granted at an ADE-2B.

ADE-2A and ADE-2B. The objectives of ADE-2A are to verify that the project requirements are sufficiently defined, a feasible and achievable preferred solution has been identified, and the project is ready to proceed to the Obtain Phase. The objectives of ADE-2B are to approve the structuring of a project into a series of discrete segments for incremental implementation (such as an Initial Operating Capability (IOC) discrete segment and a Full Operating Capability (FOC) discrete segment) as well as approval to commence production of first article or low rate initial production (LRIP) units.

Based upon the ADE-2A and ADE-2B objectives, the Analyze/Select Phase may conclude with either an ADE-2A review or a combined ADE-2A/2B review. Projects not planning discrete segments or first article /LRIP units, may conduct a combined ADE-2A and ADE-2B review.

b. Analyze/Select Phase Activities

The approved CDP serves as the “roadmap” for the activities to be performed in the Analyze/Select Phase. The project should notify CG-93 and DHS APMD in a timely fashion of significant variances in the execution of the planned CDP events and schedule.

Specific activities and responsibilities during the Analyze/Select Phase are delineated below.

Sponsor Representative Activities
Prepare Preliminary Operational Requirements Document and Operational Requirements Document

Project Management Activities
Establish a project matrix/IPT team
Charter IPT
Develop the Alternative Analysis Study Plan
Develop SELC Tailoring Plan
Conduct the Alternative Analysis
Develop Life Cycle Cost Estimate
Commence acquisition planning – develop an acquisition strategy

Prepare Project Management Plan
Prepare Risk Management Plan
Prepare Acquisition Plan
Prepare the Configuration Control Board Charter
Organize the Configuration Control Board
Coordinate development of the Independent Cost Estimate (ICE)
Prepare Affordability Assessment
Develop Acquisition Program Baseline
Identify the Low Rate Initial Production (LRIP) quantity to be approved at ADE-2A
Develop Obtain Phase Exit Criteria

Systems Engineering Activities
Conduct the AA Study Plan Review (SPR)
Assist with finalizing operational requirements
Identify major trade-off opportunities for cost, schedule and performance
Conduct market research to identify available alternatives
Conduct feasibility studies and/or cost and performance trade-off studies
Explore alternatives and assess the major strengths and weaknesses of each in conjunction with the Sponsor
Assess the continued availability of materials and manufacturing sources for each alternative to ensure long term supportability
Receive spectrum* supportability determination for spectrum dependent systems (DD Form 1494)
Initiate IT System Security Planning Per DHS MD 4300.1 (IT only)
Prepare System Security Plan (IT only)
Prepare System Contingency Plan (IT only)
Develop Technology Plan
Conduct Technology Readiness Assessments as part of systems engineering management reviews
Conduct System Requirement Review
Initiate the National Environmental Policy Act process
Initiate preparation of system specification
Initiate configuration management planning
Prepare Configuration Management Plan
Perform necessary research and testing to address technology maturity and identify integration and interoperability requirements to address and mitigate known risks
Conduct the Solutions Engineering Review (SER)

* Spectrum Management Policy and Procedures, COMDTINST M2400.1 (series) applies for Spectrum Certification.

Logistics Activities
Initiate logistics support planning
Organize the Integrated Logistics Support Management Team

Logistics Activities
Establish support concept
Implement initial support plans
Initiate the supportability analysis
Establish maintenance concept
Prepare the Integrated Logistics Support Plan
Prepare for the Independent Logistics Assessment prior to ADE-2A approval
Initiate transportability report/planning, as required
Initiate facility site planning, if required
Initiate Diminishing Manufacturing Sources and Material Shortages (DMSMS) planning

Human Systems Integration Activities
Initiate Human Systems Integration (HSI) planning (including Manpower, Personnel, Training, Human Factors Engineering (HFE), System Safety, Survivability, and Habitability)
Initiate studies and analyses for manpower requirements to operate, maintain, support, and instruct the system
Conduct HFE activities and provide guidance for design development
Plan for the development of HSI, HFE and System Safety Program Plans by the contractor*
Identify HSI standards and best practices for requirements development
Perform task analyses on legacy assets and platforms
Research lessons learned with regard to human performance issues and physiological limitations
Develop notional Performance, Support, and Training (PS&T) plans including initial training in detail as well as interim and sustainment training
Develop PS&T evaluation plans
Ensure PS&T requirements development strategy is aligned with latest guidance from CG TRASYS SOP

*CG-1B3 is to be contacted for format and content of the HSI, HFE, and System Safety Program Plans that need to be included in the contract. PMs are to coordinate with CG-1B3 for a cost estimate to manage the development and implementation of the plans.

Test and Evaluation Activities
Develop test strategy
Initiate Developmental Test and Evaluation and Operational Test and Evaluation planning
Establish the Test Management Oversight Team
Prepare the Test and Evaluation Master Plan

Enterprise Architecture Activities
Complete Coast Guard Enterprise Architecture Board (EAB) Review
Complete USCG Products and Standards (PSB) Review
Complete DHS EAB Review

c. Analyze/Select Phase Significant Accomplishments

Accomplishments
Receive early stage 1 spectrum supportability determination from CG-62*
Completed the Alternatives Analysis
Complete Solutions Engineering Review (SER)
Complete Study Plan Review (SPR)
Defined the requirements for the asset or system
Completed the Independent Cost Estimate
Completed the Life Cycle Cost Estimate
Complete Independent Logistics Assessment
Satisfy Analyze/Select Phase Exit Criteria
Obtain CAE authorization to proceed to DHS ADE-2A
Obtain ADA approval for the LRIP quantity
Completed DHS Enterprise Architecture Board review (if applicable)
Obtain ADA approval of preferred alternative at ADE-2A

*CG-62: Communication Systems

d. Analyze/Select Phase Documentation

Documentation required for DHS ADE-2A approval is presented in **Table 2-4: Analyze/Select Phase Documentation**.

Table 2-4: Analyze/Select Phase Documentation

Document	Task	Preparation	Approval
Mission Need Statement	Revalidate	Sponsor's Rep	CAE/ADA
Concept of Operations	Update	Sponsor's Rep	CG-DCO
Exhibit-300 Business Case	Update	PM	N/A
Affordability Assessment	Prepare	PM/CG-821	N/A
Alternative Analysis Study Plan	Prepare	PM	CG-9
Alternatives Analysis	Prepare	PM	CG-9
Project Management Plan	Prepare	PM	CG-9
Acquisition Plan	Prepare	PM/KO	HCA*
Operational Requirements Document	Prepare	Sponsor's Rep	CAE/ADA
Acquisition Program Baseline	Prepare	PM	CAE/ADA
Integrated Logistics Support Plan	Prepare	PM	CAE/ADA
Configuration Management Plan	Prepare	PM	CG-93
Configuration Control Board Charter	Prepare	PM	CG-93
Risk Management Plan	Prepare	PM	CG-93
Test and Evaluation Master Plan	Prepare	PM	CAE/ADA
Life Cycle Cost Estimate	Prepare	PM	CG-93
SELC Tailoring Plan	Prepare	PM	CAE/ADA
Preliminary Spectrum Supportability Assessment (DD-1494) (IT only)	Prepare	PM	CG-62

Document	Task	Preparation	Approval
System Security Plan (IT only)	Prepare	PM	CG-6
System Contingency Plan (IT only)	Prepare	PM	CG-6
NTIA Stage 1 Spectrum Certification (IT only)	Prepare	PM/CG-62	NTIA
Proposed Obtain Phase Exit Criteria	Prepare	PM	CAE/ADA

*HCA: Head, Contracting Authority

e. ADE-2A/ADE-2B Reviews and Expected Outcomes

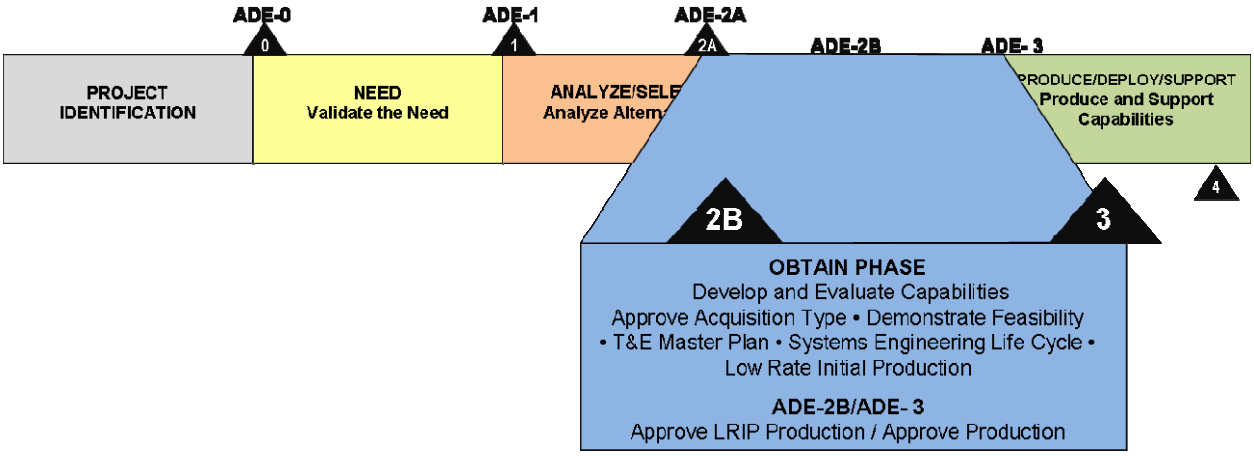
CGARC ADE-2A/ADE-2B Review
CAE approve recommended alternative (ADE-2A)
Endorse proposed Obtain Phase Exit Criteria (ADE-2A)
CAE approve LRIP quantities (ADE-2A)
Authorize to proceed to DHS ADA (ADE-2A)
CAE approve project Discrete Segments (ADE-2B)
CAE approve LRIP Production (ADE-2B)
Authorize to proceed to DHS ADA (ADE-2B)

DHS ARB ADE-2A/2B Review
ADA approve recommended alternative and authorize entry into Obtain Phase (ADE-2A)
ADA approve Low Rate Initial Production quantities, if applicable (ADE-2A)
ADA approve proposed Obtain Phase Exit Criteria and Acquisition Program Baseline for Level 1 acquisitions (ADE-2A)
ADA approve project Discrete Segments (ADE-2B)
ADA approve LRIP Production (ADE-2B)
ADA issues Acquisition Decision Memorandum (both ADE-2A and ADE-2B)

f. IT Activities

See SDLC C4&IT phase requirements in Command, Control, Communications, Computers Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 (series). For assistance, contact the Commandant (CG-6) assigned C4&IT system asset manager. Note: DHS has promulgated the Systems Engineering Life Cycle (SELC) Guide as part of Acquisition Instruction 102-01-001. All projects are required to comply with the DHS SELC.

5. OBTAIN PHASE



The Obtain Phase is focused on demonstrating feasibility of the preferred alternative and refining the solution prior to a full production (hardware) commitment or deployment (software) decision. The purpose of the Obtain Phase is to expand the high-level requirements of the Analyze/Select Phase into specific detailed requirements producing a complete detailed specification of the capability. All requirements defined in the Operational Requirements Document must be satisfied by this specification. Finally, the initial capability or first article is produced during this phase. Although much of the area of concern in this phase addresses the equipment that will provide the capability, this phase also puts into place any required infrastructure, logistics support, and refines the concept of operations and other important elements of the overall capability. A developmental prototype of the capability, when needed, may be developed to test that the design meets the capability specifications and requirements.

Depending upon project objectives, the Obtain Phase is unique in that it may encompass two distinct acquisition decision events – ADE-2B and ADE-3. Following ADE-2B approval (if required), the project implements the requisite SELC activities, conducts developmental and operational testing, and matures project management documentation to support the ADE-3 decision to proceed into the Produce/Deploy/Support Phase.

a. Obtain Phase Objectives

Obtain activities include developing the first article for the completion of Developmental Test and Evaluation (DT&E). Operational Test & Evaluation (OT&E) is conducted on production representative units to confirm that the system meets requirements as described in the MNS and the ORD. An Independent Logistics Readiness Review (LRR) is conducted to ensure all aspects of logistics support are in place or are planned to be in place and funded, and a satisfactory initial sustained logistics support capability will be fielded. The LRR is to be accomplished prior to ADE-3 and prior to delivery of the first asset for operational usage. It may be accomplished concurrently with OT&E.

Multiple objectives must be attained during this phase, including:

- Translating the most promising design approach developed in the Analyze/Select Phase into a stable, producible, and cost effective product design
- Demonstrating the manufacturing or production process
- Demonstrating that the product capabilities meet contract specifications, minimum acceptable operational performance requirements, system security requirements, and satisfy the mission need
- Determining whether the product design is mature enough to commit to full production and deployment/fielding

Projects with Discrete Segments. As described in the Analyze/Select Phase, the ADE-2B decision approves the expansion of the APB to include additional segments laying out the cost, schedule and performance parameters for each discrete segment within the project. If applicable, the project's IOC and FOC dates will be established at ADE-2B (in the APB schedule). While there will typically be one ADE-2A review for each project, there may be multiple ADE-2B and/or ADE-3 reviews depending on the discrete segment structure proposed for the project.

Low Rate Initial Production (LRIP). LRIP units required for OT&E or to maintain a minimum production capability are engineered and produced during this phase. As described in the Analyze/Select Phase, the quantity of LRIP units is approved at ADE-2A and approval to commence LRIP production is achieved at ADE-2B. ADE-2B will be scheduled to coincide with completion of the CDR to ensure risks are identified and adjudicated. The approved quantity for LRIP may not be exceeded unless authorized by the ADA.

b. Obtain Phase Activities

Sponsor Representative Activities
Revalidate the mission need and the operational requirements
Initiate development of the requirements for sustainment resources, both money and personnel
Develop the sustainment Resource Proposal, if appropriate

Project Management Activities
Determine production quantity or develop cost and schedule milestones for useable segments
Establish contract administration procedures and organization
Update Alternatives Analysis to reflect details of the production design and support requirements and to account for any changes in product performance and its associated benefits
Revalidate the MNS, CONOPS, ORD, APB, and Affordability Assessment to ensure that the mission need remains current, the project performance measures are being met, and the planned Produce/Deploy/Support Phase structure of increments of capability remains affordable within the Coast Guard capital acquisition portfolio
Submit system accreditation documentation to the Designated Approving Authority via the

System Certifying Authority for Authority to Operate decision (IT only)
Obtain Frequency Assignments Authorization (IT only)
Coordinate with the Sponsor to initiate deployment/fielding planning and assist in the preparation of the Deployment Plan by the Sponsor
Prepare the Resource Proposal and the necessary budget documentation including updated OMB Business Case Exhibit-300s to support the project as a line item in Coast Guard budget requests
Update the APB with specific Cost, Schedule and Performance objectives for Discrete Segments (if appropriate)
Update the Acquisition Plan
Update the LCCE
Update the TEMP

Systems Engineering Activities
Document completion of Test Readiness Review (memo to CG-9)
Closely monitor performance measures to ensure that functional requirements of the capability are being met
Conduct evaluations, assessments, and analyses of the performance characteristics and recommend solutions to performance problems
Revalidate requirements traceability
Evaluate whether the capability is effectively meeting the functional requirements, is operating efficiently, and is effectively managed
Document completion of PDR and CDR (memo to CG-9 with CG-1, CG-4, CG-6 concurrence as Technical Authorities)
Finalize planned technology insertions
Analyze capability design documentation, user manuals, capability specifications, and other documentation to determine the degree the capability performs its intended purpose
Determine the design maturity of the new capability
Prepare Stages 2, 3, and 4 spectrum certification documentation in accordance with 47CFR Part 300. Incorporate NTIA requirements from the previous Stage certification (IT only)
Conduct a review of the information assurance controls identified in the approved IT system security plan to determine any system vulnerabilities and recommend solutions and/or mitigation strategies (IT only)
Monitor the IT system security process by working with the assigned Information System Security Officer to ensure the Information Assurance controls remain enforced as specified in the approved IT system security plan
Implement the Project Tailoring Plan
Refine and mature preliminary design and conduct Preliminary Design Review (PDR)
Conduct Critical Design Review (CDR)
Conduct Production Readiness Review (PRR)
Complete production design specifications
Evaluate the benefits being attained to actual costs for the acquisition
Implement project configuration management program through the Configuration Control Board
Review and recommend for approval or disapproval, all configuration changes and

Systems Engineering Activities
proposed alterations that will modify a system's functional characteristics or operational requirements
Monitor the Configuration Management process by working with the project configuration manager to ensure the system configuration remains in agreement with the approved configuration baseline(s) and documentation
Ensure that the Configuration Status Accounting database is current and configuration control is being exercised effectively
Review engineering change proposals and requests for deviations to ensure that they are consistent with the operational requirements and that they are properly analyzed and documented
Monitor implementation of approved configuration changes
Accomplish Functional Configuration Audit

Logistics Management Activities
Update the logistics support requirements in the ILSP for the selected alternative
Design the logistics support system
Continue the supportability analysis
Perform trade-off analyses to balance hardware, software, support and resource requirements, including Human Systems Integration
Determine maintenance levels consistent with bi-level maintenance concept through Level of Repair Analysis
Finalize supply support requirements (provisioning)
Ensure Diminishing Manufacturing Sources and Material Shortages (DMSMS) is addressed and perform assessments of subsystems and components to be included to ensure long term supportability and availability of materials and manufacturing sources
Perform fitting out activities
Update and finalize supportability requirements
Provide logistics support for Operational Test & Evaluation
Identify contractor logistics support required for initial deployment of system
Design/contract training and other human performance interventions
Train initial crew, maintenance personnel, and future instructors
Prepare for Independent Logistics Readiness Review

Human Systems Integration Activities
Ensure the requirement for the HSI, HFE and System Safety Program Plans are incorporated in the contract*
Ensure implementation and execution of the HSI, HFE and System Safety Program Plans
Provide human performance and safety data and analysis for design implications
Update studies and analyses for manpower requirements to operate, maintain, support and instruct the system
Develop task lists and sequence
Perform simulation and prototyping
Determine staffing and training needs
Determine and evaluate cognitive and physical workload

Develop preliminary prediction of human and system performance
Support test and evaluation for validation and verification of human performance and safety requirements
Validate manpower and training requirements meet system needs to operate, maintain, support and instruct the system

*CG-1B3 is to be contacted for format and content of the HSI, HFE, and System Safety Program Plans that need to be included in the contract. CG-1B3 is to be a member of the project's RFP development team.

Test and Evaluation Activities
Determine if the capability meets established ORD performance thresholds
Develop detailed test plans and procedures
Deliver engineering development model(s), prototype(s), first article and/or LRIP units
Deliver test units
Conduct Security Test & Evaluation, including testing, evaluating, and verifying the IT security controls (IT only)
Conduct a Risk Assessment to document the threat environment (IT only)
Conduct a Preliminary Acceptance Trial or First Article Test, if applicable
Complete Developmental Test & Evaluation and subsequent Report
Conduct Test Readiness Review to confirm readiness for OT&E
Conduct Operational Test & Evaluation, including testing, modeling (if appropriate), evaluating, and verifying the support system.
Provide Developmental Test & Evaluation and Operational Test & Evaluation test results to the CAE and to DHS JRC/ARB to support the decision to enter the Produce/Deploy/Support Phase at Project Decision
Plan follow-on DT&E and OT&E as indicated

Enterprise Architecture (if applicable)
Complete Part II of the Exhibit-300 in addition to the Non-IT sections
Ensure compliance with all internal CG IT requirements, in collaboration with CG-6
Meet Security and Privacy requirements
Meet Government Paperwork Elimination Act requirements
Conform with established DHS EAB strategic planning and IT guidance

c. Obtain Phase Significant Accomplishments

Accomplishments
SELC Reviews
PDR, CDR completed
PPR, SDR completed
Completed ADE-2B (if needed)
Satisfy Obtain Phase Exit Criteria
Complete Logistics Readiness Review
Logistics system design is identified
Completed ADE-3

Complete DHS EAB Review
NTIA Stage 2, 3, and 4 Spectrum Certification (IT)
Obtain Frequency Assignments Authorization (IT)
Verify the adequacy of the manufacturing or production process
Confirm the stability and producibility of the product
Complete DT&E – verify readiness for OT&E
Complete OT&E – results acceptable to the Sponsor
Establish required production quantity
Structure the project in fully-funded discrete segments
Obtain ADA Project Decision approval to enter Produce/Deploy/Support Phase

d. Obtain Phase Documentation

Documentation required for DHS ADE-2B approval is presented in **Table 2-5: Obtain Phase Documentation**.

Table 2-5: Obtain Phase Documentation

Document	Task	Preparation	Approval
Acquisition Plan	Update	PM	HCA
Acquisition Program Baseline	Revalidate	PM	CAE/ADA
Integrated Logistics Support Plan	Update	PM	CAE/ADA
Life Cycle Cost Estimate	Update	PM	CG-93
T&E Master Plan	Update	PM	CAE/ADA
Mission Need Statement	Revalidate	Sponsor's Rep	CAE/ADA
Concept of Operations	Update	Sponsor's Rep	CG-DCO
Exhibit-300 Business Case	Update	PM	N/A
Affordability Assessment	Update	PM/CG-82	N/A
Operational Requirements Document	Revalidate	Sponsor's Rep	CAE/ADA
Project Management Plan	Update	PM	CG-9
NTIA Stage 2, 3, and 4 Spectrum Certification (IT only)	Prepare	PM/CG-62	NTIA
System Security Plan (IT only)	Update	PM	CG-6
System Contingency Plan (IT only)	Update	PM	CG-6
Configuration Management Plan	Update	PM	CG-93
Risk Management Plan	Update	PM	CG-93
Developmental Test Report	Prepare	PM	CG-93
Operational Test Report	Prepare	Sponsor's Rep	Sponsor
Security Assessment Report	Prepare	PM	CG-6
Deployment Plan	Prepare	Sponsor's Rep	Sponsor
Proposed Produce/Deploy/Support Phase Exit Criteria (if applicable)	Prepare	PM	CAE/ADA

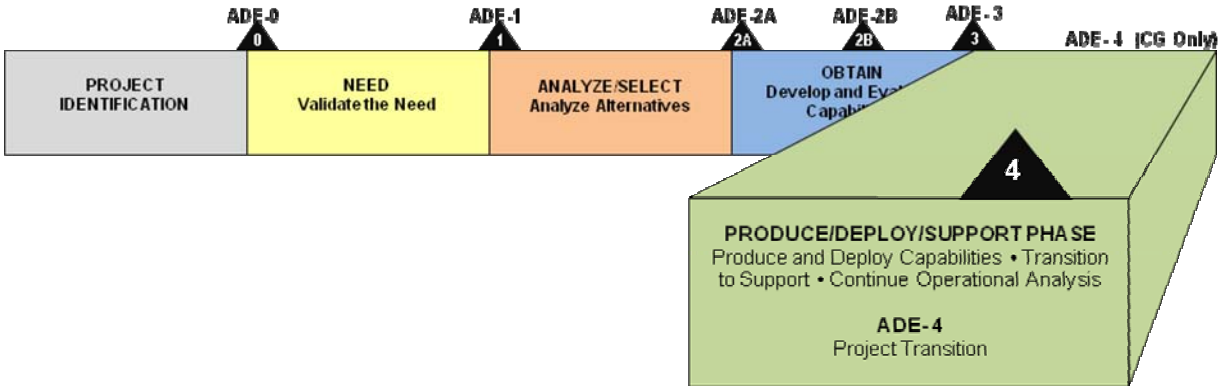
e. ADE-3 Reviews and Expected Outcomes

CGARC ADE-3 Review
CAE endorses the revalidated/updated APB and approves the revalidated MNS
Approves readiness for ADE-3 reviews by ADA
DHS ARB ADE-3 Review
ADA authorizes entry into the Produce/Deploy/Support Phase
ADA issues Acquisition Decision Memorandum

f. IT Activities

See SDLC C4&IT phase requirements in Command, Control, Communications, Computers Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 (series). For assistance, contact the Commandant (CG-6) assigned C4&IT system asset manager. Note: DHS has promulgated the Systems Engineering Life Cycle (SELC) Guide as part of Acquisition Instruction 102-01-001. All projects are required to comply with the DHS SELC.

6. PRODUCE/DEPLOY/SUPPORT PHASE



The Produce/Deploy/Support Phase follows project approval at ADE-3 and encompasses two primary functions – Production & Deployment (P&D) and Support. The P&D activities produce assets for deployment into operational use. The asset should achieve operational capability that satisfies mission needs. P&D activities culminate with the successful achievement of Full Operating Capability (FOC). During Support, the new assets are used for their intended purposes to conduct operational missions. The acquisition project is completed and all responsibilities for operation and support are transitioned to the sustainment community. The initial support capability in terms of materials, technical data, trained personnel, support equipment, and infrastructure has been delivered and is in place. Replacement and replenishment of this support capability is accomplished, as necessary. Engineering changes to modify or enhance the operational capability of the assets are accomplished when necessary to improve reliability, maintainability, or safety to adapt to changing mission requirements and to replace equipment items that are approaching obsolescence.

During the Produce/Deploy/Support Phase, the Coast Guard unique ADE-4 Project Transition Review formally completes the acquisition program's production and deployment and marks the formal transition to steady state operation and support. All active major acquisition projects annually brief the CGARC on project performance. The last annual CGARC Review will be used for the ADE-4 Project Transition review. The PM is expected to brief the details of the Project Transition Plan (PTP) and the Program/Support sponsor briefs the details of the updated ILSP as part of the official transition of project management responsibility to the operating and support Programs. The Project Transition review coincides with the change in leadership of the project matrix/IPT team.

a. Production and Deployment Objectives

The primary objective of P&D is to deliver production units. For IT systems, the system itself is a production unit. Software developed in the Obtain Phase as useable segments are prepared for and deployed to an operational environment. Additional objectives of the P&D are to:

- Establish a stable and efficient production and support base

- Achieve an operational capability or discrete segment of operational capability that satisfies the mission need
- Conduct follow-on testing to confirm and monitor performance and quality and verify correction of deficiencies (as necessary)
- Ensure logistics are in place to support end-items (establish interim support provisions, as necessary)
- Ensure each fielded asset is ready for unrestricted operations and complete the hand-off to the operational commander

A Post Implementation Review (PIR) shall be conducted approximately 6-12 months after Initial Operating Capability (IOC) to verify that the delivered capability met the project's performance and cost goals. The 6-12 months is a guideline with the intent that the asset is fielded and that actual performance and cost to operate information is available. The results of the PIR will establish a baseline for performance measurement on each asset for all future operational analyses.

The Logistics Technical Authority Commandant (CG-4), in coordination with other Technical Authorities Commandants (CG-1 and CG-6) will determine if another Independent LRR should be accomplished prior to transition of responsibility at ADE-4. A complete LRR may be required or an update of status from the LRR previously accomplished prior to Milestone 3 may suffice.

b. Production and Deployment Activities

Project Management Activities
Execute the production contract(s)
Ensure the delivered product meets operational requirements and meets cost and schedule baselines in Acquisition Program Baseline
Submit system accreditation documentation to the Designated Approving Authority via the System Certifying Authority for Authority to Operate decision (IT only)
Obtain Frequency Assignments Authorization (IT only)
Conduct an annual self assessment of the Information Security controls in accordance with NIST 800-53 (IT only)
Conduct a documented exercise of the system Contingency Plan (IT only)
Prepare the Project Transition Plan for ADE-4
Assist and support the development of the sustainment Resource Proposal (RP)

Sponsors Representative's Activities
Develop the requirements for sustainment resources, both money and personnel
Develop the sustainment Resource Proposal
Conduct Post Implementation Review

Systems Engineering Activities
Verify and validate production configuration
Manage product configuration in accordance with the Product Baseline

Conduct Physical Configuration Audit
Revalidate Environmental Impact Assessment and update documentation as necessary

Logistics Management Activities
Ensure that the proper personnel, all training facilities and all logistic support material and facilities are in place
Monitor continued availability of materials and manufacturing sources
Establish interim logistics support, if required
Package and distribute all technical data to each unit and logistic support organization
Prepare for the hand-off of the operational system
Prepare for updated LRR in support of ADE-4

Human Systems Integration Activities
Evaluate training concept effectiveness
Validate manpower and training requirements meet system needs to operate, maintain, support and instruct the system
Review and recommend engineering changes for HSI issues
Provide usability results and feedback

Test and Evaluation Activities
Conduct acceptance tests and trials upon delivery of each asset
Conduct Follow-on DT&E and OT&E, as necessary

Enterprise Architecture Activities (if applicable)
Complete Part II (IT projects) of the Exhibit-300 in addition to the Non-IT sections

c. Production and Deployment Significant Accomplishments

Significant Accomplishments
Satisfy ADE-4 Project Transition Exit Criteria
Deliver production assets in useful segments or increments of capability
Conduct Logistics Readiness Review (if required)
Achieve Initial Operational Capability
Execute maintenance and support plans
Post Implementation Review completed
Achieve Full Operational Capability

d. Production and Deployment Documentation

Documentation required to be developed and updated during this phase are presented in **Table 2-6: P&D Documentation**.

Table 2-6: P&D Documentation

Document	Task	Preparation	Approval
Integrated Logistics Support Plan	Update	PM	CAE/ADA
Deployment Plan	Update	Sponsor's Rep	Sponsor
Annual Contingency Plan Test Report (IT only)	Prepare	PM	CG-6
Project Transition Plan	Prepare	PM	CG-9
Post Implementation Review	Prepare	Sponsor's Rep	Sponsor

e. ADE-4 Review and Expected Outcomes

The Coast Guard unique ADE-4 (Project Transition Review) will be accomplished to coincide with the last annual Coast Guard project review. The LRR information will be updated prior to ADE-4 Transition Review.

CGARC ADE-4 Project Transition Review
Project Manager and Support Program Manager brief the Project Transition Plan and Integrated Logistics Support Plan.

f. Support Objectives

The objectives of Support are the effective and efficient operation of the new asset to perform the applicable operational mission(s), to include the execution of a support program that meets operational support performance requirements and sustains the system in the most cost-effective manner over its total life cycle. The Sponsor continues operational analysis to measure asset performance against assigned goals. When the asset is no longer needed by the operating program, it is removed from the operational inventory and disposed of in accordance with applicable guidance.

Operational Analysis. Operational Analysis (as described and required in the DHS *Operational Analysis Guidance Manual*) is the performance measurement system that will be used to measure the performance and cost of steady-state assets against an established baseline. The objectives of Operational Analysis are to:

- Examine whether an asset or initiative continues to provide desired results, as defined at Project Identification
- Determine if the program is still delivering the goods and services that it intended to deliver
- Determine if capabilities could be more effectively provided through other existing internal or external initiatives
- Determine if improvement or replacement of an asset is needed

As such, Operational Analysis may indicate that a current asset is not meeting the intended needs of the Coast Guard and therefore needs to be redesigned, modified, or replaced.

Future assessments, in the form of annual Operational Analyses, are required. Sponsors are required to perform the annual Operational Analysis on each major acquisition. Operational Analysis results for major IT programs (Level 1 and Level 2) are to be reported in the Exhibit 300 and will be reviewed by DHS. Non-IT projects' Operational Analyses are reviewable at the Coast Guard level.

g. Support Activities

Project Management Activities
The Project Transition Plan is executed and management responsibilities are transferred to the applicable Operations and Support Program Managers
The acquisition project continues to manage the resolution of warranty claims until the end of the warranty period
CG-01 terminates the PM Charter
Operating Expense (OE) funding for operations and maintenance is updated
Contract closeout is accomplished by the contracting activity

Sponsor Activities
Conduct annual Operational Analysis (OA)

Systems Engineering Activities
Support in-service reviews, trade studies, and decision making on modifications, upgrades, and future discrete segments of the system. Interoperability or technology improvements, parts or manufacturing obsolescence, aging systems issues, premature failures, joint or service commonality, may all indicate the need for system upgrade(s)
The Platform/Facility Manager implements the Configuration Management program for sustainment

Logistics Activities
The Product Line Manager implements the planned Integrated Logistics Support (ILS) strategies and planning, maintains and improves the processes contained in the ILSP, implements Diminishing Manufacturing Sources and Material Shortages management, and applies and replenishes the ILS resources that have been acquired to support the new system in sustained operation
Validate manpower and training requirements meet system needs to operate, maintain, support, and instruct the system

Human Systems Integration Activities
Evaluate training concept effectiveness
Periodic review and validation of manpower and training requirements to meet system needs to operate, maintain, support and instruct the system
Review and recommend engineering changes for HSI issues

Provide usability results and feedback
Collect human performance and safety lessons learned

h. Support Significant Accomplishments

Significant Accomplishments
Conduct Project Transition Review
Provide sustained support of operational system
Conduct periodic review to validate manpower and training requirements meet system needs to operate, maintain, support, and instruct the system
Conduct Post Implementation Review
Conduct annual Operational Analyses on fielded system

i. Support Documentation

Table 2-7: Support Phase Documentation

Document	Task	Preparation	Review
Operational Analysis Review Report	Annual	Sponsor	DHS/CG

j. IT Activities

See SDLC C4&IT phase requirements in Command, Control, Communications, Computers Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 (series). For assistance, contact the Commandant (CG-6) assigned C4&IT system asset. Note: DHS has promulgated the Systems Engineering Life Cycle (SELC) Guide as part of Acquisition Instruction 102-01-001. All projects are required to comply with the DHS SELC.

7. MODELING AND SIMULATION

A model is something that is created to represent an actual system but lacks the cost or complexity of that system. Models are used to conduct experiments to gain a better understanding of the system that it is designed to mimic. Models can be physical (e.g., scale model aircraft for wind tunnel testing) to mathematical (e.g., a mathematical of a specific system created to conduct computer simulations).

Simulation is an exercise of a model (or experiment on the model). Its intent is to learn specific characteristics about the system that has been built or being built without having to go through expensive testing on the real system or having to wait for the real system.

Commandant (CG-0931) promulgated Coast Guard Modeling and Simulation (M&S) Management, COMDTINST 5200.38, providing vision, policy, procedures, and standards for the administration and management of M&S. Properly implemented, M&S can ensure that schedules are met, costs and production constraints are identified and quantified, and system requirements and key performance parameters are achieved. M&S can explore operational and design concepts, assess technology maturity and interoperability, facilitate integration into operational units, and confirm performance against documented capability gaps. To reduce time, resources, and risk associated with the entire acquisition process, and to increase the quality, military worth, and supportability of fielded systems, Project Managers and Sponsors are to identify and fund necessary M&S resources early that will support their respective acquisition phase activities. M&S tools range over a vast spectrum of types, resolutions, and purposes, from highly detailed engineering representations to aggregated representations of force-on-force engagements. This range of M&S is characterized as a hierarchy in which the scope progresses from narrowly focused to the broad spectrum encompassed by a theater level view. **Figure 3: Hierarchy of M&S** is a depiction of the M&S hierarchy.

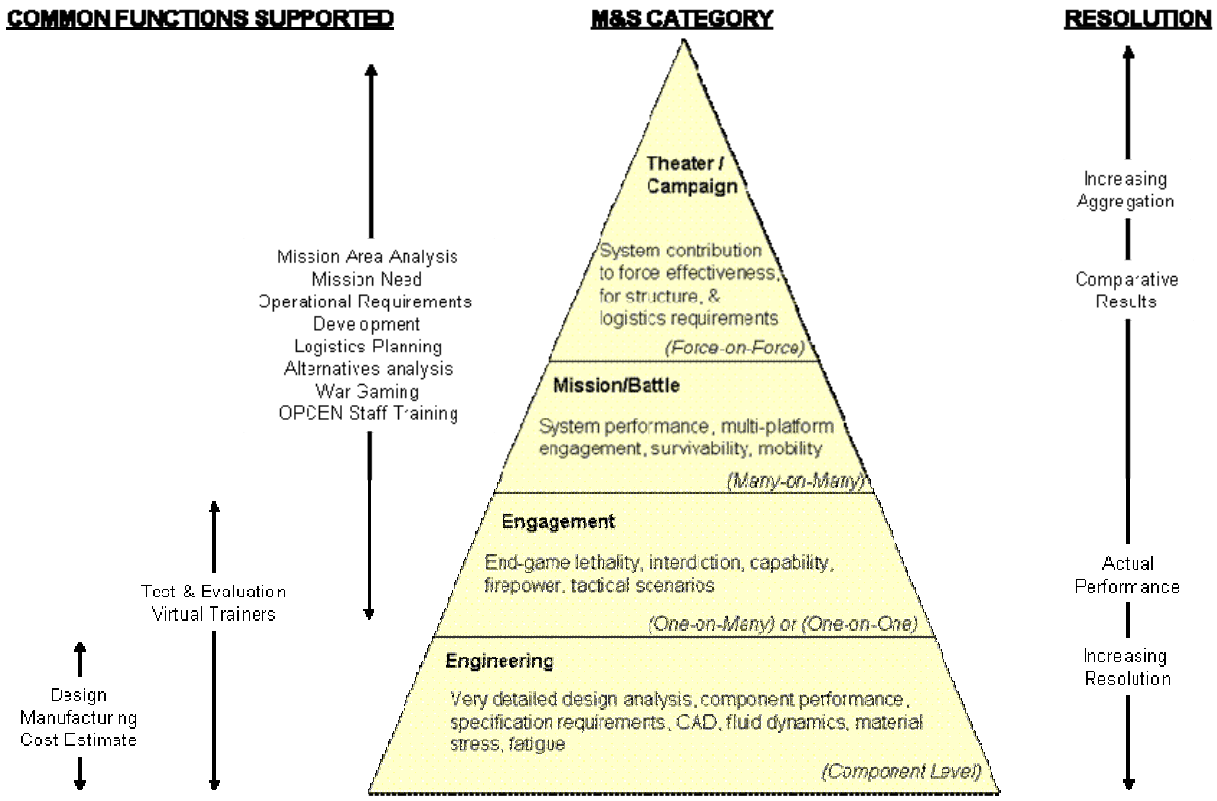


Figure 3: Hierarchy of M&S

The lowest level in the hierarchy begins with the engineering level, progresses to engagement, then to mission/battle level, and finally to the theater/campaign level. Often, outcomes of M&S in lower levels of the hierarchy provide data and information into the next levels.

Documentation

The role of M&S in the testing process must be documented in the Test and Evaluation Master Plan. Of particular importance, Verification, Validation and Accreditation (VV&A) of Models and Simulations, COMDTINST 5200.40, mandates that any M&S tool used in supporting the development of major acquisitions must undergo accreditation review for approval by the appropriate Accreditation Authority prior to its use.

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Chapter 3: Systems Engineering Life Cycle

1. INTRODUCTION

Systems engineering provides the project manager a solid technical foundation that effectively unifies, integrates, and focuses the efforts of all stakeholders – users, operators, developers, acquirers, testers, trainers, and maintainers – throughout the life cycle of a product or system. It develops a relevant technical knowledge base that is matured, maintained, and transferred in a disciplined manner for the entire life cycle of the deployed capability or system.

The Systems Engineering Life Cycle (SELC) is a systems engineering framework for enabling efficient and effective delivery of capability to users, and is one of several key processes used for managing Coast Guard acquisition programs and their related projects. The SELC guides the definition, execution, and management of an interdisciplinary set of tasks required to plan, define, design, develop, implement, operate, and dispose of systems.

The use of SELC for Coast Guard projects is mandated by the Department of Homeland Security, Acquisition Directive 102-01 and is applicable to all Capital Assets as well as Enterprise Services projects whose purpose is to deliver a capability. This includes non-IT projects and IT projects. The process for Enterprise Services is tailored and much abbreviated from that required for Capital Assets.

DHS Acquisition Instruction/Handbook, 102-01-001 Appendix B, provides a SELC Guide to standardize the system life cycle process across DHS Components and is designed to ensure that appropriate activities are planned and implemented in each stage of the life cycle to increase the project's success.

The SELC provides flexibility by supporting tailoring based on the unique characteristics of a project (e.g., size, scope, complexity, and risk) documented in the project's SELC Tailoring Plan. Project managers are responsible for tailoring the SELC process for the project's specific characteristics as appropriate and submitting this plan for approval at ADE-2B.

Figure 3-1illustrates the relationship between the SELC Stages, SELC Reviews, the Coast Guard Acquisition Review Process, and Acquisition Decision Events. The SELC methodology is composed of nine process stages with ten systems engineering stage reviews.

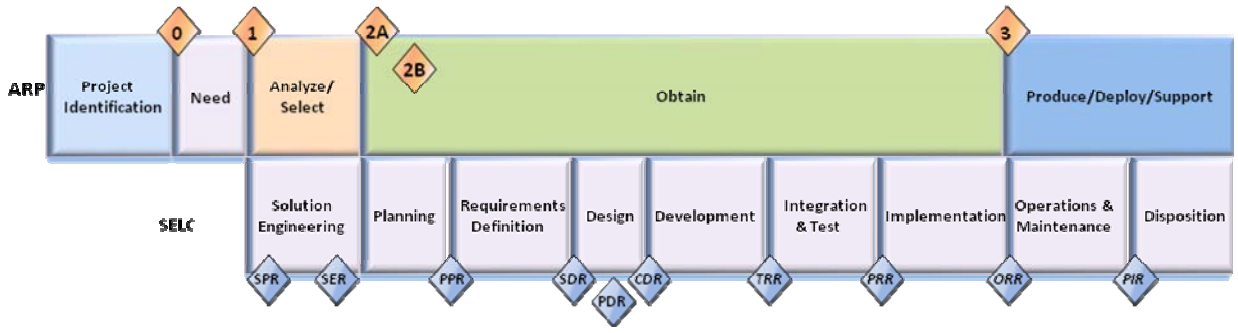

Figure 4: MSAM with SELC Process

SELC reviews are used to inform Coast Guard and Department oversight structure (e.g. ADE reviews) on the progress toward successful capability development. Each stage has a defined set of activities that represents a logical unit of work. Each stage has associated documents to record the results of the activities performed. Stage Reviews are held at an appropriate point in time to validate that the acquisition has completed requirements for that stage and is ready to advance to the next stage. Exit criteria are directly related to the function of the stage and to the activities performed in the stage.

2. RESPONSIBILITIES

The Program/Project Manager is responsible for arranging, coordinating, and leading the stage reviews while the Approval Authority is responsible for sign-off that the project has satisfied all the exit criteria and is ready to proceed to the next stage. A signed stage review approval letter must be provided to DHS following conclusion of each stage review (CG-924 will coordinate with the project). The SELC reviews and approval authorities are described in Table 3-1.
The latest SELC document templates can be obtained on the DHS Online website under Components/Management/CIO/EBMO/SELC.

Table 3-1: SELC Reviews and Approval Authorities

SELC Reviews		Capital investment IT	Capital Investment Non-IT	Enterprise Service
SPR	**Study Plan Review**	DHS APMD/CIO	DHS APMD/CIO	DHS APMD/CIO
SER	**Solution Engineering Review**	DHS CIO	USCG SE Group	USCG SE Group
PPR	**Project Planning Review**	USCG CIO	USCG SE Group	USCG SE Group
SDR	**System Definition Review**	USCG CIO	USCG SE Group	USCG SE Group
PDR	**Preliminary Design Review**	USCG CIO	USCG SE Group	USCG SE Group
CDR	**Critical Design Review**	USCG CIO	USCG SE Group	USCG SE Group
TRR	**Test Readiness Review**	USCG CIO	USCG SE Group	USCG SE Group
PRR	**Production Readiness Review**	USCG CIO	USCG SE Group	USCG SE Group
ORR	**Operational Readiness Review**	USCG CIO	USCG SE Group	USCG SE Group
PIR	**Post Implementation Review**	USCG CIO	USCG SE Group	USCG SE Group

3. C4&IT PROJECTS

Program/Project Managers for Major C4&IT Systems Acquisitions must refer to chapter

7 for specific instruction relate to coordination with CG-6. The Coast Guard currently has instructions for implementing a System Development Life Cycle (SDLC) to manage C4IT projects and non-IT projects with major IT systems. Until the Coast Guard is fully transitioned from the SDLC to the SELC, PMs need to be cognizant of both. Chapter 7 provides information on the SDLC.

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Chapter 4: Requirements Generation

1. INTRODUCTION

The ability for the Coast Guard to continue to effectively execute its missions in the future is dependent upon having and maintaining a healthy requirements life-cycle system. **Figure 5: Requirements Life-Cycle** is a depiction of the requirements life-cycle system as it applies to major systems acquisitions. Each element of the requirements life-cycle plays an important role – from identifying mission gaps to developing requirements to fielding new assets or systems to getting feedback on the fielded assets' ability to continue to perform their missions.

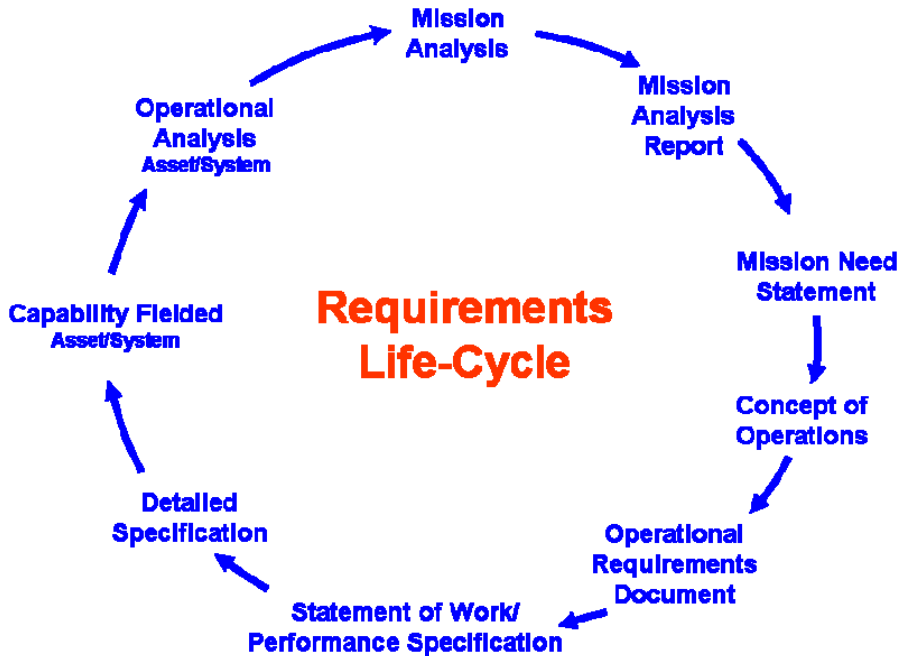

Figure 5: Requirements Life-Cycle

- **Mission Analysis** (MA) is the periodic assessment of the Coast Guard's future mission operations. It identifies deficiencies, or capability gaps, in the Coast Guard's ability to execute its missions. For example, the Coast Guard may want to have an 80% success rate in stopping go-fast boats. If the Mission Analysis shows that our success rate is only 65%, then a capability gap exists.
- **Mission Analysis Report (MAR)** documents the results of the mission analysis. It documents material and non-material solutions that can be used to close the mission capability gaps identified in the Mission Analysis. If the identified mission gap cannot be closed by any other means (force mix, training, etc.) then the MAR will document the need for a material solution to the gap. A material solution means that a new physical asset (i.e., cutter, aircraft) must be added to the Coast Guard's inventory in order to fill the capability gap. Material solutions

should be prioritized within the MAR by their ability to fill the capability gap and affordability to the Coast Guard.

- **Mission Need Statement (MNS)** is the formal description of the strategic need for an acquisition and is a crucial part of the acquisition process. It is a high level statement of the type of asset required to close the mission capabilities gap. It is one of the earliest documents to formalize the acquisition, and links the gap in mission capability first documented in the MAR to the particular acquisition that will fill the gap.
- **Concept of Operations (CONOPS)** describes a proposed asset or system in terms of the user needs it will fulfill, its relationship to existing assets, systems or procedures, and the ways it will be used. The CONOPS is used to obtain consensus among the mission managers, sponsor, acquirer, developer, support, and other user entities within the Coast Guard on the operational concept of a proposed system. The CONOPS is not a specification or a statement of requirement.
- **Preliminary Operational Requirements Document (PORD)** is the first requirements document and incorporates the vision set out in the CONOPS assigning desired operational performance expectations. The PORD is derived from the MNS, CONOPS, and early sponsor analysis. The PORD expresses the requirements statement needed to guide further analysis. The PORD is a required document for every major systems acquisition unless a waiver is approved by Commandant (CG-771).
- **Operational Requirements Document (ORD)** is the formal statement, developed by the sponsor in collaboration with stakeholders, of the performance and related operational parameters for a proposed concept or system. It describes an operational system in terms of a range of acceptable and desirable standards of performance. As the consolidation of these performance measures in one document, as well as requirements for the support and maintenance of the system, the ORD serves as the source document for a host of Systems Engineering activities, ongoing requirements analysis, and cost estimating to ensure the success of the project. Once approved, the ORD serves as a “contract” between the Sponsor and the Project Manager. An approved ORD is required at ADE-2A and revalidated for ADE-3 to support the production and deployment decision by the ADA.
- **Statement of Work/Performance Specification (SOW/P-Spec)** is used to translate the requirements stated in the ORD into a level of detail from which industry (contractors) can develop a reasonably priced proposal.
- **Detailed Specification** is developed by the contractor normally from the SOW and P-Spec provided by the project through an iterative design process. The contractor uses the detailed specification to build the asset or system.
- **Capability Fielded** is the initial part of providing the new capability to the user. The asset/system is tested prior to its full introduction into the Coast Guard.

- **Operational Analysis** is used to assess an asset/system's ability to continue to effectively perform its missions in a cost effective manner. The analysis is required by OMB and DHS and is to be done by Commandant (CG-7) on an annual basis. The results of the Operational Analysis provide an input into the Mission Analysis.

The effectiveness of each element within the requirements life-cycle is dependent on its predecessor. A sound and defendable MNS is dependent on the completeness and coherency of the MAR; a well written ORD needs a well thought out and complete CONOPS; the SOW and P-Spec are dependent on a clear and well written ORD; and so forth. As requirements become defined in more detail, they need to maintain clear traceability to their predecessor.

2. MISSION ANALYSIS

Purpose: Mission Analysis (MA) is a continuous, iterative analysis of assigned mission responsibilities to identify gaps in current and projected Coast Guard mission capabilities. The purpose of mission analysis is to assess the ability of the Coast Guard to successfully carry out a specific mission in the future by analyzing current performance level in contrast to mission goals. Where a gap in capability exists or is projected to exist, a mission analysis should identify additional functional capability or process changes necessary to meet the deficiency. Commandant (CG-5) is the process owner for conducting Mission Analyses.

Discussion: Department of Homeland Security (DHS) and Coast Guard Strategic Goals and Coast Guard Mission Programs* are the starting points that are used to establish the Coast Guard sphere of responsibility for which the Coast Guard conducts ongoing mission analyses. DHS annually issues its Integrated Planning Guidance (IPG) as part of the CPIC process to provide a focused statement of DHS priorities given the current and projected view of world and national state of affairs.

* The Coast Guard has the following Non-Homeland Security and Homeland Security Missions:
Non-Homeland Security Missions – Search and Rescue; Marine Safety; Aids to Navigation; Ice Operations; Marine Environmental Protection; and Living Marine Resources
Homeland Security Missions: Illegal Drug Interdiction; Undocumented Migrant Interdiction; Other Law Enforcement; Ports, Waterways, and Coastal Security; and Defense Readiness.

Sponsors should develop and track performance metrics for legacy/existing systems to determine if the system (which includes the operators, the hardware/software, and the operational environment) is able to conduct designated missions to the required levels of system performance. This information will feed the mission analysis. Included in the Sponsor's assessment will be decisions regarding retirement/disposal of a system or asset.

The Coast Guard uses the framework of its Mission Programs and DHS guidance as the standard to which it measures and assesses its capabilities to meet its missions. Concepts and scenarios are applied to give context to missions/tasks. Shortcomings between current capability and desired outcomes are identified as capability gaps (implying that tasks or missions cannot be accomplished with existing resources). The shift to a capability-based requirement system is important to meet the needs of the DHS Acquisition Review Process (ARP) in identifying, assessing, and prioritizing CG/DHS

capability needs.

When capability gaps are identified, the mission manager conducts an analysis to determine if gaps can be closed without having to initiate a material solution. This *non-material analysis* is an internal review of the Coast Guard's doctrine, organization, training and education, materiel, leadership and education, personnel, and facilities (DOTMLPF). If changes can be made within the Coast Guard's current infrastructure to resolve capability gaps, it is the preferred solution. A non-material solution is typically faster and less expensive.

Changes related to DOTMLPF may not eliminate all gaps in capabilities. Remaining capability gaps should be prioritized and presented at a Coast Guard Project Identification Review ADE-0 through the Mission Analysis Report (MAR) as candidates to proceed to a Coast Guard major systems acquisition if the preliminary total life cycle cost estimate exceeds DHS thresholds for Level 1 and 2 acquisitions. A technology assessment is to be accomplished concurrent with the gap analysis. Promising technologies are to be identified that may support the material solutions of the MAR.

At ADE-0, the results of the mission analysis are to be presented (including the results of the DOTMLPF analysis and any ongoing Research and Development/Science and Technology (R&D/S&T) initiatives). Recommended projects are identified and presented (with the capability gaps they will close) by the mission manager; and an initial affordability determination is presented. Successful completion of ADE-0 will authorize entry into the Need Phase and direct development of a MNS, and initial Exhibit-300 business case,.

The Project Identification Phase is used by the mission manager to perform an ongoing mission or gap analysis to identify shortcomings in Coast Guard capabilities; **Figure 6: Mission Analysis Process.**

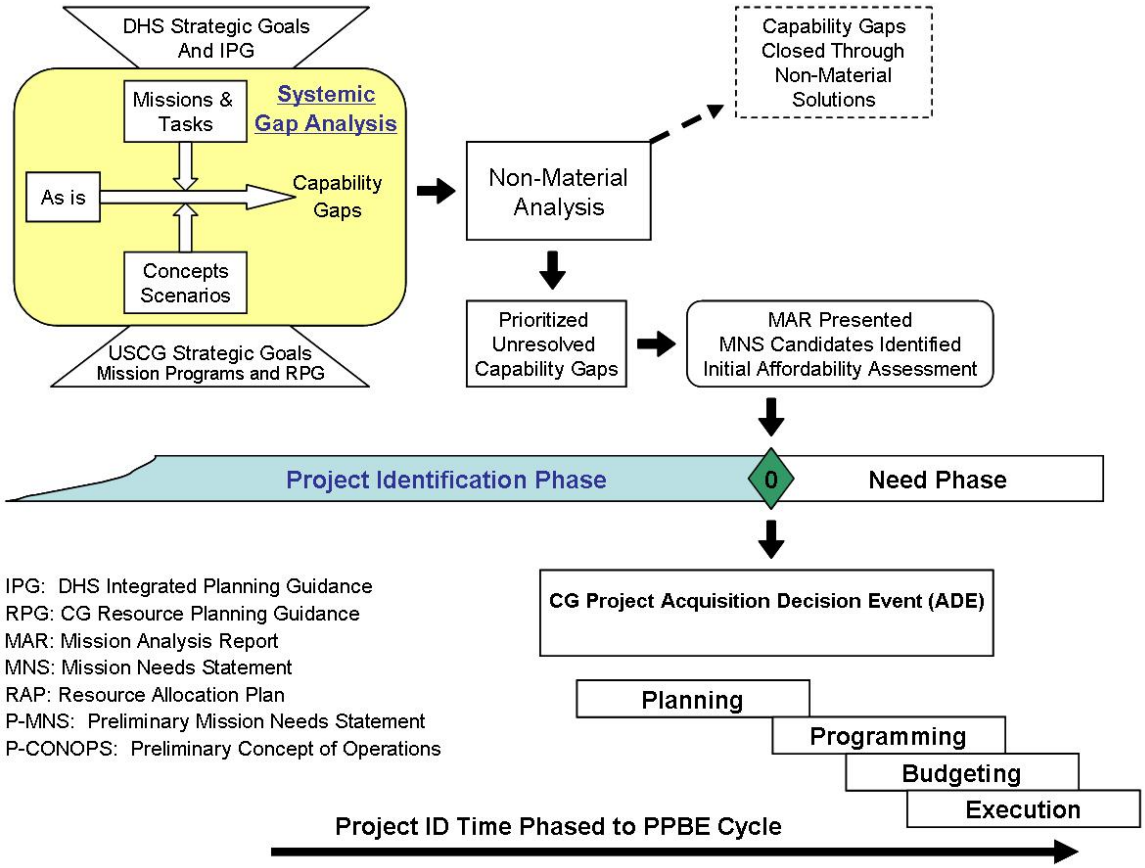

Figure 6: Mission Analysis Process

Roles and Responsibilities

CG-5 and Sponsor Responsibilities
CG-5 is responsible for conducting the Mission Analysis with support from Sponsors
Brief Chief of Staff (CG-01) at Project Identification Review (ADE-0)
Sponsor Responsibilities
Support CG-5 in conducting Mission Analyses
Provide early cost assessment on the proposed material solutions
CG-8 Responsibilities
Provide early affordability assessment on the material solutions
CG-01 Responsibilities
CG-01 authorizes entry into the Need Phase
CG-01 direct initiation of a MNS and CONOPS, initiation of Exhibit-300 (if applicable), initiation of a Capability Development Plan and an initial Acquisition Plan, and Resource Allocation Plan for JRC and APMD review.

3. MISSION ANALYSIS REPORT

Purpose: The MAR documents the mission analysis results and supports initial acquisition strategies.

Discussion: The MAR is a collection, cross-analysis, and documentation of numerous feeder studies and analyses that look across a number of different mission areas. The MAR is not intended to be an asset oriented analysis. The MAR is divided into two parts. Part I encapsulates the Operating Program Director's assessment of a deficiency in functional capability which will prevent the Coast Guard from adequately conducting mission(s) now or in the future. Part II provides justification and preliminary options for satisfying mission capability gaps to include, where appropriate, a change of doctrine or procedure. If necessary, the MAR should specifically document the need for a material solution.

Roles and Responsibilities: Mission analysis is the responsibility of the Operating Program. The Program Director briefs Part I to the Resource Group/Investment Board for initial concept approval and to identify resources (funding and personnel) required to complete Part II. Part II may, depending on mission complexity, require detailed studies, analysis and extensive commitment of staff resources. The Office of Mission Analysis (CG-512) will coordinate submission and review of the MAR. Commandant (CG-01) will endorse the MAR at the Project Identification Review (ADE-0) and authorize entry into the Need Phase.

4. MISSION NEED STATEMENT

Purpose: The Mission Need Statement (MNS) is a high level synopsis of specific functional capabilities required to accomplish DHS mission and objectives. It provides a strategic framework for acquisition planning and capability delivery and is a crucial part of the acquisition process. In the Coast Guard, it serves to formalize the acquisition, and links the gap in mission capability first documented in the MAR to the particular acquisition of a material solution that will fill the gap. If a non-material solution closes the capability gap, a MNS and follow-on acquisition project will not be required.

[**Note**: For Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and IT, the MNS describes specific architecturally-based functional capabilities required to satisfy DHS and Coast Guard Enterprise Architecture requirements.].

Discussion: Based on the capability gap derived from mission analysis, the Sponsor will prepare the MNS and then circulate it for concurrent clearance. The MNS (four to eight pages) must align to DHS strategic direction and priorities and address several key elements including:

- Required mission in functional terms
- Threats, threat assessment and environment (if applicable)

- Description of capabilities required for the mission and gaps in capabilities that drive a need for a material solution
- Consideration of existing or planned systems (internal or external to DHS) 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 gaps

The MNS must be sufficiently detailed to justify an acquisition decision. Approval of a MNS provides formal DHS executive level acknowledgment of a justified and supported need to resolve a mission gap with a material solution.

Format: Part I of the MSAM Handbook (Appendix A to this manual) provides the appropriate template.

Roles and Responsibilities

Sponsor's Representative Responsibilities
Drafts the MNS
Sponsor Responsibilities
Submits the MNS
Component Acquisition Executive (CAE) Responsibilities
Provides Coast Guard approval for MNS
DHS Acquisition Decision Authority (ADA) Responsibilities
Approves MNS at ADE-1

5. CONCEPT OF OPERATIONS

Purpose: The Concept of Operations (CONOPS) describes a proposed asset, system, or capability (solution) in terms of the user needs it will fulfill, its relationship to existing assets, systems, capabilities or procedures, and the ways it will be used in actual operations or business processes . It is both an analysis and a formal document that describes how an asset, system, or capability will be employed and supported. In the Coast Guard, the CONOPS development process serves to generate consensus on the operational and support concept of a proposed system.

Discussion: A well-developed CONOPS provides a useful foundation at the beginning of the project for later development of the asset or system and also serves as a useful reference document throughout the duration of the project. CONOPS development normally involves a multi-function team. By demanding user involvement, early analysis, and collaboration, the CONOPs process creates consensus among the mission managers, sponsor, acquirer, developer, support, and other user entities within the Coast Guard, encourages organizational decision making, and sets the stage for writing solid requirements. CONOPS development should include careful consideration of a full range of factors that together are required to fulfill the mission including all of the aspects of Doctrine, Organization, Training, Leadership, Materiel, Personnel, Facilities and Regulations, Grants and Standards (DOTMLPF+R/G/S). Like the mission scenarios

included in the CONOPS, DOTMLPF+R/G/S considerations provide context of how the system will be used and supported. Before commencing work on requirements documents, future work group members should review the CONOPS to ensure they understand the vision of how the asset or system will be employed.

When initiating a CONOPS development effort, it is first important to ensure that a CONOPS document is appropriate to the acquisition being sought. A CONOPS addresses the employment and support of a system or asset that operates within a system of system or family of systems instead of as a stand-alone component. It is well suited for acquisitions of assets or systems that have extensive user, interoperability, and/or compatibility considerations. Since it is focused more on the major asset or system, there are several key sections of the template that may not be appropriate for smaller acquisitions of hardware, equipment, weapons, or tools. Before commencing the level of effort required to formulate a CONOPS, verify that all of the sections of the template are applicable to the acquisition. If it is found that a number of sections are not applicable, then it is likely that a Concept of Employment (CONEMP) may be a more appropriate document structure.

Format: Part I of the MSAM Handbook (Appendix A to this manual) provides the appropriate template.

Sponsor's Representative Responsibilities
Drafts the CONOPS
Sponsor Responsibilities
Approves the CONOPS

6. OPERATIONAL REQUIREMENTS DOCUMENTS

Preliminary Operational Requirements Document (PORD). The PORD is the first requirements document that incorporates the vision set out in the CONOPS and assigns desired operational performance expectations. It sets the context of the gaps to be addressed to guide the development and evaluation of alternative design concepts. The PORD is derived from the MNS, CONOPS, and associated cost estimates, early sponsor analysis (i.e., force structure assessment and C4ISR) and the historical baseline. Developed early in the Analyze/Select Phase, the PORD describes the missions, operational capabilities, operating environment, and system constraints that competing system concepts must satisfy. The PORD expresses the requirements statement before capabilities are removed or lessened due to cost trade-offs, assessment of system component technical maturity and risk, or other factors. The PORD serves as the sponsor's guidance to the project office specifying the issues to address in the Alternatives Analysis. Using the PORD, and working closely with the Sponsor's Representative, the PM conducts feasibility studies and/or trade-off studies. The functional requirements are analyzed, system concepts synthesized, concepts evaluated (in terms of cost, mission and environmental impacts), and the best system concept(s) selected and described. These early studies help refine requirements as the PORD ultimately evolves into the ORD.

Initial KPP. The PORD should define the system characteristics of the new system reflecting ORD IPT consensus. Initial Key Performance Parameters (KPP) are generally associated with operational gaps stated in the MNS, critical issues derived from the CONOPS, and overarching guidance provided by higher authority.

Requirement Priority. The PORD amplifies and derives requirements from the MNS and early mission analysis and affordability trade-offs. Building upon operational insights from the CONOPS the ORD IPT should provide a listing in priority order of requirements or technical parameters. This includes cost factors such as acquisition cost or life cycle costs. These factors are analyzed and then updated based on ensuing analyses conducted to obtain a balanced and affordable system

Operational Requirements Document (ORD). The ORD is a top-level decision document which establishes the minimum acceptable standards of performance (thresholds) and optimum performance goals (objectives) for the system and, following approval, serves as a "contract" between the Sponsor and the acquirer.

Purpose: The ORD is the formal statement, developed by the sponsor in collaboration with stakeholders, of the performance and related operational parameters for a proposed concept or system. It describes an operational system in terms of a range of acceptable and desirable standards of performance. As the consolidation of these performance measures in one document, as well as requirements for the support and maintenance of the system, the ORD serves as the source document for a host of Systems Engineering activities, ongoing requirements analysis, and cost estimating to ensure the success of the project. Once approved, the ORD serves as a "contract" between the Sponsor and the Project Manager. An approved ORD is required at ADE-2A and revalidated for ADE-3 to support the production and deployment decision by the ADA.

Context: Requirements definition is part of the initial acquisition activities and includes shared responsibilities between the Sponsor (users) and the acquisition community (Project Manager) to translate operational needs into specific requirements that can be met. The material acquisition process can be accelerated if the ORD is properly prepared and coordinated prior to approval. The ORD, along with the CONOPS, are formal documents that provide a bridge between the functional requirements spelled out in the MNS and the detailed technical requirements found in the performance specification that ultimately governs development of the system. The ORD translates the MNS and the CONOPS into system-level performance capabilities and expounds upon inherent capabilities required of the system that are not explicitly stated in the CONOPS or MNS. Building from the PORD, the ORD uses the various studies, analysis, and systems engineering activities conducted in the Analyze/Select phase to document a more defined set of requirements The ultimate goal of the ORD IPT in its development of the ORD is to define the requirements and measures of success needed to develop and field useful and appropriate capability for mission success.

Discussion: The ability of the Coast Guard to acquire major systems that meet operational mission needs within cost and schedule constraints begins with the establishment of operational performance requirements. The accurate definition of requirements by the Sponsor is imperative if the major acquisition is to be completed

within cost and schedule constraints and still meet mission performance needs. The Sponsor establishes absolute minimums (thresholds) below which the mission can not be successfully performed. The Sponsor also sets objectives to define a value beyond the threshold that reflects an operationally meaningful and cost effective increment to an operationally effective system. A key point is to ensure that the ORD conveys the user's true needs to the acquisition directorate. Information in an ORD varies based on concept/system complexity and the maturity of the program. The ORD contains the best available information to support an ADE-2 decision. The subsequent ORD used in ADE-2B or ADE-3 may have better-refined requirements as the system matures. To place the ORD in perspective, it must be viewed as a step within the acquisition process rather than as an end in itself

Precepts: To effectively develop an ORD and be able to translate it into an affordable acquisition project, there are a number of precepts related to the ORD that need to be well understood.

- The ORD is an acquisition document. Its purpose is to identify and provide the performance parameters that will be needed in an asset or system in order to provide the user with the capability that will either fully or partially close the mission gap(s) identified in the MNS. It is used by developers to understand the operational requirements in operationally relevant terms.
- The ORD IPT must ensure that the required operational capability is not compromised through trade offs; however, the IPT must also guard against setting specific elements of the requirements (such as system performance parameters) at levels that are unachievable or unaffordable. The stated needs of the operator must be a controlling issue, but factors of cost, schedule, testability, and the technical feasibility of performance levels must be given their due weight.
- Key Performance Parameters (KPPs). The ORD contains the KPPs that denote the most important and non-negotiable requirements that the system must meet to fulfill its fundamental purpose. KPPs are tracked in the Acquisition Program Baseline (APB). Failure to meet any KPP threshold results in a program "breach." On ORD usually contains between four and eight KPPs.
- Each performance parameter in the ORD is stated in terms of a threshold (the minimum value necessary for the asset to be considered acceptable). If warranted, an objective value may also be assigned to a performance parameter. Objective values are a level of performance beyond the threshold that significantly improves mission performance, safety, supportability, or cost. In simple terms, the asset is acceptable at the threshold level but will be much more effective at the objective level. However, caution must be used in selecting objectives. The objective value must be sufficiently supported by analysis and expressed in quantitative terms. The number of objectives in the ORD should kept to a minimum because the PM must build the project's budget to the ORD objective level and determine what performance can be attained in the contracting and selection process. To do this, the objectives need to be included within the evaluation factors so that the contractor has incentive to bid to the objective level

of performance as part of a best value solicitation for the government. Objectives are not a shopping list from which the government can select extra capabilities if extra funds are available.

- The Critical Operational Issues (COI) are the key concerns that must be examined in operational testing to determine a product's capability to perform its mission. COI are derived from the key mission performance attributes in the MNS and CONOPS which lead to operational requirements in two areas: 1) technical parameters associated with operational effectiveness and 2) non-technical requirements associated with operational suitability. While the bulk of suitability issues are referred to as "non-technical" in the MSAM, issues like Reliability, Maintainability, and Availability are of a technical nature and can be quantitatively measured and have comparable importance to effectiveness issues. Both the material developer and the operational test agency need to know under what conditions the proposed system will be used. Does the system need to be waterproof or merely water resistant? Will it be used under extreme climatic conditions? Will its use in normal operations be different than that envisioned in heightened operations? The CONOPS sets general operating conditions for the asset; the ORD needs to ensure that those conditions are explained in enough detail for the requirements to be testable.
- Affordability. To achieve the requirements identified in the ORD, the budget and appropriations need to match the cost of doing the work in developing the capability. It is the PM's responsibility to highlight to senior management and the Acquisition Decision Authority if there is any disconnect between the PM's cost estimate for achieving the ORD and the Coast Guard's proposed (or approved) budget and the Congressional appropriation.
- The ORD is to be updated. During the life of the project, events may occur that jeopardize the PM's ability to achieve the ORD as it was initially approved. Those events can range from unexpected technical difficulties in developing the asset/system to insufficient funding in the Coast Guard budget or in the Congress appropriation to achieve the approved ORD. Irrespective of the cause, the ORD must reflect the asset or system when it is fielded for test and evaluation.
- The completed ORD will be reviewed and validated by Commandant (CG-771) prior to being submitted for concurrent clearance. The ORD development team will provide the analyses and documentation supporting the ORD to assist Commandant (CG-771's) review.

ORD Integrated Product Team (IPT). Developing requirements is best accomplished as an integrated, cross-functional endeavor. An ORD IPT will be chartered by the Sponsor to develop the ORD for a major systems acquisition. The Sponsor's Representative will co-chair the IPT, with Commandant (CG-771) serving as the primary resource for the process. IPT membership should include representatives from the following:

- Commandant (CG-4) (engineering, logistics, and configuration management)
- Commandant (CG-6) (enterprise architecture, IT, IA, Spectrum, etc.)

- Commandant (CG-1B3) (human engineering, personnel, training, manpower, system safety)
- Commandant (CG-93) Project Manager
- Commandant (CG-924) (IPT requirements training, process)
- Commandant (CG-926) (T&E)
- OT&E representative
- Ad Hoc members as needed (Commandant (CG-5), users, etc.)

The ORD IPT is to receive requirements management training at the initiation of the team.

ORD Development Process. Developing an ORD for a major systems acquisition is a significant acquisition of personnel, time, and resources. Generally speaking, the process shown in **Figure 7: Requirements Development Process** highlights the key stages the ORD IPT will go through as the requirements are identified and documented.

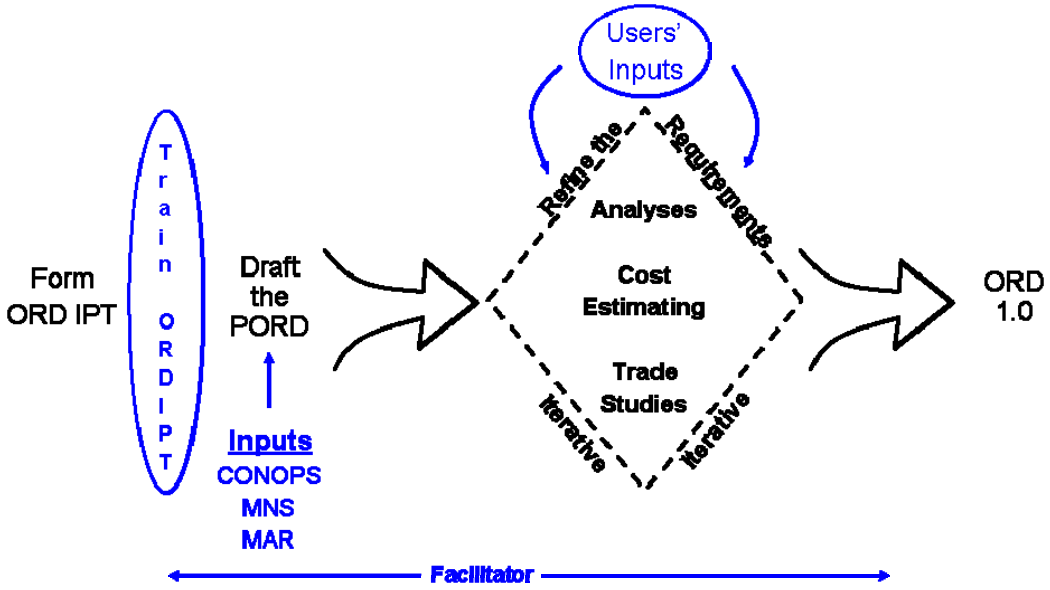

Figure 7: Requirements Development Process

The Relational database is to be used to capture and document the requirements identified by the team. Key attributes the database needs to provide to the team include:

- The ability to provide unique identity to each requirement.
- The ability to baseline requirements so that changes can be clearly tracked.
- The ability to develop and export/print a requirements traceability matrix.

The database will be initiated and maintained by the Sponsor through the development of the ORD. The PM will continue to use the database in the development of the SOW/P-Spec.

Roles and Responsibilities: The responsibility for defining requirements in the PORD and ORD lies with the Project Sponsor, who has the primary need for the system.

Format: Part I of the MSAM Handbook (Appendix A to this manual) provides the appropriate template.

Sponsor
Directs the Sponsor's Representative to prepare the PORD/ORD
Submits a PORD via the PM to the Commandant (CG-9) for acceptance
Submits an ORD to CG-9 for CGARC review and approval by CG-01
Sponsor's Representative
Preparation of PORD/ORD
Chair the ORD IPT
CG-771
Provides a Requirements Officer to assist the ORD IPT in requirements generations
Process gatekeeper for CG-7; reviews PORD/ORD for compliance with requirements generation process.

CGARC: Coast Guard Acquisition Review Council

Project Manager
Member of the ORD IPT
Assists the Sponsor's Rep in defining the operational and support requirements for the system
Provides funding to support the analyses needed for developing the ORD
Reviews and comments on PORD/ORD
Endorses PORD/ORD and recommends acceptance/endorsement by Commandant (CG-9)
ORD IPT
Provide cross-functional knowledge in identifying, assessing, and documenting requirements
Representatives from the Technical Authorities provide technical standards and policies that will apply to the ORD
Director of Acquisition Programs (CG-93)
Reviews and comments on PORD/ORD
Endorses ORD submitted by Sponsor
Commandant (CG-9)
Accepts PORD submitted by the Sponsor
Endorses ORD and submits to by CG-01
Chief of Staff (CG-01)
Endorses the ORD and submits to APMD for DHS coordination and staffing.
DHS Acquisition Decision Authority (ADA)
Approves the ORD

7. SPECIFICATIONS OR STATEMENTS OF WORK

Specifications or Statements of Work. Once a specific need is identified through the ORD, the PM must describe the requirement(s) to satisfy the Coast Guard need(s). This description is known as a specification or statement of work (SOW). Generally, a specification describes an item, component, or system and a statement of work describes services. For brevity, this instruction refers to specifications and statements of work collectively as "the specification." The specification is one of the most important elements in the development of the Request for Proposal (RFP) and resulting contract. How it is written impacts the success of the program. Specification writers should consider the following points when drafting a specification.

1. The specification has legal significance. It tells potential offerors what they must do to fulfill the Government's requirement, constitutes the basis for evaluating offers to determine if they satisfy the Government's needs, and binds the successful contractor to perform in accordance with the specification. Therefore, when developing a specification, consider how effectively an offeror can assess their performance when compared to the specification requirements.
2. By law, specifications must permit full and open competition to the **maximum** extent practicable and they must not be unduly restrictive. To this end, specifications should reflect only the Government's minimum needs, and must not be written around a particular company's product or service. As a rule of thumb, the Coast Guard must be able to trace every stated requirement in the specification back to an operational requirement.
3. When drafting a specification, the Coast Guard and the contractor must understand the requirement. Therefore:
    - Avoid ambiguous specifications. "Ambiguous" means written in such a way that it could reasonably be interpreted in at least two different ways—regardless of whether both are correct.
    - Do not "borrow" requirements in whole or in part from another specification unless you fully understand the requirement. Too often specifications are drawn from previous or similar specifications, and stated requirements are inapplicable or their meaning unknown.
    - Read all reference materials (e.g., publications, standards, specifications, etc.) before incorporating them into a specification to ensure all requirements in these documents apply. If necessary, incorporate only the applicable portions of referenced material in the specification.
    - State a requirement only once and, to the extent practicable, incorporate all reference material in full text.
    - To the extent practicable, the specification should state requirements in terms of functions to be performed or performance required rather than a specific design. Functional or performance specifications generally promote more competition and encourage innovative solutions. However, there are circumstances when a design specification is appropriate and, in practice, requirements are often stated as a

combination of the three.

- Strive to make the document readable by all parties. Define terms that have more than one meaning or use. Define acronyms. An index, table of terms, and definition section are often helpful, but try to avoid multiple cross referencing which breaks up the flow of the text and increases the risk of inconsistent duplication.
- Use commercial or industry standards instead of Military or Federal standards to the maximum extent possible, except where Military or Federal standards including DHS and Coast Guard standards, are applied to enhance commonality or interoperability.

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Chapter 5: Project Management Planning

1. CAPABILITY DEVELOPMENT PLAN

Purpose: The purpose of the Capability Development Plan (CDP) is to serve as the agreement between the Program/Project Manager (PM) and the Acquisition Decision Authority (ADA) on the activities, cost, schedule, and performance boundaries of the work to be performed in the Analyze/Select phase leading up to ADE-2A. (CG-93X has the responsibility for preparing the CDP in the Need Phase for implementation during the Analyze/Select Phase). The CDP assures sufficient analysis and information to enable an informed ADE-2A acquisition decision. It functions for pre-ADE-2A programs much in the same capacity as the APB does for post ADE-2A programs. The CDP is signed by the CAE and the DHS ADA for ADE-1. Once the CDP is in effect, the PM should notify CG-93 and DHS APMD in a timely fashion of significant variances in the execution of the plan of action and milestones (such as significant schedule slippage).

Discussion: The CDP should discuss topics and issues, specific to the acquisition, that allow the PM to clearly define the "body of work" that must be accomplished during the Analyze/Select phase. It provides the ADA with the assurance that the knowledge (based upon sound analytical approaches and techniques) to make an informed ADE-2A acquisition decisions will be available at that milestone.

The Capability Development Plan, approved at ADE-1, establishes the overall plan and timeline for conducting Analyze/Select Phase activities. At a high level, the general sequence of activities should be as follows:

1. Develop AA Study Plan – The AA Study Plan defines the assumptions, scope/bounds, and constraints and may require certain alternatives to be examined to "open up" the prospective solution trade space. Specific elements include: identify the study team, director and overall resources required; define participating organizations and their roles and responsibilities; identify needed subject matter experts; define the study schedule; describe how the AA team will interface with concurrent ORD effort; and, establish the AA review and approval process.

2. Conduct AA Study Plan Review (SPR) – In accordance with SELC process, the SPR must be conducted prior to commencing the actual AA. Chapter 3 provides more information on the SELC and the SPR.

3. Coordinated Implementation of the AA and ORD Development – Coordinating and integrating between the ongoing AA and ORD development promotes close alignment and more feasible, practical definition of the requirements, capabilities and cost of the intended solution. The AA explores alternatives with goal of identifying the most promising approach to achieve required capabilities within practical cost, schedule and risk limits. The AA helps define feasible, suitable and affordable Key Performance Parameters (KPP) and life cycle cost estimates that inform the ORD. Conversely, the ORD captures key performance and technical parameters for the potential program and, as these are refined, the AA alternatives should be modified to reflect the new parametric

values. Similarly, once the preferred alternative is selected, the KPPs in the ORD can be finalized.

4. Conduct System Engineering Review (SER) – The SER scope will cover all systems engineering performed prior to ADE-2A. Chapter 3 provides more information on the SELC and the SPR.

Roles and Responsibilities

Project Management Activities
Prepare CDP, establish cost, schedule and performance boundaries and scope
Component Acquisition Executive (CAE)
Endorse and approve CDP for Coast Guard
DHS Acquisition Decision Authority (ADA) Responsibilities
Approve CDP

2. ACQUISITION PLAN

Purpose: An Acquisition Plan (AP) documents a program's plan for meeting a portion of the Department of Homeland Security (DHS) mission through one or more acquisitions. It is a comprehensive plan that provides the background necessary to understand the program and how each acquisition will support the program. The process of acquisition planning brings together the efforts of all personnel responsible for an acquisition and ensures they are integrated through a comprehensive plan fulfilling requirements in a timely manner and within cost constraints. It includes developing the overall strategy for managing the acquisition.

Program or stand alone APs address the technical, business, management or other significant considerations that will affect the acquisition strategy and execution of each contractual action. The AP is the means to discuss the acquisition process and documents the decisions made prior to processing each contractual action. The AP serves as a mechanism to review, approve and document acquisition decisions and create a roadmap for the implementation of the acquisition decisions. Once approved, the AP provides direction and approval for execution of each contractual action.

Discussion: The Federal Acquisition Regulation (FAR), Chapter 3007 of the Homeland Security Acquisition Manual (HSAM) and the DHS Acquisition Planning Guide mandate an AP for all major systems acquisitions. Appendix A to HSAM Chapter 3007, DHS Acquisition Planning Guide, provides detailed guidance on AP development and preparation. All DHS acquisitions greater than $10M require an approved AP before executing any contractual action. The AP is source selection sensitive and should be marked accordingly.

Roles and Responsibilities

Project Manager Responsibilities
Prepare Acquisition Strategy

Develop sign, maintain, and execute the AP
Contracting Officer Responsibilities
Sole authority to enter into, administer, or terminate contracts and make related determinations and findings
Support PM in formulating the AP
Formally concur through signature that the AP is contractually sound and executable by endorsing the resulting AP
DHS Office of the Chief Procurement Officer
Reviews but does not sign APs prior to HCA approval for acquisitions greater than $50 million
Head of Contracting Activity (HCA)
Review and approve AP

The success of an acquisition hinges on proper planning and teamwork among all involved in the acquisition process. The activities that encompass acquisition planning vary for each acquisition. Acquisition planning *should* begin with a meeting of all members involved in the acquisition.

a. **Acquisition Strategy Session.** An acquisition strategy session should be scheduled soon after a need is identified but before the Acquisition Plan (AP) is developed. The purpose of this meeting is to bring members from the PM's staff, the sponsor's office, and the contracting office together to foster a team approach and develop the acquisition strategy. The PM is overall responsible for the planning and execution of the AP. In collaboration with the PM, the Contracting Officer is responsible for ensuring that the AP complies with applicable Federal regulations, Executive Orders and DHS and Coast Guard specific regulations and guidance. Other representatives from the PM's staff, the sponsor's office, and the contracting officer participate in the development of the AP. Other participants may also include representatives from Commandant (CG-094), Commandant (CG-913), the Small Business Specialist from Commandant (CG-913), and other specialists depending upon the acquisition objectives and history. DHS has produced a practical guide to Acquisition Planning, and is contained at: DHS Acquisition Planning Guide.

b. **Competition**. Competition is an issue that must be addressed at several points in a program or system's acquisition. Competition can be a powerful and beneficial method of contracting. Conversely, the reason for not using competition can take time to be approved, and consequently can hold up approval of a program's overall acquisition strategy and the Acquisition Plan document. Consideration of competition in contracting is required by law (Competition in Contracting Act (CICA) of 1984), Coast Guard regulation, and policy. Using other than competition requires obtaining specific exception authority, and in most cases approval in the form of a Justification & Approval or Determination and Findings.

3. ALTERNATIVES ANALYSIS

Purpose: The purpose of the Alternatives Analysis is to conduct a series of independent analyses to identify and document the most resource efficient method of satisfying an

identified mission capability gap. The Coast Guard's Alternatives Analysis is similar in function to the DHS's Analysis of Alternatives.

Discussion: The Alternatives Analysis process requires an analysis of all the possible alternative ways to satisfy the mission need and operational performance requirements for the new capability. The lead organization/entity to conduct the Alternatives Analysis must be independent of the acquisition project and sponsor. The analysis should assess critical technologies associated with each alternative, including associated technology maturity and technical risk including human systems integration considerations. It is started during Need Phase activities to determine what is needed to satisfy an identified capability gap. Once a determination has been made that a new material solution is needed, focus is narrowed to alternative material solutions that can satisfy the mission need. The process evolves on an iterative basis as the specific operational requirements for the new capability are identified, and life cycle costs for each alternative are developed and refined.

Alternatives Analysis involves the use of trade studies, identification of Life Cycle Cost Estimate (LCCE) for each viable alternative, and a Cost-Benefit Analysis (CBA) for each viable alternative to establish the return on investment (ROI) measure. Office of Management and Budget OMB Circular A-11, Exhibit-300, Capital Asset Plan and Business Case requires a minimum of three viable alternatives to be identified.

The ground rules and assumptions for the Alternatives Analysis are defined in the Capability Development Plan prepared in the Need Phase and approved at ADE-1. During the Analyze/Select Phase, the Alternatives Analysis Study Plan is prepared in accordance with the ground rules and assumptions and is reviewed and approved during the Study Plan Review, as described in the SELC. The SER is needed to complete the Alternatives Analysis and support ADE-2A. The Alternatives Analysis Report is reviewed and approved by the Coast Guard CAE. The Alternatives Analysis Report is updated to support subsequent Acquisition Decision Events and whenever changes to operational requirements are made, or significant changes to LCCE's or ROI parameters are experienced.

Note: See Total Ownership Cost Guiding Principles, COMDTINST M4140.1 for definitions of the different categories of cost.

Roles and Responsibilities

Project Manager Responsibilities
Prepare the Alternatives Analysis Study Plan and conduct the Study Plan Review (SPR).
Support the conduct of the Alternatives Analysis and achieve the Coast Guard CAE review and approval of the Alternatives Analysis Report.
Conduct SER
Conducts trade studies, Life-Cycle Cost Estimates, and Cost-Benefit Analyses to refine information for updating the Alternatives Analysis Report.

Sponsor Responsibilities
Participates in the Alternatives Analysis process to compare operational requirements to cost estimates and make refinements for affordability, as appropriate

4. LIFE CYCLE COST ESTIMATE

Purpose: The Life Cycle Cost Estimate (LCCE) provides the foundation for the Coast Guard business decisions concerning project affordability at each ADE. A life-cycle cost estimate provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program. Developing a quality LCCE is at the core of the Coast Guard's ability to successfully manage a project within cost and affordability guidelines.

Discussion: Project Managers develop the project's first LCCE, also called the Project Office Estimate (POE) during the Analyze/Select Phase as a part of the Alternatives Analysis to support the ADE-2A decision. The POE is later updated during the Obtain Phase in preparation forADE-3.

Developing LCCEs: When developing an LCCE, Project Managers are to:

- The LCCE is developed for the preferred solution from the AA. The preferred solution LCCE will be more accurate and to a greater level of depth and detail than those developed as part of the AA. While the LCCE is approved by CG-93, per DHS 102-01, LCCEs for Level 1 major acquisitions are to be assessed by the DHS Cost Analysis Division.
- Develop the LCCE in accordance with the GAO Cost Assessment Guide, July 2007, GAO-07-1134SP, available at www.gao.gov/new.items/d071134sp.pdf.
- Provide a record of the procedures, ground rules and assumptions, data, environment, and events that underlie the cost estimate.
- Ensure it is constructed in such a manner that it can be replicated and substantiated by an independent third party. It should be complete and well organized so that a cost estimating professional can use the documentation, by itself, to assess and reconstruct the estimate.
- Use the project work breakdown structure (WBS) in developing the LCCE. The WBS should be based on MIL-HDBK-881A (for acquisition cost elements) and DoD Operating Cost and Support Cost Estimating Guide (for Produce/Deploy/Support cost elements), and further tailored to lower levels of detail as applicable to each acquisition project.
- Develop the estimate to the performance parameter level. Understanding the cost of specific levels of performance allows the Project Manager and Sponsor to effectively perform trade-off analyses in developing the operational requirements. This cost to the performance parameter level for the operational requirements is to be documented in an attachment to the LCCE.
- Develop the estimate to the objective values of the ORD. Provide the difference

in costs between the threshold and objective parameters.

- Ensure all sunk costs are reported as part of the LCCE in order to show the full cost of the asset from initial concept through acquisition, operations, support, and disposal.

Independent Life-Cycle Cost Estimates: Commandant (CG-9283) will develop independent LCCEs, also called an Independent Cost Estimate (ICE), for each major acquisition project during the Analyze/Select Phase. The term "independent" as it relates to the ICE refers to the preparation of the estimate by an office or entity that is not under the supervision, direction, advocacy, or control of the project. Not to be confused with an Independent Government Cost Estimate (IGCE), the ICE is a LCCE based on the ground rules and assumptions, WBS, technical specifications and characteristics, production and deployment schedule, logistics plan, and support plan as defined by acquisition project documents and project office staff; however, the cost estimating methodologies and techniques employed are determined by the independent cost analysts. Project Managers are to budget and plan for the ICE and will provide funds to and coordinate with Commandant (CG-9283) to execute the effort. Project Managers and Commandant (CG-9283) are to compare the two estimates (ICE and IGCE), adjudicate the differences in order to establish the final project cost position as determined by the PM in preparation for ADE-2.

Applicable References for LCCEs: In addition to MIL-HDBK-881A and DoD Operating and Support Cost Estimating Guide (referenced above), two other references should be used when developing LCCEs within Commandant (CG-9):

- Government Accountability Office Cost Assessment Guide, GAO-07-1134SP.
- Commandant (CG-9) Business Cost Estimating Financial Manager's Standard Operating Procedures Desktop Guide, Chapter 2.

5. ACQUISITION PROGRAM BASELINE

Purpose: The Acquisition Program Baseline (APB) formally summarizes the program's critical cost, schedule, and performance parameters, expressed in measurable, quantitative terms that must be met in order to accomplish the program's goals. By tracking and measuring actual program performance against this formal baseline, program management is alerted to potential problems, such as cost growth or requirements creep, and has the ability to take early corrective action.

The APB documents the fundamental agreement on critical program cost, schedule, and performance objectives between the Project Manager (PM) and the Acquisition Decision Authority (ADA). The scope of the APB encompasses the entire planned execution of the program. Its parameters trace back to the mission gaps expressed in the Mission Need Statement (MNS), requirements established in the Operational Requirements Document (ORD) and budget (OMB Exhibit 300) should all align with the APB and be consistent.

Discussion: The PM is responsible for developing and maintaining the APB and executing the project to achieve this baseline. The project APB is formally submitted at Acquisition Decision Event (ADE) 2A/B. ADA approval of the APB at ADE-2A/B establishes the formal program/project baseline for cost, schedule, and performance. The APB is revalidated by the ADA at ADE-3 (Produce, Deploy and Support). Once approved by the ADA, any change to the APB requires subsequent approval by the ADA. However, the PM has the authority to make "tradeoffs" within the trade spaces defined between each APB parameter's threshold and objective value, as long as the established program baseline is not exceeded. To document proposed changes to the APB, the PM shall prepare a revision to the APB describing the rationale for the revision in the Revision Summary section.

An APB breach of performance or schedule is defined as failure to meet the threshold value of the specific parameter. An APB cost breach is defined as cumulative program cost increases greater than or equal to 8% from the approved cost baseline. Breaches to the APB can be driven by multiple causes, many of which are fact-of life changes in requirements, resources, or schedule that are beyond the PMs control. If a project breaches an approved APB parameter threshold (or the PM determines that the project will so breach in the near future), the PM must promptly notify the Component leadership and ADA via a formal memo. The PM must submit (1) a remediation plan both explaining circumstances of the breach and proposing corrective action within 30 days of breach notification and (2) if required, a revised APB for ADA approval within 90 days of breach notification.

Table 5-1: Acquisition Program Baseline Breaches

Key Parameter	Breach
Performance	**Doesn't satisfy any threshold Key Performance Parameters (KPPs)**
Cost	**Exceeds threshold Total Acquisition Cost parameter (≥ 8% increase)**
Schedule	**Exceeds threshold schedule parameter (≥ 90 day slip for projects 3 years or less in duration or 180 day slip for projects more than 3 years in duration)**

PMs will use available and appropriate performance measurement tools throughout the acquisition to anticipate potential problems in meeting the key performance, cost and schedule parameters.

Roles and Responsibilities

Project Manager Responsibilities
Prepare/update and submit APB
CG-924 Responsibilities
Conduct a verification and validation of the APB
CG-93X/93/9/01/Sponsor Responsibilities
Endorse APB
Component Acquisition Executive (CAE) Responsibilities

Endorses and approves APB for Coast Guard
Acquisition Decision Authority (ADA) Responsibilities
APB approval via Acquisition Decision Memorandum

6. PROJECT MANAGEMENT PLAN

Purpose: The Project Management Plan (PMP) establishes procedures for the overall management of the approved acquisition project. It provides the framework to define the activities/tasking, responsibilities, and the sequence of events, and is the Project Manager's (PM) blueprint for project management and supports implementation of the SELC.

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

The PMP addresses the project planning for the acquisition of an individual asset or system. However, if a System of Systems or Family of Systems is being followed, the PMP must also address how the planning ensures compliance with the overall systems architecture and supports the overall systems' performance and interoperability requirements.

Discussion: Project planning is the process of establishing detailed project phase objectives and determining the sequence of development activities needed to attain those objectives. The planning process includes defining key events, accomplishments, and success criteria. The PM should prepare a draft PMP in consultation with all involved operational and support organizations to ensure all appropriate tasks are addressed and assigned to appropriate activities for completion.

1. With the AA completed, the preferred alternative identified, and the requirements set in the ORD, the APB, AP, ILSP, other project management documentation can be completed for the project in readiness for ADE-2A.

Earned Value Management (EVM) is a project performance-measurement process that effectively integrates the contract's scope of work with schedule and cost elements at the appropriate level for optimum project planning and control. Projects will use EVM against Work Breakdown Structures (WBS) at sufficient levels to enable understanding of the performance against the time and budget allocated and will develop an Integrated Master Schedule (IMS) incorporating the WBS items. Projects will comply with DHS guidance for incorporating EVM as a project management tool. Commandant (CG-9) Standard Operating Procedure # 4, Project Earned Value Management Reporting provides additional direction to projects with respect to Earned Value Management.

Roles and Responsibilities

Project Manager and Lead Systems Engineer Responsibilities
Prepare/update and submit PMP
Program Manager Responsibilities
Review the PMP to ensure the Project has adequate resources

7. SOLICITATION PLANNING

Purpose: Solicitations are the means by which the Project Manager communicates the needs of the government to the commercial industry. A good, solid solicitation package is foundational to the success of a project.

Discussion: Planning for a solicitation is one of the most important activities for the Project Manager and government Contracting Officer and is complex and difficult. The quality of the solicitation package - its completeness, internal coherency, clarity, and full representation of the approved requirements - is critical for project success. Generally, the project's first solicitation package is developed during the Analyze/Select Phase.

In an effort to support the development of a quality solicitation package, an independent review of the solicitation package will be accomplished prior to its release. This review will be coordinated by the Project Manager through Commandant (CG-924) and will be accomplished in two parts (the first should precede the second):

1. A review of the contracting strategy by a Senior Management Team, supplemented with personnel with significant contracting experience.
2. A review of the full solicitation package by an independent team (usually a team that can be composed of Coast Guard personnel from the Technical Authorities and the Sponsor's Representative, and personnel external to the Coast Guard).

Additionally, the reviews are to be funded by the projects. Commandant (CG-924) is to be consulted when PMs are developing the project's budget and spend plans to obtain an estimated cost for the reviews that will need to be included in the project's budget.

8. RISK MANAGEMENT PLAN

Purpose: The Risk Management Plan identifies the basic approach and working structure the project will use for risk management and the upfront activities needed for a successful risk management program. Additionally the Acquisition Directorate (CG-9) Standard Operating Procedure # 7 (Jan 14, 2008) defines the process for CG-9 project risk watch list tracking and reporting.

Discussion: Risk is a measure of future uncertainties in achieving project performance goals and objectives within defined cost, schedule, and performance constraints. Risk can be associated with all aspects of a project (e.g., technology maturity, supplier capability, design maturation, performance against plan,) as these aspects relate across the Work Breakdown Structure (WBS) and Integrated Master Schedule (IMS). Risk

addresses the potential variation in the planned approach and its expected outcome.

Risk management is the overarching process that encompasses identification, analysis, mitigation planning, mitigation plan implementation, and tracking. Risk management should begin at the earliest stages of program planning and continue throughout the total life-cycle of the program.

Additionally, risk management is most effective if it is fully integrated with the program's systems engineering and program management processes—as a driver and a dependency on those processes for root cause and consequence management.

Note: Risks should not be confused with issues. If a root cause is described in the past tense, the root cause has already occurred, and hence, it is an issue that needs to be resolved, but it is not a risk. While issue management is one of the main functions of PMs, an important difference between issue management and risk management is that issue management applies resources to address and resolve current issues or problems, while risk management applies resources to mitigate future potential root causes and their consequences."[1]

[1] From the Risk Management Guide for DoD Acquisition, Aug 2006

Roles and Responsibilities:

Project Manager Responsibilities
Prepare/Update and submit the RMP
Maintain Risk Watchlist
Track, manage, and report per SOP #7

9. TEST AND EVALUATION MASTER PLAN

Purpose: The Test and Evaluation Master Plan (TEMP) is the "top-level" planning document for all Test and Evaluation (T&E) related to a particular major systems acquisition. The fundamental purpose of test and evaluation is to verify attainment of technical performance specifications, operational effectiveness, and operational suitability.

Discussion: During the early phases of the project, test and evaluation is conducted to demonstrate the feasibility of conceptual approached, minimize design risk, identify viable design alternatives, analyze tradeoffs, and estimate operational effectiveness and operational suitability. As a system evolves through design, development, and integration, the emphasis in testing moves from Development Test and Evaluation (DT&E) to Operational Test and Evaluation (OT&E). DT&E is concerned chiefly with validating the contract requirements and the attainment of engineering design goals and manufacturing processes. OT&E focuses on Critical Operational Issues (COIs) that reflect on operational effectiveness, operational suitability, and supportability. Test and Evaluation shall be included in the project Integrated Master Schedule.

Approved Test and Evaluation Plans (including the Test and Evaluation Master Plan) are required prior to conducting T&E.

Test and Evaluation shall be included in the program WBS and a schedule of Test and Evaluation events shall be included in the project Integrated Master Schedule. Approved Test and Evaluation Plans (including the Test and Evaluation Master Plan) are required prior to conducting T&E. Modeling and Simulation (M&S) can assist the T&E process by assessing the asset or system in scenarios and areas of the mission space or performance envelope where testing cannot be performed, is not cost effective, or additional data are required. M&S must play a significant role in testing a system that is part of a system-of-systems (SoS).

The independent operational evaluator, which can be referred as the Operational Test Authority (OTA) is responsible to present his or her findings in the OT&E report, which is submitted to the PM, Component Acquisition Executive (CAE), DHS Director, Test & Evaluation and Standards, and Acquisition Decision Authority (ADA). The OTA must be prepared to present and defend those findings to the Component Acquisition Executive or the Acquisition Decision Authority at ADEs or other program reviews. Acquisition decision authorities will ultimately determine the degree to which they accept and factor the evaluator's findings and recommendations into programmatic decisions. However, they must make such determinations in view of the evaluator's objective and unbiased assessment.

Roles and Responsibilities:

Project Manager. The PM is responsible for coordinating the overall T&E program. The PM performs this task with the assistance of the Sponsor/Sponsor's Representative, Support Program Managers (including logistics and human systems integration), and testing organizations. The PM is responsible for conducting DT&E. The majority of DT&E is normally conducted by the contractor. The PM provides technical and funding support for OT&E accomplishment. OT&E is managed by the Sponsor. The PM must coordinate project activities with the test community, especially the testing organization. The PM must also ensure that testing addresses the critical operational issues and that it provides feedback to the contractors.

Project Manager Responsibilities
Prepares the Test And Evaluation Master Plan within three months of ORD signature
Prepares the DT&E Plan
Prepares the DT&E Report(s)
Conducts a Test Readiness Review (TRR) to determine system readiness for entry into OT&E
Provide funding for OT&E
Assists the Sponsor in preparing the OT&E Plan including determining uses of Early Operational Assessments
Reviews and comments on draft OT&E Report
Provides interface between the development contractor and the government testing community

Sponsor/Sponsor's Representative. Prior to DT&E, the Sponsor is responsible for defining the system's required operational characteristics in the ORD. The Sponsor is

responsible for identifying Critical Operational Issues (COIs) in the ORD which provide the focus and direction for operational effectiveness and suitability for OT&E. The Sponsor has the lead role in OT&E, while the PM takes on a technical monitoring and support role.

Sponsor/Sponsor's Representative Responsibilities
Reviews and comments on TEMP
Prepares Section 4 (OT&E Outline) of the TEMP
Reviews and comments on TEMP Updates
Assists PM in preparation of the DT&E Plan
Reviews and comments on the final DT&E Report
Participate in the Test Readiness Review
Determines COIs
Prepares the OT&E Plan, including Early Operational Assessments
Prepares the EOA Report (if required)
Conducts/Manages OT&E
Prepares/Submits the OT&E Report

Test Management Oversight Team/Test IPT. For all major systems acquisition projects, a Test Management Oversight Team (TMOT)/Test IPT shall be established and serve as the primary test management planning forum. The TMOT will be chaired by the project T&E Manager, representing the PM. The TMOT/Test IPT should consist of representatives from Commandant (CG-926) and each organization involved in the overall T&E program for the particular project.

TMOT/Test IPT T&E Responsibilities
Serves as the primary test management planning forum
Assists the PM in preparation of the TEMP
Assists the PM in updating the TEMP
Assists PM in preparing the DT&E Plan
Reviews and comments on the final DT&E Report
Assists the Sponsor in preparing the EOA Plan (optional) and the OT&E Plan
Assists in the execution of the DT&E Plan and the OT&E Plan

Other Members of the Test and Evaluation Organization: Depending on the nature and complexity of a particular project, a number of other organizations may play a role in T&E, and should be considered as members of the TMOT.

10. INTEGRATED LOGISTICS SUPPORT PLAN

Purpose: The Integrated Logistics Support Plan (ILSP) is the formal acquisition management document that describes the management approach for obtaining a highly supportable capability with an affordable and effective support structure. The ILSP lays out the PM's plan for ensuring the supportability and sustainability of a future capability. It describes the approach, schedule, and funding requirements for integrating

supportability requirements into the systems engineering process: "designing the system for support," developing/obtaining an integrated systems support package e.g. spares, support equipment, tech manuals, and "supporting the design."

The ILSP depends on other analyses and planning earlier in the acquisition process (i.e., Alternatives Analysis, ORD), and provides inputs to other crucial documents, particularly the Acquisition Program Baseline (APB) and Life Cycle Cost Estimate (LCCE). Close interrelationships between the ILSP and these other acquisition documents are critical to obtaining thorough and accurate supportability and sustainment planning and execution.

Discussion: Its primary purpose is to describe the necessary logistics support activities for each Integrated Logistics Support (ILS) element including assigning responsibility for those activities and establishing the schedule for completing those activities.

ILS planning during the acquisition phase involves the application of a diverse set of technical disciplines to assure effective, suitable, and economical system/equipment life cycle support. It requires the active participation of functional area representatives across the spectrum of the ten ILS elements of:

1. Maintenance Planning,
2. Supply Support,
3. Training and Training Support,
4. Support and Test Equipment,
5. Manpower and Personnel,
6. Packaging, Handling, Storage and Transportation, and
7. Facilities,
8. Computer Resources Support.
9. Technical Data,
10. Design Interface

Acquisition Logistics requires careful planning early and throughout the process to ensure the new systems and equipment are optimally supportable and the necessary logistics resources are in place and acquired at an optimal cost. Integrated Logistics Support shall be included in the project WBS and a schedule of ILS events shall be included in the project Integrated Master Schedule.

Acquisition Logistics Strategic Intents

- Acquisition Logistics positions shall be staffed with certified professional life-cycle logistics managers who ensure supportability is considered equally with performance and schedule.

- Project Managers shall consider Integrated Logistics System tradeoffs in cost, schedule, and performance requirements, advising the Technical Authority Commandants (CG-1, CG-4, and CG-6) and Sponsors as appropriate.

- Program and Project Managers shall seek ways to achieve a seamless handoff of acquisition projects to sustainment.

- Acquisition Logistics products shall comply with Technical Authority and Logistics Sponsors' requirements.

The information contained in the ILSP must represent the actual ILS planning being accomplished by the project and must be consistent with the ILS information and requirements identified in the contract for design and procurement of the asset and submittal of ILS related data deliverable products.

Once an ILSP has been properly endorsed and approved, any change in support concepts or other significant change in planning must be coordinated through a decision memo or updated ILSP with the applicable Technical Authority(ies), the Sponsor's Representative, and Commandant (CG-93) approval prior to implementation. The change will be incorporated into the next update to the ILSP if it was approved through a decision memo.

Part I of the MSAM Handbook (Appendix A to this manual) provides additional information on ILSPs along with an ILSP template.

Acquisition Logistics Objectives
Identify logistics constraints and define resultant logistics support requirements
Identify or define the system during its design and development and influence the design to ensure it can be cost effectively supported within the logistics constraints and requirements that are identified
Design the logistics support system and support structure appropriately for the system that is being acquired
Acquire and field the necessary logistics resources in a timely and cost effective manner to achieve system readiness requirements
Deploy a fully functioning logistics support capability for use during Operations and Support

Roles and Responsibilities

Project Manager Responsibilities
Establish and manage an effective ILS program
Coordinate with the ILS Manager for joint budget planning and coordination, and complying with CG-4 guidance and policy
Relate support to project readiness objectives, system design, acquisition and operating costs, and the acquisition strategy
Preparation of the ILSP

ILS Manager Responsibilities
Formulate, coordinate and implement the ILS program
Coordinate with the PM for joint budget planning and coordination, and complying with

CG-4 guidance and policy
Draft the ILSP
Manage the collection of data received from analysis completed in accordance with the plan
Chair the ILS Management Team (ILSMT)

ILS Management Team

The Integrated Logistics Support Management Team (ILSMT) shall be established during the Analyze/Select phase. It should consist of members representing various logistics support elements at Headquarters, the Engineering Logistics Center (ELC) or Aviation Logistics Center, Training Centers, Maintenance and Logistics Commands (MLCs), Field units such as the Telecommunications & Information Systems Command (TISCOM) and/or the Operations System Center (OSC), the Sponsor's Representative, other interested organizations, and contractor representatives, as appropriate for the project.

ILS Management Team Responsibilities
Logistics support planning
Review, develop, coordinate, and integrate ILS requirements and resolve problem areas

11. CONFIGURATION MANAGEMENT PLAN

Purpose: Configuration Management (CM) is an integral part of acquisition requirements and project management for both hardware and software systems. An asset's configuration represents its functional (performance) and physical (form and fit) characteristics. These characteristics are described in technical documentation, assessed and verified in a series of technical reviews and configuration audits.

CM processes span the entire life cycle and are driven more by project technical and CM events rather than a specific acquisition phase. Configuration changes occur throughout the life of the asset as more knowledge of the asset design, operation, and maintenance concepts is gained, and mission requirements change. These changes must be controlled to ensure they are cost effective and safe and are properly documented so all producers, users, and support personnel are aware of the current configuration status.

Discussion: Each major systems acquisition project shall implement a CM program to identify, document, audit, and control changes to the configuration of the new system/equipment being acquired. Coast Guard CM Policy requirements and responsibilities are outlined in the 4130 series Commandant Instructions and Manuals. Additional information is provided in MIL-HDBK-61 (series).

CM Objectives
Identify and document the functional and physical characteristics of selected system components designated as configuration items, during the life cycle
Control changes to configuration items and their related technical documentation using a defined process
Record and report information needed to manage configuration items effectively, including

CM Objectives
the status of proposed changes and implementation status of approved changes
Ensure that the complex aggregate of configuration items meets the system specified and operational requirements, and verify actual product configuration against required attributes

The CM planning information shall be tailored, as appropriate, for the specific acquisition. During the Analyze/Select Phase, each major systems acquisition will develop and document the CM process that will be followed. Configuration Management shall be included in the project WBS and a schedule of CM events shall be included in the project Integrated Master Schedule.

A Configuration Control Board (CCB) will be chartered and used by the PM as the primary working group to manage the product configuration. The CCB shall be chartered as soon as the Functional Baseline for the product is established/approved.

The CM platform manager takes over ownership of the CM process when the last platform is turned over.

Roles and Responsibilities:

Project Manager Responsibilities
Overall conduct of CM and technical data management for the acquisition project
Establish a CM program
Complete/Update CMP and submit for approval
Draft the Configuration Control Board (CCB) charter not later than DHS ADE-2A
Convene and chair the acquisition project CCB
Approve, disapprove, or refer to a higher authority all proposed changes to an established configuration baseline, as appropriate
As CCB Chairperson, receive CCB recommendations on the disposition of requested change proposals, and approve/disapprove change proposals

CCB Responsibilities
Review and recommend approval, disapproval, or referral, as appropriate, on all proposed changes to an established configuration baseline
Monitor the CM process by working with the PM and project Configuration Manager to ensure the system configuration remains in agreement with the approved configuration baseline(s); the Configuration Status Accounting database is current; and configuration control is being exercised effectively
Review change proposals and requests for deviations to ensure that they are consistent with the operational requirements and that they are properly analyzed and documented
Monitor implementation of approved changes

12. PROJECT SELC TAILORING PLAN

Purpose: Project SELC Tailoring Plan is required at ADE-2B. It is used to establish the

appropriate level of system engineering for the project or the discrete segment by identifying the SELC stages and products that will be executed during the Obtain Phase.

Discussion: Tailoring is the cornerstone of any life cycle process. The SELC should be applied in a tailored manner appropriate to project size, scope, complexity, risk, and security categorization. Tailoring is a technique that facilitates the flexibility in the design and application of an appropriate development life cycle to fit project characteristics, while ensuring compliance with requirements of the SELC. Thus, the number of SELC activities and documents required for project development may differ between acquisitions due to each project's unique characteristics. Specific SELC requirements may be waived as part of an approved Project Tailoring Plan. Deviations – the approved alteration of the standard requirements of the SELC – are also part of the tailoring process.

Roles and Responsibilities:

Project Management Responsibilities
Prepare the Project Tailoring Plan
CG-93 Program Executive Officer Responsibilities
Endorse the Project Tailoring Plan
DHS Acquisition Decision Authority (ADA) Responsibilities
Approve the Project Tailoring Plan

13. DEPLOYMENT PLAN

Purpose: The Deployment Plan (DP) is the planning document that addresses all areas of asset deployment related to the acquisition. The purpose of the DP is to ensure that all required resources (e.g., personnel and facilities) are identified and provided to operate and sustain the new asset or capability when it arrives at the deployed location.

Discussion: As a major systems acquisition project approaches the mid-point of the Obtain Phase, or start of Low Rate Initial Production (LRIP), planning actions must be completed for deployment of the new assets to the users. Planning considerations include the timing of deliveries, the order in which new assets or capabilities will be delivered, homeport or operating site selection and appropriate environmental impact analysis, modification of computerized prototypes to create virtual trainers, and (in many cases) the disposal of old assets as they are replaced by new ones.

The DP should be prepared in consultation with all Operating and Support Program Managers who are likely to participate in deployment efforts, to ensure that all appropriate deployment issues are addressed. Deployment considerations for vessel, aircraft, and electronics systems acquisitions are provided by the technical and organizational specialties represented on the project management matrix/IPT.

The DP is prepared during the Obtain Phase. An approved DP should be in place no later

than ADE-3. If a project includes Low Rate Initial Production (LRIP), a preliminary DP (at a minimum) addressing deployment of the LRIP article(s) should be in place prior to first deployment.

Roles and Responsibilities

Sponsor's Representative Responsibilities
Prepares the DP to identify how the new assets will be deployed
Project Manager Responsibilities
Provide the schedule for new asset/capability delivery
Review and endorse the DP after it is prepared
Director of Acquisition Responsibilities
Endorse the DP subsequent to the PM's endorsement
Sponsor Responsibilities
Approve the DP

14. POST IMPLEMENTATION REVIEW

Purpose: The purpose of a Post Implementation Review (PIR) is to baseline the cost, performance, and operational outcomes of acquisitions that are transitioning to steady state. The need to effectively evaluate an asset's ability to meet the Coast Guard's mission needs, both functionally and economically, does not end at deployment. A PIR is typically conducted by the Sponsor on deployed programs to evaluate the actual results compared to predictions in terms of cost, schedule, performance, and mission outcomes; to determine the causes of major differences between planned and end results; and to help improve project management practices. Per OMB Circular A-11 and DHS Capital Planning and Investment Control guide, a PIR is required to evaluate the impact of the acquisition deployment on customers, the mission and program, and technical and/or mission capabilities.

Discussion: PIR evaluations and assessments are conducted to determine the degree of program success and to decide whether continuation, modification, or termination of the program is necessary to meet the current mission. The PIR also provides a baseline for subsequent comparison during follow-on Operational Analyses. To provide an accurate baseline, the PIR evaluates a fielded asset in its fully implemented operational environment – meaning, the support system for the asset (or service) must be in place long enough to provide statistically meaningful information. The PIR should be completed during the Produce/Deploy/Support phase approximately 6-12 months after Initial Operational Capability (IOC) of an asset or service, or immediately following closure of the acquisition. Once the PIR is completed, the Sponsor will be required to conduct an Operational Analysis on an annual basis (consult the DHS Operational Analysis Guidance for format of an Operational Analysis).

Roles and Responsibilities

Sponsor's Representative Responsibilities

Prepares the PIR with support from the PM
Project Manager Responsibilities
Provide input regarding cost, schedule and performance
Review and endorse the PIR after it is prepared
Assistant Commandant for Acquisition (CG-9)
Endorse the PIR subsequent to the PM's endorsement
Sponsor Responsibilities
Approve the PIR

15. PROJECT TRANSITION PLAN

Purpose: The Project Transition Plan (PTP) sets the requirements and establishes procedures for handoff of the acquired capability to the sustainment community for operations and support.

Discussion: The PM and the operational and support organizations work together to identify remaining tasks and accomplish successful acquisition project closure. On the handoff date, the operational and support organizations will assume responsibility for the delivered products/capabilities throughout the Produce/Deploy/Support Phase of the lifecycle.

The PTP shall identify the operational and support organizations that will assume management responsibility for controlling and maintaining the configuration of the products/capabilities.

The PTP should be prepared approximately 12 to 18 months prior to the delivery of the last unit of the project's production or the planned acquisition project's closeout date.

Roles and Responsibilities

Project Manager Responsibilities
Identify and coordinate all the project's transition tasks
Preparation and submission of the PTP

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Chapter 6: Capital Investment Planning

1. INTRODUCTION

The Coast Guard must manage its portfolio of capital assets to ensure that public resources are wisely invested. Capital programming is an integrated process for planning, budgeting, acquisition, and management of an component's portfolio of capital assets to achieve strategic goals and objectives with the lowest life-cycle cost and least risk. The Office of Management and Budget (OMB) Circular A-11, Capital Programming Guide provides guidance on the principles and techniques for effective capital programming. The contents of this chapter are provided to highlight the relationship between capital programming and major systems acquisition processes. In the context of major systems acquisitions, capital investment programming has two interdependent functions: (1) to provide capital asset acquisition resources (funding and personnel), and (2) to establish affordability constraints. Capital programming integrates the planning, acquisition and management of capital assets into the budget decision-making process.

2. PLANNING, PROGRAMMING, BUDGETING, AND EXECUTION

Planning, Programming, Budgeting, and Execution (PPBE) is the primary resource management system for the Department of Homeland Security (DHS) and is described in detail in DHS Management Directive (MD) # 1330, *Planning, Programming, Budgeting and Execution*. The objective of the PPBE process is to articulate DHS goals, objectives, and priorities and to align those goals to develop and implement a program structure with time-phased financial resources and personnel requirements to accomplish those goals and objectives. The PPBE Model is depicted in **Figure 8: PPBE Process**.

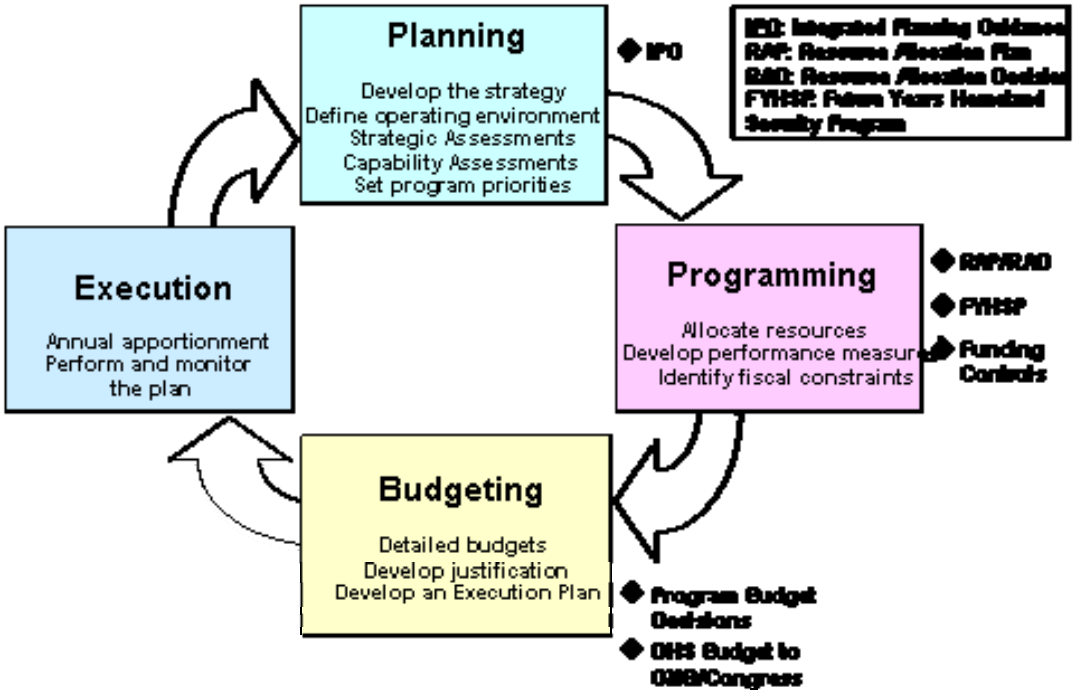

Figure 8: PPBE Process

The Coast Guard follows the PPBE process to articulate a budget strategy; identify size, structure, and equipment for operating forces; allocate resources; and evaluate actual outcomes against planned performance to adjust resources as appropriate. The following overview is provided to help PMs gain a better understanding of the PPBE process.

- Planning. Establishes the strategic priorities, and capabilities required to achieve component goals (long-term 5-10 years). Planning includes an assessment of current capabilities and a review of existing and emerging threats to identify gaps and deficiencies to develop budget guidance to address these gaps. The DHS Integrated Planning Guidance (IPG) provides the direction and guidance for the Coast Guard to develop their five year Capital Investment Plan (CIP) and to begin preparation of the annual Acquisition, Construction and Improvement (AC&I) budget submission. The CIP reflects the AC&I funding stream for major systems acquisitions. The planning phase ends when the DHS IPG is issued.
- Programming. Applies the limited resources (funding and personnel) to programs that provide the capabilities (hardware, services) required to achieve the strategic priorities (mid-term 5-years) as documented in the annual DHS IPG. Programming turns guidance into affordable, achievable packages and allocates resources to maximize the achievement of component goals. This phase is resource constrained and results in a Resource Allocation Plan (RAP) for submittal to DHS. RAP's must prioritize what is affordable within fiscal constraints in addition to identifying any unfunded requests. The RAP is the Coast Guard's preliminary budget request to DHS. DHS reviews RAP submittals from each component and issues a Resource Allocation Decision (RAD). The RAD is the DHS passback to the Coast Guard RAP, and is the Secretary's formal

approval of the 5-year program funding levels and becomes the basis for the individual budget for each component.

- Budgeting. Applies the available funding towards the approved acquisition projects, with supporting justification and an execution plan (1-year) for accomplishing goals and objectives. Budgeting includes the process to request resources to be appropriated by Congress, and the final output is the DHS Budget and the Future Years Homeland Security Program (FYHSP) to Congress for approval and appropriation of funds. The FYHSP is a 5-year budget approach as required by the Homeland Security Act Section 874 (e.g., the Fiscal Year (FY) 09-FY13 FYHSP includes the FY09 budget with out-year targets to FY13 showing percentage based caps that cannot be exceeded for each year).
- Execution. Includes the final actions required to effectively, efficiently, and economically accomplish the prioritized acquisition projects for which funds were requested and approved. Funds execution and actual project performance feed back into subsequent planning, programming, and budgeting phases.

  Acquisition PMs need to understand the PPBE process and get involved early in the process for the overall benefit of their projects – without resources (funding and personnel) there is no acquisition project. The primary Coast Guard inputs to the PPBE process are the Chief of Staff Commandant (CG-01) Budget Guidance and the individual Resource Proposals (RPs). Within the Coast Guard, an Investment Board is chartered by Commandant (CG-01) to build a budget for execution and position the Coast Guard for the future with capital investments. The Investment Board is charged with ensuring that the budget build process reflects the planning and priorities outlined in the DHS/CG Strategic Plans. The Resource Group is an advisory body to the Investment Board and charged to prioritize and recommend investments for consideration in planning, programming, and budget proposals.

  The PPBE process supports development of the Coast Guard's Fiscal Year budget and CIP for submission to DHS. The FY Budget becomes part of the DHS Presidential Budget submission and the CIP is the Coast Guard's AC&I portion of the DHS FYHSP (**Figure 9: PPBE Overlapping Cycles**). The CIP and FYHSP provide project funding allocations, performance, and milestones for the budget year plus four years in support of DHS goals and priorities as identified in the IPG.

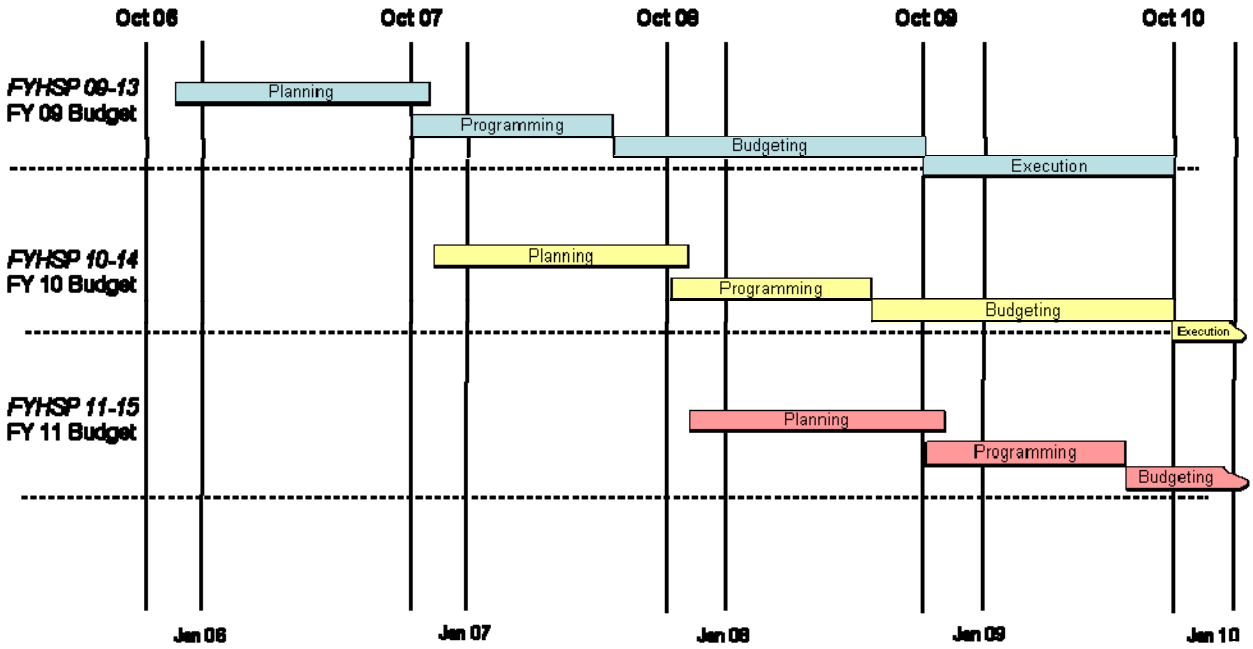

Figure 9: PPBE Overlapping Cycles

3. EXHIBIT-300

An annual Exhibit-300 Business Case is required by OMB Circular A-11 and DHS to be submitted for all major IT acquisitions.

The Exhibit-300 is submitted through Commandant (CG-822), along with the Coast Guard budget submittals, to DHS and OMB. Exhibit-300s are reviewed and scored to ensure that spending on acquisitions directly supports DHS strategic goals and the President's Management Agenda. New projects must be justified based on their ability to contribute to DHS strategic goals with the least life-cycle costs of all possible solutions and minimal risk to the Government. As described in Table 6-1, the project's acquisition documents serve as an essential source of Exhibit-300 information. Project Managers need to provide risk-adjusted cost and schedule goals with measurable performance benefits identified. Projects that are in planning (Pre-Acquisition) or full acquisition (Acquisition) must demonstrate satisfactory progress towards achieving baseline cost, schedule and performance goals. The use of Earned Value Management as a performance-based management process is critical in the scoring process, as is Project Manager certification. Assets that are in the Operations and Sustainment Phase must document how close actual annual operating and maintenance costs are to the original life-cycle cost estimates, and whether the level or quality of performance/capability meets original performance goals and continues to meet user needs. The Sponsor is responsible for conducting a Post Implementation Review 6-12 months after the asset or system is deployed. Subsequent Operational Analyses are required on an annual basis.

Table 6-1: Exhibit-300 Mapping to Acquisition Project Documents

OMB Exhibit 300 Section		Acquisition Decision Event				
Section	Title	ADE-1 "Validate the Need"	ADE-2A "Approve the Acquisition"	ADE-2B "Approve Acquisition Type"	ADE-3 "Approve Production"	ADE-4 "Project Transition"
Part 1 Summary Information and Justification						
1.A	Overview (All Capital Assets)	MNS	MNS/CONOPS	MNS/CONOPS	MNS/CONOPS	Operational Analysis Review Report
1.B	Summary of Spending (All Capital Assets)	FYHSP (Wedge Values)	LCCE	LCCE	LCCE	
1.C	Acquisition/Contract Strategy (All Capital Assets)	AP (Analyze/Select efforts only)		AP	AP	
1.D	Performance Information (All Capital Assets)	MNS	APB	APB	APB/S&SP	
1.E	Security and Privacy (IT Capital Assets Only)	CDP (plan only)	AP	SELC Products	SELC Products	SELC Products
1.F	Enterprise Architecture (IT Capital Assets Only)	MNS (Perf. & Business Arch only)	SELC Products	SELC Products	SELC Products	SELC Products
Part 2 Summary Information and Justification						
2.A	Alternative Analysis (All Capital Assets)		AA	AA		
2.B	Risk Management (All Capital Assets)		AP/SELC	AP/SELC		
2C	Cost and Schedule Performance (All Capital Assets)		APB	APB		
Part 3 For "Operation and Maintenance" Investments Only						
3.A	Risk Management (All Capital Assets)					
3.B	Cost and Schedule Performance (All Capital Assets)					

The Exhibit-300 is designed to (1) coordinate OMB's collection of component information for its reports to Congress required by the Federal Acquisition Streamlining Act of 1994 (FASA) and the Clinger-Cohen Act of 1996 (CCA); (2) to ensure that the business case for acquisitions are made and tied to mission statements, long-term goals and objectives, and annual performance plans that are developed pursuant to the Government Performance and Results Act of 1993 (GPRA); and (3) for Information Technology, to ensure that security, privacy, records management, and electronic transactions policies are fully implemented and compliant with DHS Enterprise Architecture.

4. DHS ACQUISITION REVIEW PROCESS

DHS 102-01 establishes an Acquisition Review Process to:

- Integrate capital planning and acquisition control, resource allocation, budgeting, acquisition, and management of acquisitions.

- Ensure that spending on acquisitions directly supports and furthers DHS' mission and provides optimal benefits and capabilities to stakeholders and customers.
- Identify poorly performing acquisitions that are behind schedule, over budget, or lacking capability so corrective actions can be taken.
- Identify duplicative efforts for consolidation and mission alignment when it makes good sense or when economies of scale can be achieved.
- Improve acquisition management in support of the President's Management Agenda.

The Acquisition Review Process (ARP) is a systematic process for review and approval, visibility, and accountability to senior management for acquisition oversight of major acquisitions throughout their life-cycle; and for portfolio management to achieve budget goals and objectives. Chapter 8 describes the specific steps in the ARP and the role of the Acquisition Review Board (ARB). The interface between the ARP and the PPBE process occurs through DHS OCPO Director, Acquisition Program Management Division, and the Budget Office. Coordination with the ARB, Enterprise Architecture Board (EAB), and the Asset and Services Management Board (ASMB) is essential to ensure success in a joint, integrated DHS architecture. **Figure 10: Capital Acquisition Planning** shows the inseparable link between the ARP and the PPBE process.

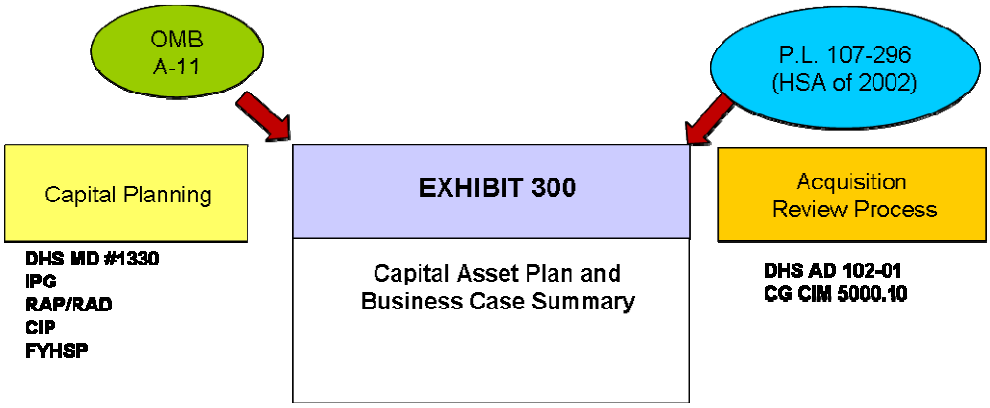

Figure 10: Capital Acquisition Planning

5. AFFORDABILITY ASSESSMENT

Affordability is the degree to which the life cycle cost of a capital asset acquisition project is consistent with the overall Coast Guard CIP and DHS FYHSP. Programming and affordability decisions at each ADE are considered and balanced against the annual budget costs and priorities of all Coast Guard acquisition programs/projects planned for a five-year period.

Each major systems acquisition enters the acquisition process with a Rough Order of Magnitude (ROM) cost estimate and funding stream projection in the Mission Need

Statement (MNS). The ROM cost estimate is successfully honed during the acquisition process through cost and performance trade-off analyses and feasibility studies. Project cost estimates should be fairly high confidence when the Operational Requirements Document (ORD) is finalized and approved. At the end of the Analyze/Select Phase, the Acquisition Program Baseline (APB) is established for all key cost parameters, to include at a minimum, Total Acquisition Cost, and Life-Cycle Cost.

The Project Manager is responsible for initiating the Affordability Assessment (AA) for each major systems acquisition at each ADE and to provide the draft to Commandant (CG-928), then Commandant (CG-82) early enough to allow each office to review and comment on the Assessment prior to any upcoming ADE. The Office of Resource Management, Commandant (CG-928) and the Office of Budget and Programs, Commandant (CG-82) each has the responsibility to review the AA to validate the funding listed within the Assessment, and to provide an assessment to Commandant (CG-8) concerning the project's cost as it relates to the expected Coast Guard budget. The AA includes consideration of support and personnel requirements, as well as the fiscal constraints of the organization. DHS ADA and authorization to enter subsequent acquisition phases will not be granted unless sufficient resources are or will be programmed to support the next phase of the acquisition project.

The AA describes the acquisition project’s programming and affordability impacts on the CIP, the FYHSP, and the annual budget cost and priorities.

Part I of the MSAM Handbook (Appendix A to this manual) provides additional information on Affordability Assessments along with an Affordability Assessment template.

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Chapter 7: C4&IT Projects

1. C4&IT POLICY FRAMEWORK

Note: DHS has mandated compliance with the SELC. The Coast Guard is in the process of transitioning from the SDLC to the SELC. This Chapter provides guidance on the SDLC. PMs are to coordinate with CG-6 on the SELC/SDLC transition.

The C4&IT policy framework establishes the concepts, authority, roles, responsibilities, processes, and practices for governing effective C4&IT project life-cycle management. This includes definition of the phases and designated key decision points. The C4&IT policy framework governs all C4&IT systems development and management of all C4&IT assets, including systems and products that enable C4&IT capability in support of the Coast Guard's missions or business functions. All Coast Guard organizations and contractor support personnel involved in the planning, acquisition, production, deployment, support, operation, and disposition of C4&IT systems shall employ the C4&IT policy framework and adhere to the roles defined herein.

Project Managers for IT acquisitions are to merge the C4&IT policy framework concepts, authority, roles, responsibilities, processes, and practices into their projects' Major Systems Acquisition Management process to ensure that the C4&IT SDLC is integrated within the project.

When viewed together the SELC and SDLC are roughly equivalent and a future update to the MSAM will fully integrate both. In the interim, PMs will comply with SELC requirements, plus those differences identified by CG-6 out of the SDLC.

2. C4&IT POLICIES

Establishment of the CG-6 Directorate and Associated Duties, COMDTINST 5401.5, establishes the authority, roles, and responsibilities of the Assistant Commandant for Command, Control, Communications, Computers and Information Technology (CG-6), designates this office as the Chief Information Officer (CIO), and establishes the Commandant (CG-6) directorate. The role of the Commandant (CG-6) directorate is to enhance Coast Guard mission performance through efficient and effective application of C4&IT. Commandant (CG-6) accomplishes this by providing C4&IT assets that deliver accurate information to the right people to effectively accomplish their mission. Commandant (CG-6) responsibilities include all Coast Guard operational, business, and infrastructure C4&IT assets.

Establishment of the CG-6 Directorate and Associated Duties, COMDTINST 5401.5 is supported by a framework of directives, practice guides, guidance, and references including (but not limited to):

a. C4&IT System Development Life Cycle (SDLC) Policy for Acquisitions, COMDTINST 5230.66 (series).

   The SDLC Policy and Practice provide a standard, repeatable, scalable, and value-added development approach for all C4&IT projects and initiatives through a seven-

phase progression of activities. These phases begin with the identification of need and span all facets of a C4&IT system's life cycle, including retirement of a system. The SDLC provides for appropriate technical and management reviews throughout the life cycle to measure the progress of C4&IT and infrastructure projects/systems. These reviews allow for the timely identification and resolution of critical issues affecting the success of each project and system and are closely linked to Enterprise Architecture and Information Management policies and practices.

b. Command, Control, Communications, Computers and Information Technology (C4&IT) Information Assurance (IA) Policy, COMDTINST5230.67 (series),

   IA addresses information protection, detection, and reaction for C4&IT systems, identifies system vulnerabilities, establishes disaster recovery procedures, and promotes IA security awareness and education. A robust IA program defends information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.

c. Command, Control, Communications, Computers and Information Technology (C4&IT) Enterprise Architecture (EA) Policy, COMDTINST 5230.68 (series).

   The EA is a strategic, information asset base that defines the mission, the information, and technologies necessary to perform the mission, and the transitional processes for implementing new technologies in response to the changing needs of the mission. The EA establishes the roadmap to achieve Coast Guard missions through optimal performance of its core business processes within an efficient C4&IT environment. The CGEA product framework provides a single, authoritative, current, and valid source for required information, and is available thru the CGEA Repository on CGCentral.

   http://cgcentral.uscg.mil/uscg_docs/portal/20070629/USCG%20Enterprise%20Architecture%20v1.00.pps

d. Command, Control, Communications, Computers and Information Technology (C4&IT) Configuration Management (CM) Policy, COMDTINST 5230.69 (series).

   CM is a process for establishing and maintaining consistency of an asset's performance, functional, logical, and physical attributes with its requirements, design, and operational information throughout its life cycle. CM ensures the availability and proper functioning of an asset or system as a result of a change to the asset or system. CM establishes and maintains consistency of an asset's performance, functional, logical, and physical attributes with its requirements, design, and operational information throughout its life cycle. The goal of CM and CG-6 is to guarantee availability and proper functioning of an asset and continued Integrated Logistics Support (ILS) as a result of a change to the asset.

e. Command, Control, Communications, Computers and Information Technology (C4&IT) Infrastructure Management Policy, COMDTINST 5230.70 (series).

   C4&IT Infrastructure is the mandated set of classified and unclassified systems and services which serve as an enterprise utility for Coast Guard mission and business systems to lower their overall cost and complexity.

f. Command, Control, Communications, Computers and Information Technology (C4&IT) Investment Management (IM) Policy, COMDTINST 5230.71 (series).

C4&IT investment management ensures C4&IT products, systems, or services directly support Coast Guard mission and business needs, establish clear accountability for C4&IT resource management, and promote enterprise-wide coordination in developing C4&IT assets. C4&IT investment management identifies which C4&IT systems or services should be funded, either through new initiatives or through reallocation of the base, and ensures C4&IT investments are reviewed for their effectiveness and efficiency in meeting Coast Guard mission and business needs. The C4&IT investment management process provides a framework for instilling proper stewardship across the enterprise in both new and continuing C4&IT initiatives.

g. Information and Life Cycle Management Manual (ILCMM), COMDTINST M5212.12A (series).

The ILCMM prescribes polices and procedures for administering the Coast Guard Records Program as it relates to the life cycle management of both paper and electronic documents/data. Effective controls over the life cycle of records maximizes the use of space and equipment, and provides management with more easily identifiable and retrievable records with which to conduct Coast Guard business. Additionally, those records required by law to be kept for proper documentation of CG organizations and missions are readily identified. Effective Records Management and controls assures the quality, objectivity, utility, and access to essential data/information.

h. Spectrum Management Policy and Procedures Manual, COMDTINST M2400.1G.

This manual establishes policy for Coast Guard spectrum management. It includes procedures for procuring and using spectrum dependant equipment, obtaining permanent and temporary frequencies assignments, and resolving cases of interferes and radio misuse. In particular, this manual is used by the acquisition process to ensure spectrum dependant equipment is purchased in accordance with Federal requirements (47CFR 300) for radiating equipment using the NTIA spectrum certification process. Spectrum certification is used to authorize procurement of spectrum dependant equipment during the various phases of the acquisition process.

i. Privacy Act.

As prescribed in FAR 24.104, insert the 52.224.2 Privacy Act clause in solicitations and contracts when the design, development, or operation of a system of records on individuals is required to accomplish an agency function.

j. Section 508 Compliance

Section 508 was originally added to the Rehabilitation Act in 1986, establishing non-binding guidelines for technology accessibility. In 1998, Section 508 was amended to require that Electronic and Information Technology (EIT) developed, procured, maintained, or used by Federal agencies be accessible to people with disabilities. Federal Agencies must now use these standards in all their EIT acquisitions. DHS Management Directive MD 4010.2 (series) and Coast Guard

Implementation of the Rehabilitation Act, Section 508, COMDTINST 5230.60 (series) have been promulgated to establish policies and procedures for implementing Section 508 of the Rehabilitation Act.

DHS Management Directive MD 4010.2 states in Section VI A, paragraph 2, "When developing or maintaining EIT, DHS Components shall ensure that functional requirements are identified, applicable functional performance criteria and technical standards of Section 508 are selected, and appropriate documentation is produced." DHS MD 4010.2 Section VI B addressed procedures that must be followed.

DHS has since developed a tool to assist users in including the correct Section 508 requirements verbiage. DHS Accessibility Requirements Tool (DART) is a worksheet that allows users to select the appropriate boxes and the results provides the appropriate words contracts based on the type of EIT that can be cut and pasted into the Statement of Work and/or Task Order. DART can be found using the following link (https://dhsonline.dhs.gov/portal/jhtml/dc/sf.jhtml?doid=76609).

k. Review of Information Technology Acquisitions in excess of $2.5M.

Public Law 109-295 DHS Appropriations Act, 2007 requires “no funds be made available for obligation for any information technology procurement of $2.5 M or more without approval of the DHS CIO. DHS Management Directive 0007.1, Information Technology Integration and Management, requires that the Component and DHS CIO “review and approve or comment upon any IT acquisition of $2.5 million or more.” Any proposed IT acquisition greater than or equal to $2.5M must be reviewed and approved by the Coast Guard CIO and the DHS CIO. IT acquisitions are defined as services for IT, software, hardware, communications, and infrastructure. The requisitioner is responsible for getting Component and DHS CIO approval prior to submittal of the PR package to acquisition for further processing. All DHS CIO approval documentation (including checklist and procedures) can be found on DHS interactive – https://interactive.dhs.suite/portal.do?p=2041. This value may be any of the following:

(1) full value of the acquisition (e.g. the cumulative value of the contract, inclusive of options)

(2) funding for exercise of a fiscal year option or contract modification if it exceeds $2.5M (even if the basic acquisition received DHS CIO approval).

(3) Includes embedded IT $ of $2.5M and above in a non-IT investment.

The CIO review is to ensure alignment of IT purchases to the DHS and Coast Guard target architectures and missions.

l. DHS Office of Procurement Operations, IT Acquisition Center (ITAC), Enterprise Solutions Office (ESO) – Preferred Source of IT Services and IT Commodities.

DHS has two IT contract vehicles in place to support all DHS Contracting Officers: EAGLE and FirstSource. Together, these two contract vehicles encompass all requirements for IT services and commodities. The Enterprise Acquisition

Gateway for Leading-Edge Solutions (EAGLE) is a multiple-award indefinite delivery/indefinite quantity (IDIQ) contract vehicle, specifically designed as the preferred source of IT services to satisfy DHS IT development, deployment, operation, maintenance, and sustainment requirements. EAGLE awards are made to prime contractors that provide solutions in five comprehensive functional categories (FCs) of services. These include FC1 - infrastructure engineering design, development, implementation, and integration; FC2-Operations and Maintenance; FC3 – Independent Test, Validation, Verification, and Evaluation; FC4 – Software Development; and FC5 – Management Support Services.

FirstSource provides DHS and EAGLE contractors access to a wide variety of commercial catalogs for IT commodity products. These catalogs are from multiple original equipment manufacturers, producers, and suppliers. The resulting FirstSource contracts include: IT equipment and software; networking equipment; wireless technology; imaging products; voice recognition technology; on-line data reporting services; and associated product maintenance, installation and support.

EAGLE and FirstSource enable DHS Components to save money by leveraging the buying power of the entire agency; ensure fair competition, resulting in lower costs; streamline access to best-in-class IT products and services; and enhance the acquisition effectiveness of DHS components. DHS policy is that these two contract vehicles are mandatory for consideration by all contracting officers to meet their DHS component needs for IT supplies and services. If after their consideration, the Contracting Officer chooses to use another contract vehicle, written justification must be placed in the contract file and a copy of this justification provided to DHS/ITAC/ESO. For more information visit the DHS website: www.dhs.gov/openforbusiness and click on the Information Technology Acquisition Center.

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Chapter 8: Reports and Reviews

1. INTRODUCTION

This section addresses the knowledge-based administrative processes that the Project Manager (PM) uses to keep senior management at the Coast Guard, the Department of Homeland Security (DHS), the Office of Management and Budget (OMB), and Congress informed of the progress being made on major systems acquisition projects. Effective acquisition management requires efficient dissemination of information to all levels of the organization to improve communications, disseminate knowledge, highlight potential problems that may require management attention, and to identify the performance impact of policy decisions.

2. REPORTS

The following information describes the required reports that the PM will use to carry out his/her administrative duties contained in the PM Charter. Acquisition Directorate Standard Operating Procedure (SOP) #8 for Project Performance Reporting is germane.

a. Internal

One of the responsibilities of the PM is to provide various reports to upper management in the Coast Guard.

PEO (CG-93) Weekly Status Report: The PM is responsible for reporting current project status on a weekly basis. The format of this report is up to the discretion of Commandant (CG-93) and this information is updated during the weekly staff meetings.

Quarterly Project Report: This report provides quarterly project status information to senior management and is forwarded via the Chief of Staff Commandant (CG-01) and the Vice Commandant (VCG) to the Commandant (CCG) as part of the development at the QARC. The Quarterly Project Report (QPR) is a status report on all major systems acquisitions and is distributed to TA's and sponsors. The Project Manager completes the report at the end of each fiscal quarter with assistance from the Office of Resource Management, Commandant (CG-928). This report provides the current status of cost, schedule, performance (technical), and logistics performance. Projects using earned value also report contract status using earned value performance measures. Quarterly Project Reports (QPRs) are available on the Commandant (CG-9) CG Central web site for review.

b. External

Quarterly Acquisition Report to Congress: This report provides a quarterly assessment of project status to the respective Chairpersons of the Senate and House subcommittees that have oversight over DHS and the Coast Guard. The quarterly report includes the QPR for each major acquisition project as well as information on AC&I Shore Construction Projects and AC&I Personnel Expenditures. The Program Review Division, Commandant (CG-821) and the Budget Execution Division, Commandant (CG-831) provide assistance with the review and coordination of the report through DHS and OMB.

Operational Analysis Report: Operational Analysis (OA) is a method of examining the current performance of a steady-state operation (assets or service) and measuring that performance against an established set of cost, schedule, and performance parameters. Operational Analyses are to be conducted on an annual basis by the Sponsor for all Level 1, 2, and 3 Information Technology (IT) acquisitions. Results of Operational Analyses for all IT projects are reported annually to DHS using the DHS *Operational Analysis Template* provided in the DHS *Operational Analysis Guidance*. Non-IT projects report results to Commandant (CG-8) via the Exhibit 300 submittals. The Sponsor is responsible for preparing the Operational Analysis Report.

3. REVIEWS

A knowledge-based acquisition management approach requires information at critical junctures throughout the acquisition process to help make informed decisions. Sufficient knowledge and demonstrated progress is needed to obtain approval to continue to the next stage of development or the next phase of the acquisition.

a. Internal

Coast Guard Acquisition Review Council. The CGARC is the primary acquisition advisor to the CAE and is kept apprised of the progress of major acquisitions' performance through a series of annual reviews. The primary function of the CGARC is to review major acquisitions at each ADE. CGARC reviews ensure Coast Guard top management's commitment to the acquisition strategy and plans of the project. The CGARC also serves as a forum to discuss project issues and resolve problems that need to be addressed by Coast Guard top management.

The CGARC:

- Analyzes project cost, schedule, and technical progress, accomplishments, and future plans to determine if the project is prepared to go forward for CAE approval;

- Reviews project decision documents and select planning documentation prior to submission to the CAE and/or the Chief of Staff; and
- Recommends approval or disapproval to the CAE for all key decisions.

The CGARC consists of the members shown in **Figure 11: CGARC Membership**. CGARC membership includes all participants necessary to comply with review requirements prescribed by legislation and regulation.

VCG (CAE)	CG-01	CG-2	CG-4
CG-5	CG-6	CG-7	CG-8
CG-9	CG-91	CG-93	CG-094

Figure 11: CGARC Membership

CGARC Executive Secretary. Chief, Acquisition Support Office, Commandant (CG-924), is the CGARC Executive Secretary. The Executive Secretary:

- Serves as the point of contact for all issues and documentation submitted to the CAE for information and/or action, and coordinating reviews by the CGARC members;
- Serves as the CGARC liaison to other Headquarters Boards, e.g., Investment Board, for issues affecting major acquisitions;
- Monitors project progress and process compliance;
- Identifies issues to be raised to the CGARC;
- Receives, distributes and coordinates acquisition project documentation requiring CGARC review;
- Coordinates CGARC meetings and provides administrative support; and
- Prepares Acquisition Decision Memoranda for CAE signature.

CGARC Acquisition Decision Event Reviews: The CGARC reviews major systems acquisition projects prior to each DHS ADE. CGARC briefings can also be scheduled to discuss project issues that require senior management attention. The Major Systems Acquisition Manual (MSAM) Handbook (Appendix A) provides recommended format and content guidance for CGARC presentations.

Coast Guard Annual Reviews: Annual Reviews allow for the periodic oversight and review of major systems acquisition projects and facilitate the flow of information across directorates and to senior management. The PM conducts Annual Review briefings for CGARC members and invited DHS personnel and their staffs to provide a complete and current status of the project. Commandant

(CG-924) is responsible for coordinating Annual Review briefings.

Coast Guard C4&IT Acquisition Review Board (ARB) Reviews: The C4&IT ARB governs the planning, management, and execution of all phases of capital planning (selection, control, and evaluation) for the Coast Guard's C4&IT acquisition portfolio. All Coast Guard acquisitions in C4&IT products and services will be reviewed and approved by the ARB before a commitment of resources, financial and/or human capital shall occur. For more information: http://cgea.uscg.mil (accessible on the Coast Guard intranet).

Coast Guard Enterprise Architecture Board (EAB) Reviews: The EAB supports the IRB by conducting enterprise architecture reviews of all C4&IT project decision requests. EAB findings and recommendations are provided to the IRB for decision. For more information: http://cgea.uscg.mil (accessible on the Coast Guard intranet).

Coast Guard Products and Standards Board (PSB) Reviews: The PSB supports the EAB by conducting technical reviews of all C4&IT product and standard decision requests. The PSB presents its finds and recommendations to the EAB for decision. For more information: http://cgea.uscg.mil (accessible on the Coast Guard intranet).

b. External

DHS Acquisition Review Process (ARP) and Acquisition Review Boards (ARB).
The DHS ARP is the formal means for conducting ADE decisions to authorize a project to proceed to next phase in the acquisition life cycle. The process allows PMs to summarize progress relative to the criteria of the acquisition life cycle and provides the DHS ARB a forum to assess progress and bring essential issues to the ADA. The nominal timeline from the time the entrance conference is held until preparation of the draft ADM is expected to be 60 days.

Steps in the DHS ARP are as follows:

1) ARP Notification – DHS Acquisition Program Management Division (APMD) initiates ARP by contacting CG-924 when a formal ADE is approaching (typically ~45 days in advance of the ARB date). CG-924 may also request acquisition reviews by contacting APMD.
   - Note – Projects need to have completed any appropriate SELC Stage Reviews and Enterprise Architecture Review Boards prior to the ARB.
2) Entrance Conference – An entrance conference is conducted with DHS APMD, CG-924 and project PM to discuss the required decision and supporting documentation, identify key issues and determine the schedule for the upcoming ARB.
3) Documentation Review – APMD coordinates review of the requisite project documentation by the DHS Acquisition Review Team (ART) and coordinates adjudication of any emergent questions or issues.

4) Schedule the ARB – Upon satisfactory ART review and resolution of any relevant issues, APMD schedules and coordinates the ARB.
5) ADE Briefing Book – The project PM prepares the ADE decision briefing for the ARB in accordance with APMD direction and the briefing template provided in Part II of Appendix A. From the brief, APMD creates the ADE briefing book which is provided to ARB members four days in advance of the ARB.
6) ARB Conducts ADE – The ARB meeting is conducted with the ADA and APMD documents ADA decisions in draft ADM.
7) Formal ADE Approval – The ADE decision process is complete upon ADA signature of the ADM.

DHS EAB Briefings.
The Enterprise Architecture Board (EAB) has the responsibility for overseeing the DHS Enterprise Architecture. It therefore reviews all projects and makes recommendations categorized as Acquisition Level 1 or 2 Information Technology (IT) acquisitions to the Joint Requirements Council and Acquisition Review Board. For Level 3 acquisitions, the EAB reviews the acquisition at inception to determine appropriateness for re-categorization to a higher level, and subsequently, for Level 3 IT acquisitions, it reviews documentation prior to the component head milestone decision review and final approval.

Acquisition Decision Event Briefings: The format and template for ARB briefings are provided in the MSAM Handbook in Appendix A.

ARB Briefings. The primary function of the Acquisition Review Board (ARB) is to review Level 1 & 2 acquisitions for formal entry into the annual budget process and at ADEs. The ARB conducts systematic reviews of acquisition preparations and approves key decisions as part of their knowledge-based acquisition review process.

4. RECORDS MANAGEMENT

Official federal records created, stored or compiled by federal government officials for the use in conducting government business is the property of the U.S. Government and must not be removed, deleted, destroyed or transferred, prior to the authorized and approved record disposition scheduled, by the National Archives and Records Administration. For USCG record disposition schedules review the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series) or contact Commandant (CG-611) Records Officer, 202-475-3534.

The following link provides more information on records management.

http://www.archives.gov/records-mgmt/publications/disposition-of-federal-records/chapter-1.html

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Major Systems Acquisition Manual (MSAM) Handbook

Appendix A
to
COMDTINST M5000.10A

Commandant
U. S. Coast Guard
2100 Second Street SW
Washington, DC 20593

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LIST OF TABLES

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Introduction

The Coast Guard Major Systems Acquisition Management Handbook is organized as follows:

b. Part I: Documentation

c. Part II: Briefings

This Handbook was developed for the Coast Guard acquisition workforce and associated Integrated Product Team/matrix members and support staffs. The Handbook should be used as a quick, ready reference to identify the organization, format and suggested content for required documentation and briefings. This information should be used in concert with the Major Systems Acquisition Manual (MSAM), COMDTINST M5000.10A

Constructive changes/recommendations to this Handbook are encouraged. The Chief, Acquisition Support Office Commandant (CG-924) will manage all changes.

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PART I. DOCUMENTATION

1.0 DOCUMENT REVIEW AND APPROVAL PROCESS

1.1 Review and Approval Levels

Each draft document must undergo a Matrix-level concurrent clearance review. Concerns should be resolved with assistance from Commandant (CG-924). If the O-6 Matrix-level review results in a non-resolvable non-concur, or a significant change to the document, a Coast Guard Acquisition Review Council (CGARC)-level concurrent clearance may be required. The following table provides the project documentation approval authorities.

Table A-1: Acquisition Documents - Approval Authorities

Document	Prepared by	Coast Guard Approval Authority	DHS Approval Authority
Mission Need Statement	Sponsor's Rep	CAE	ADA
Acquisition Plan	PM	HCA	ADA
Acquisition Program Baseline	PM	CAE	ADA
Analyze/Select Exit Criteria	Sponsor's Rep	CAE	ADA
Obtain and Produce/Deploy/Support Exit Criteria	PM	CAE	ADA
Document	**Prepared by**	**Coast Guard Approval Authority**	**Submit to DHS**
Exhibit-300 Business Case (initial)	Sponsor's Rep	N/A	Yes
Alternative Analysis	PM	CG-9	Yes
Affordability Assessment	PM	N/A	N/A
Project Management Plan	PM	CG-9	Yes
Concept of Operations Document	Sponsor's Rep	CG-7	N/A
Preliminary Operational Requirements Document	Sponsor's Rep	CG-9 (accepts)	N/A
Operational Requirements Document	Sponsor's Rep	CAE	Yes
Integrated Logistics Support Plan	PM	CG-93	Yes
Configuration Management Plan	PM	CG-93	N/A
Risk Management Plan	PM	CG-93	N/A
Test and Evaluation Master Plan	PM	CG-93	Yes
Deployment Plan	Sponsor's Rep	Sponsor	N/A
Project Transition Plan	PM	CG-9	N/A
LCCE	PM	CG-93	Yes
Capability Development Plan	CG-93X	CG-93	Yes
Project Tailoring Plan	PM	CG-93	Yes

Document	Prepared by	Coast Guard Approval Authority	DHS Approval Authority
Post Implementation Review	Sponsor's Rep	Sponsor	N/A

CAE: Component Acquisition Executive ADA: Acquisition Decision Authority

PM: Project Manager HCA: Head of Contracting Activity

1.2 Concurrent Clearance

A completed draft document will be distributed for Matrix-level concurrent clearance along with a Concurrent Clearance form that provides instructions and due date to the matrix reviewers. Instructions for filling out the Concurrent Clearance form are provided in **Table A-2 Matrix Level Concurrent Clearance Form Instructions**.

Table A-2: Matrix-Level Concurrent Clearance Form Instructions

Concurrent Clearance Form (CG-4590) Item	Information Required
TO	"DISTRIBUTION"
IDENTITY OF MATERIAL	Name of document being cleared
RETURN TO	Routing symbol of PM or Sponsor as appropriate
EXPLANATION/REMARKS/DIGEST	Purpose of concurrent clearance
CLEARANCE COPIES ROUTED TO	Matrix team members plus routing symbols identified in Figure A-1.. Note: If too long for space use "CLEARING OFFICER(S)..." block and state "See Distribution List below" and put "DISTRIBUTION:" at top of list in that block.
ORIGINATING OFFICE/DIVISION CLEARANCE	PM or Sponsor or designee's typed name, and signature
DATE	Date signed
DEADLINE DATE FOR RETURN TO ORIGINATOR	Date for comments to be returned to originator's contact, usually two weeks
CLEARING OFFICER(S) TITLE, ACTION AND COMMENTS, IF ANY	Leave blank unless used for Distribution List.
RETURN TO ORIGINATOR'S CONTACT - NAME	Name and routing symbol of person to return comments to.
ROOM	Room number of Originator's Contact
PHONE	Phone number of Originator's Contact

Matrix-Level Concurrent Clearance

To initiate a Matrix-level concurrent clearance, the originating office (Sponsor's Representative for the Mission Need Statement (MNS), Concept of Operations (CONOPS), Operational Requirements Document (ORD) and Deployment Plan (DP); the Project Manager (PM) for the other acquisition documents will complete the concurrent clearance form and attach it to the draft document to be reviewed. Distribution to the

matrix should be done concurrently (electronic distribution is recommended).

Comments received from the matrix members are to be documented and responses adjudicated by the originating office and incorporated into an updated draft document. If comments received from the Matrix-level concurrent clearance result in substantive change the document, a second Matrix-level concurrent clearance may be required. The CGARC Executive Secretary Commandant (CG-924) is the arbiter for that second review.

Documents and plans are to be submitted, as a minimum, for Matrix-level concurrent clearance comments to the office codes listed below in **Figure A-1: Concurrent Clearance Matrix**.

	CG-924	CG-1B3	CG-21/22/25/26[1]	CG-41/43/44/45	CG-511/512/513	CG-531/532/533/544	CG-541/542/543/544	CG-6B/61/62/63/64/65	CG-711/721/731/741/751/761[1]	CG-771	CG-81/82	CG-926	CG-928	CG-0949	OTA[3]
MNS	X	X	X	X	X	X	X	X		X	X	X		X	
CONOPS	X	X	X	X	X	X	X	X		X	X	X			
ORD	X	X	X	X	X	X	X	X		X	X	X		X	X
LCCE	X	X		X				X	X		X		X		
CDP	X											X	X		
Tailoring Plan	X	X		X				X				X			
AA	X									X	X		X	X	
PMP	X	X		X				X	X		X	X	X	X	
TEMP	X	X						IT[3]	X	X	X	X			X
ILSP	X	X		X				X	X		X				
CMP	X			X				IT[3]	X						
RMP	X	X						X			X				
DP	X	X		X				IT[3]		X	X				
PTP	X	X		X				IT[3]	X		X				
ILA	X	X		X				X	X						
LRR	X	X		X				X	X						
DT Plan	X	X		X				X	X			X			
DT Report	X	X		X				X	X			X			
OT Plan	X	X		X				X		X		X			
OT Report	X	X								X		X			

Figure A-1: Concurrent Clearance Matrix

Notes:
1. As Applicable.
2. Submit if project is an IT project or has IT components
3. OTA: Operational Test Authority

CGARC-Level Concurrent Clearance

The MNS and ORD are required to go through a CGARC-level concurrent clearance. For all other documents, the requirement is the same, except if the Matrix-level review resolves all comments, the PM can request a waiver from the CGARC-level concurrent clearance from the CGARC Executive Secretary. The PM (or Sponsor's Representative for the MNS/CONOPS/ORD) will provide an adjudicated document package in a blue-pocketed file folder (see Table A-3 and Figure A-2 below) to the CGARC Executive Secretary to initiate a CGARC-level concurrent clearance (or waiver request).

If all of the comments from the Matrix-level concurrent clearance review are adjudicated resulting in no outstanding issues, then the PM can request a waiver of the CGARC-level concurrent clearance. The PM should include a memo in the document package requesting a waiver of the CGARC-level concurrent clearance requirement.

Table A-3: CGARC Concurrent Clearance Package Contents

Left Side of Folder (Back to Front)	Right Side of Folder (Back to Front)
Copy of the document package sent out for matrix-level concurrent clearance Review	Revised draft document
Copy of each matrix-level response	Memo from PM to CGARC Executive Secretary, Commandant(CG-924) requesting and justifying waiver of CGARC-level concurrent clearance requirements, unless such a clearance review is required.
Summary of comments and additional responses	
Original concurrent clearance form sent to the matrix with the bottom filled out as to who responded and their response (i.e., concur, concur with comments, non-concur)	

Figure A-2: CGARC Concurrent Clearance Package Contents provides a pictorial of the contents of the CGARC Concurrent Clearance Package.

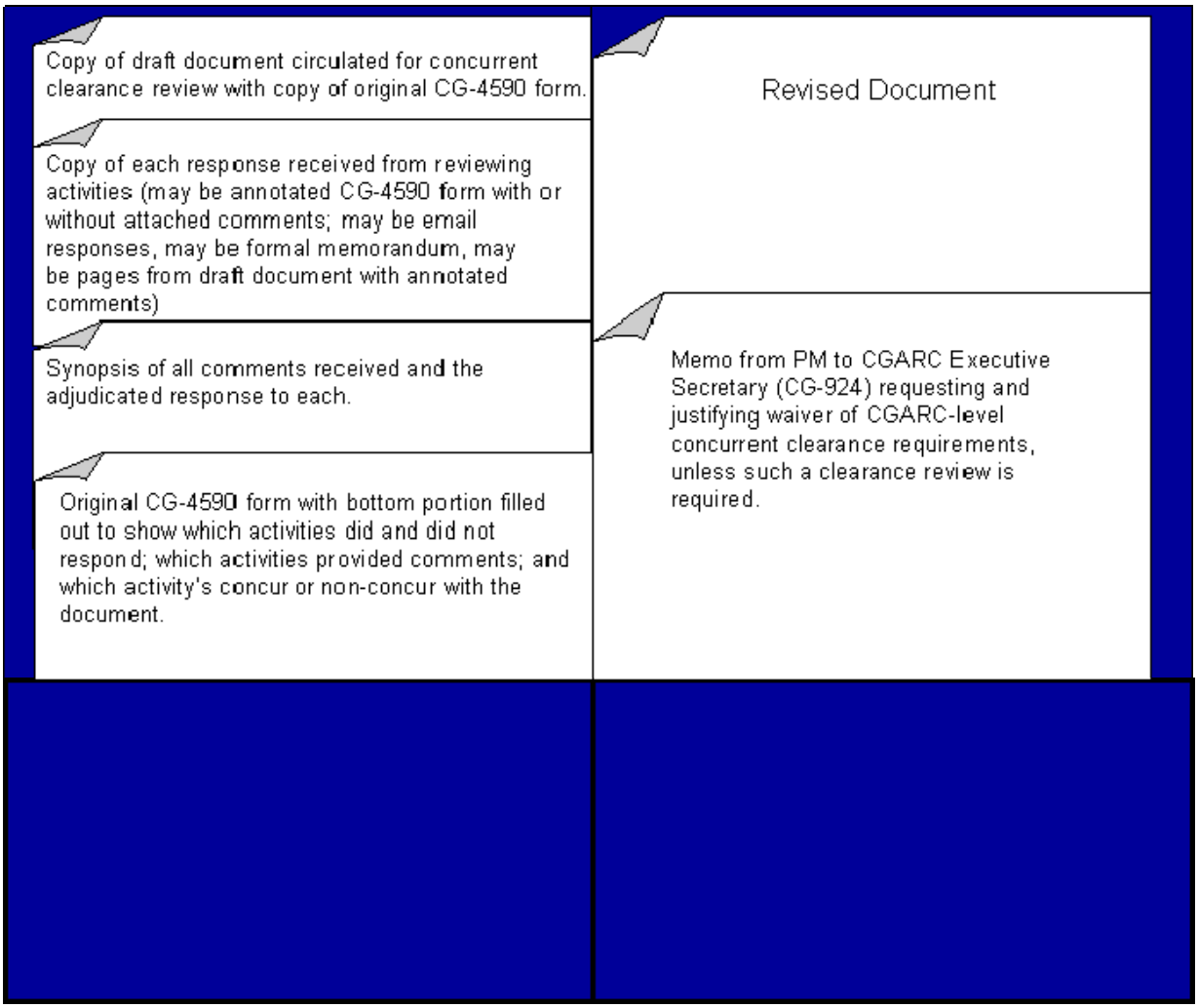

Figure A-2: CGARC Concurrent Clearance Package Contents

The CGARC Executive Secretary will establish the due date based on the document's time sensitivity and other documents out for CGARC review and will distribute copies of the document package to appropriate CGARC-level offices for review. The originator's contact, as provided by the PM or Sponsor's Representative, will collect the CGARC responses. The originating office will be responsible for adjudicating responses to any CGARC-level review comments and making appropriate changes to the document.

1.3 Routing Documents for Signature

For documents that did not require a CGARC-level concurrent clearance, the contents of the package to be routed for signature is the same a shown in **Figure A-2: CGARC Concurrent Clearance Package Contents** with the request for waiver of a CGARC concurrent clearance in the right side of the folder on top of the draft document. The package is to be reviewed by Commandant (CG-924) prior to routing for signature. If CGARC concurrent clearance is waived, the package is returned to the originator for

routing to obtain any/all endorsements and approval signatures.

For documents that required a CGARC-level concurrent clearance, the PM or Sponsor's Representative (as appropriate) shall prepare and submit (after Commandant (CG-924) review) the final approval package for endorsements and signature with contents as described in **Table A-4: Document Signature Package after CGARC-Level Concurrent Clearance**. The originating office is responsible for tracking the package through the signature process and providing a copy of the final signed document to Commandant (CG-924).

Table A-4: Document Signature Package after CGARC-Level Concurrent Clearance

Left Side of Folder (Back to Front)	Right Side of Folder (Back to Front)
Copy of the document package sent out for CGARC-level concurrent clearance Review	Revised draft document
Copy of each CGARC-level response	Any necessary transmittal letter or digest
Summary of CGARC-level comments and responses	
Original Concurrent Clearance form sent to the CGARC-Level with the bottom filled out as to who responded and their response (i.e., concur, concur with comments, non-concur)	

1.4 Documentation Updates and Revisions

As the project progresses through the various acquisition phases, project management documents will require revisions to update the management strategy and acquisition planning for the remaining phases. At a minimum, they shall be reviewed and updated as required at each subsequent DHS ADE. In addition, each document shall be updated if significant changes in project execution plans, schedule, funding or resource requirements occur. The approval process for major updates shall be the same as the review and approval process discussed above.

- **Version Control**. Documents are to comply with the following version control:
- If the document has not yet been approved, it should use a numbering scheme beginning with "zero", such as Version 0.1.
- Version numbers for approved documents will start with a whole number, such as Version 1.0.
- Minor updates (e.g., wording changes) should increment in tenths, as in Version 1.1.
- Major changes in direction or composition should increment in whole numbers higher than the previous version, as in Version 2.0.
- The document's version and the date should be placed in the lower right-hand side of the document footer.
- A Revision Summary (with Table of Changes) will be included prior to the document's

Executive Summary. The Table of Changes should reflect the version number and date discussed and should be as shown below.

Version	Change	Effective Date
Version 1.0	Initial Draft	15 Oct 06

Schedule Date Format within Documents and Plans. When referencing schedules in any of these documents, the date formats in **Table A-5: Date Formats** should be used.

Table A-5: Date Formats

Key Event To Occur:	Date Format Convention:
Past History	Use Month and Year, e.g., 10/06
Within 3 Years	Use Quarter and Fiscal Year, e.g., 1QFY08
Beyond 3 Years	Use Fiscal Year, e.g., FY10

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2.0 MISSION ANALYSIS REPORT

2.1 MAR Purpose

The Mission Analysis Report (MAR) documents the results of ongoing mission analyses and supports initial acquisition strategies. The purpose of mission analysis is to assess the ability of the Coast Guard to successfully carry out a specific mission in the future. The projected future mission is described as is the current mission gap and the impact of current deficiencies on operational effectiveness. Potential solutions are identified that would fulfill the mission requirements. A comparison is made between the current mission capability and its costs versus an estimated lifecycle cost range for potential alternatives.

With an approved MAR, the sponsoring organization has the responsibility to complete pre-acquisition activities by development of a Mission Need Statement, Exhibit-300 inputs, funding requests, and Need Phase Exit Criteria. The sponsoring organization will work closely with Commandant (CG-9) to ensure a major acquisition is stood up to meet the needs of the new or updated Coast Guard mission.

2.2 MAR Preparation

Mission Analysis is the responsibility of the Coast Guard operating program that becomes the sponsoring organization. The sponsoring organization should prepare the draft MAR in accordance with the template provided in section 2.3. The approved MAR will not usually be updated unless there are significant changes in Coast Guard mission requirements.

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2.3 MAR Template

[CAPABILITY NAME]

MISSION ANALYSIS REPORT (MAR)

Submitted by:	_____	_____
	Assistant Commandant for Marine Safety, Security & Stewardship (CG-5)	Date
Submitted by:	_____	_____
	Sponsoring Organization (CG-Y)	Date
Endorsed by:	_____	_____
	Chief of Staff (CG-01)	Date

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mission analysis report

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief discussion of the MAR, highlighting the salient points of each section. Include a brief description of the results and expected outcomes of the report and briefly discuss the roles and responsibilities of key participants.

SECTION 1: MISSION

1.1 Summary of Existing Mission

Briefly summarize the existing mission (or new mission if applicable) including: the scope of the mission (theater of operations) and the nature of mission.

1.2 Reasons to Perform the Mission

Briefly describe why the Coast Guard is or will be required/obligated to perform the mission. Use applicable references, i.e., statutes, regulations, policy, or MOA/MOUs as appropriate. This may include historical summaries or may be an anticipated future requirement.

1.3 Current Functional Requirements and Capabilities

Presidential, Department of Homeland Security, and Coast Guard strategy guidance are to be used to determine the functional requirements and capabilities the Coast Guard will need in order to effectively meet the strategic needs. In addition, a Mission/Function Analysis is to be conducted to assist in further identification of these functional requirements and capabilities.

1.3.1 Current Mission Functional Requirements

Provide a general description of requirements for mission fulfillment. For example, SAR: at-sea rescue response; take a person out of the water; locate people and boats, etc.

1.3.2 Current Mission Functional Capabilities

Describe capabilities for mission fulfillment, including specific platforms as appropriate, and consider equipment, buildings, land, computer hardware/software, billets/positions, resource hours, customers, funding, etc.

1.3.3 Mission Performance Measures and Gap Analysis

Describe how well the current mission is being executed, as well as gaps in effectiveness, in terms of mission, system, and human performance, customer response, costs, excess/deficient capabilities, etc. Identify any human performance deficiencies and/or safety shortfalls.

1.3.4 Paragraph to come from Commandant (CG-1B3)

1.4 Projected Future Mission

Evaluate the projected future mission and its effectiveness goals. Discuss the requirement for the future mission or reasons for changes to the current mission in terms of system and human performance capabilities and limitations, safety, risk, statutes, regulations, policy, historical trends, technology, demographics, etc.

SECTION 2: PROBLEM STATEMENT

2.1 Mission Impact of Deficiencies

Incorporate the mission descriptions and projections, mission, system and human performance gaps, and other preceding analysis into a summary problem statement. Describe how the mission is or will be affected by the deficiencies by addressing what will not be done, what impacts it will have, by whom, and whether the future mission can be accomplished with the current functional capability.

2.2 Resource Inadequacies

Describe resource inadequacies including prohibitive costs of maintaining current capability, safety considerations, impacts of new mission on resource base using current capability, etc.

2.3 Non-material Alternatives Explored

Describe non-acquisition alternatives for addressing deficiencies which have been explored, e.g., changes in doctrine, organization, training and education, material, leadership, personnel, and facilities (DOTMLPF).

2.4 Acquisition Planning Resources

Describe the planning resources required by the Program Director for completing the major systems acquisition above and beyond current resources. Include an outline of assistance required from other programs. Estimate personnel and funding resources needed for the major systems acquisition.

SECTION 3: RANGE OF ALTERNATIVES

3.1 Alternatives Identification

Identify, in general terms, human factors technological opportunities as well as alternative capabilities or means of fulfilling mission requirements, including the status quo, in order to provide possible avenues for later exploration. For each identified alternative, using technology assessments and forecasts, describe the possible impact of obsolete, emerging, or future technology on mission fulfillment; estimate and assess risk and uncertainty, including resource risk; determine impact on other missions, system performance, and human performance; and, estimate the cost range, if possible.

3.2 New versus Rehabilitated and/or Upgraded Capability

Determine if the mission can be accomplished by a current capability rehabilitation or upgrade vice acquiring new capability. If not, describe why.

SECTION 4: JUSTIFICATION FOR MAJOR SYSTEMS ACQUISITION

4.1 Summary of Rationale for Acquisition

Summarize the rationale for the acquisition of the capability and include the need for the capability; explain why the new or changed mission cannot be fulfilled by changes to policy or procedures; and, provide a summary of potential solutions to be explored.

4.2 Summary of Impact of Status Quo

Provide a summary of the impact of remaining with the status quo, including its operational deficiencies; potential for current capability failures; impacts on the needed mission; potential shortfalls in resources; and safety, reliability, or supportability impacts on current assets.

4.3 Resource Estimate

Summarize the current mission fulfillment/capability costs and estimate the cost range for each alternative. These cost estimates will serve as a long range place marker for budgeting, to determine the appropriate level of acquisition to pursue, and to aid in allocating personnel resources to the major acquisition project.

Appendix (A): Bibliography
Provide a list of references, background materials, previous studies, or other supporting documents.

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3.0 MISSION NEED STATEMENT

3.1 MNS Purpose

The purpose of the Mission Need Statement (MNS) is to synopsize at a high level specific functional capabilities required to accomplish the Coast Guard and Department of Homeland Security (DHS) mission and objectives. The MNS is a qualitative communication vehicle both within a project and between the project and DHS to provide a strategic framework for acquisition planning and development.

Approval of the MNS provides formal DHS executive-level acknowledgment of a justified and supported need for allocation of resources to resolve a mission deficiency with a material solution. In the broader view of the acquisition lifecycle, it represents the initiation of formal acquisition program management and the beginning of the acquisition process.

The MNS is the formal description of the strategic need for an acquisition and is a crucial part of the acquisition process. It is one of the earliest documents to formalize the acquisition and links the gap in mission capability to the particular acquisitions that will fill that gap.

3.2 MNS Preparation

The Sponsor's Representative shall prepare the MNS in accordance with the template provided in section 3.3. The MNS should describe specific functional and architectural capabilities required to perform the Coast Guard and DHS mission, concisely but in sufficient detail for reviewers to understand the need for the acquisition within the context of the Coast Guard and DHS portfolio. It should contain much of the justification and critical insight into mission capabilities as well as mission support capabilities that were developed for the MAR. The MNS serves as the basis to render an acquisition decision to proceed to the Analyze/Select Phase. Later documents, such as the Operational Requirements Document, will take the analysis from the MAR and concepts outlined in the MNS and begin decomposing the gap requirements in detail. Commandant (CG-924) shall support the Sponsor's Representative in coordinating the review of the MNS.

The MNS is submitted by the Sponsor and approved by the CAE . For Level 1 and 2 projects, the Coast Guard approved MNS is forwarded to DHS for review by the Joint Requirements Council (JRC) and approval by the ADA.

Mission Need Statement submissions that exceed eight pages and/or include solution-based requirements will normally be rejected by DHS.

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3.3 MNS Template

MISSION NEED STATEMENT (MNS)

for the

[PROJECT TITLE]

Submitted by:	_____ Sponsor (CG-Y)	_____ Date
Endorsed by:	_____ Assistant Commandant for Marine Safety, Security & Stewardship (CG-5)	_____ Date
For IT Projects Endorsed by:	_____ Assistant Commandant for C4&IT (CG-6) for IT Projects	_____ Date
CG Approval by:	_____ Component Acquisition Executive (VCG)	_____ Date
DHS Approval by:	_____	_____ Date

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MISSION NEED STATEMENT

FOR (PROJECT TITLE)

.

SECTION A. EXECUTIVE SUMMARY

Include the salient points of the MNS. The Executive Summary should be very short (1-2 paragraphs) and should provide a synopsis of the acquisition requirements detailed in the body of the MNS.

SECTION B. REVISION SUMMARY (IF APPLICABLE)

Provide a bulletized high-level description of the major changes that have occurred in the current submission, along with the reason for the change. Provide the date of the revisions. See format below.

Table of Changes

Version #	Date	Section	Paragraph	Description

SECTION C. MISSION(S) AND CAPABILITIES

1. Required Mission(s) and Need(s)

- Identify the required mission(s) in functional terms and capabilities.
- If appropriate, discuss the threats, threat assessment and threat environment that drives the mission (e.g. terrorist attack, natural disaster)
- Describe capabilities required by the CG or its stakeholders/partners to accomplish the mission. Describe the capabilities independently of whether or not the CG currently possesses them.
- Do not specify in terms of equipment or other means that might satisfy the need; i.e., state the problem (need), not the solution (equipment).
- If a current mission has altered, discuss how or what portion of the mission has changed and how current and required capabilities are going to differ as a result.
- If there is an Information Technology (IT) or business-process gap, if IT is envisioned as a potential investment, or if there will be changes to the business processes, describe the relationship of this capability relative to the DHS Enterprise Architecture (EA) and the Federal Enterprise Architecture (FEA).

Discuss the priority of the acquisitions that will fill the gap in relation to the overall mission.

2. Authority

Cite the statutory and/or regulatory authority for the mission(s).

3. Capability Gap

- Using the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) and Requirements Generation System (RGS) factor structure (as appropriate), describe the capability gaps. These are capabilities that the CG and/or its stakeholders/partners require to perform the mission but do now currently possess and are not planned to be provided by existing programs/projects. Although the CG MNS process completed consideration of DOTMLPF&RGS factors prior to a focus on materiel solutions, include related DOTMLPF&RGS considerations and factors in the capability gap description.
- Very briefly describe at a high level the capabilities and gaps in the context of how DHS and its stakeholders (e.g. States) currently perform the mission.
- Discuss what other existing and planned systems (IT or business) are conducting the same or similar missions or performing the same or similar functions.
- Discuss the efforts made to determine whether these existing systems and planned programs could be used or leveraged to provide the required capability.
- Assess why it is not possible to perform this mission with existing capabilities and resources by showing that existing systems cannot provide the required capability.
- For needs/gaps that have potential IT solutions describe the difference between the current capability and the future needs by describing the functions that lack systems (IT and non-IT) with the required capabilities.

SECTION D. PROGRAM JUSTIFICATION

DISCUSS HOW THE POTENTIAL ACQUISITION FITS INTO THE ENTERPRISE ARCHITECTURE TRANSITION STRATEGY.

1. Linkage to Strategic Plan (this may be aided by using CORE factors or the Functional EA Reference Model)

- Link or trace the defined mission to DHS Strategic Plan and its goals and objectives. (Guidance for tracing the mission to the Department goals and objectives can be found in the Integrated Planning Guidance (IPG).)

2. Compelling Federal Government Interests

- State how the investment will support core/priority mission functions that have to be performed by the Federal Government.
- State why the investment needs to be undertaken by the DHS as opposed to another governmental source (e.g. State, Local or Tribal authorities) or private sector alternative.

3. Efficiency and Effectiveness

- Discuss any dependency on other acquisitions and how this need and its attendant acquisitions differ from any ongoing program in the Department with similar need, function, and mission.
- Discuss what other potential stakeholders have similar initiatives and needs and the results of discussions with them.
- For IT capabilities, discuss the potential portfolio placement for this need.
- Discuss how these acquisitions support work processes that have been or will be simplified or otherwise redesigned to reduce lifecycle costs and improve effectiveness.

4. Acquisition Goals and Objectives

- Discuss the proposed acquisition goals and objectives in terms of gaps required to be filled.

5. Impact of Disapproval

- Briefly discuss the impact of not receiving approval on the program, including impacts on current and planned mission and capabilities.

4.0 CONCEPT OF OPERATIONS

4.1 CONOPS Purpose

The Concept of Operations (CONOPS) describes a proposed asset, system or capability (referred to hereafter as the solution) in terms of the user needs it will fulfill, its relationship to existing assets, systems or procedures, and the ways it will be used in actual operations or business processes. It identifies the asset, system or capability solution characteristics from the viewpoint of any individual or organizational entity that will use or who will operate or interact directly with it.

The CONOPS serves as the bridge between the Mission Need Statement and the Operational Requirements Document by translating the stated mission need into functional capabilities. A CONOPS addresses the employment and support of a system or asset that operates within a system of system or family of systems instead of as a stand-alone component. It is well suited for acquisitions of assets or systems that have extensive user, interoperability, and/or compatibility considerations. Since it is focused more on the major asset or system, there are several key sections of the template that may not be appropriate for smaller acquisitions of hardware, equipment, weapons, or tools. Before commencing the level of effort required to formulate a CONOPS, verify that all of the sections of the template are applicable to the acquisition. If it is found that a number of sections are not applicable, then it is likely that a Concept of Employment (CONEMP) may be a more appropriate document structure

4.2 CONOPS Preparation

The Sponsor's Representative (as the user/operator representative) shall prepare the CONOPS, in accordance with the template provided in section 4.3 during the Analyze/Select Phase in consultation with Mission Managers in Commandant (CG-5). The Sponsor's Representative may develop the CONOPS in parallel with the MNS during the Need Phase (or begin it in that phase).

CONOPS should be developed using a multi-functional team. Recommended make up of the team is:

- Sponsor's Representative (Co-Chair)
- Commandant (CG-771) (Co-Chair)
- Commandant (CG-4) (engineering and logistics philosophy and standards)
- Commandant (CG-6) (enterprise architecture, IT, IA, Spectrum, etc.)
- Commandant (CG-1B3) (human systems integration: manpower, personnel, training, HFE, habitability, survivability, and safety)
- Commandant (CG-5) (missions and mission scenarios)
- Commandant (CG-924) (consulting/training)
- Ad Hoc members as needed

4.3 CONOPS Template

CONCEPT OF OPERATIONS (CONOPS)

for the

[ASSET/SYSTEM TITLE]

Submitted by:	_____ Sponsor Representative (CG-YYY)	_____ Date
Endorsed by:	_____ Office of Requirements and Analysis (CG-771)	_____ Date
Endorsed by:	_____ Assistant Commandant for Marine Safety, Security & Stewardship (CG-5)	_____ Date
Endorsed by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date
Endorsed by:	_____ Assistant Commandant for C4&IT (CG-6)	_____ Date
Endorsed by:	_____ Assistant Commandant for Human Resources (CG-1)	_____ Date
Approved by:	_____ Sponsor (CG-Y)	_____ Date

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Sample Template and Guidance

Concept of Operations

PREFACE The following provides a high level discussion of the definition and purpose of the CONOPS.

What is a CONOPS?

The CONOPS, or Concept of Operations, is both an analysis and a formal document that describes how an asset, system or capability will be employed and supported. It is developed to bridge the gap between the Mission Need Statement (MNS) and the ORD by identifying the capabilities needed to perform the missions and fill the gaps expressed in the MNS.

The CONOPS is a communication vehicle to inform the mission managers, capability managers, project management staff, designers/developers, operational and mission support commanders, tactical users and other stakeholders of intended uses and methods of support of assets, systems or capabilities. It enables an early assessment of the fit of a solution in its operational environment and its expected performance in achieving missions and tasks.

Note: The CONOPS is neither a specification nor a formal statement of requirements. It is used as a source of information for the development of such documents and for project planning and decision making. It is written in common-user language, without requiring the provision of quantified, testable specifications.

How does the CONOPS fulfill its purpose?

The CONOPS expresses the employment and support vision of the users, capability managers, and supporters prior to commencing work on the Operational Requirements Document (ORD). The CONOPS process is used to gain consensus among stakeholders on the uses, operating and support concepts, employment, capabilities, and benefits of an asset, capability or system. To achieve consensus, stakeholders must collaboratively balance the desires of mission success against the realities of technology, budget, schedule and risk. The CONOPS focuses on the performance of solutions in their intended operational setting.

The CONOPS uses mission and support scenarios to describe, in non-technical terms, a "Mission-Day"" of the asset, system, or capability. These scenarios are fictional/notional but realistic depictions of the asset or system in operation or being supported in order to achieve mission readiness. They are written or validated by the hands-on mission users who must perform operational tasks and functions. From these scenarios, needed capabilities can be derived and validated.

Sample Template and Guidance

Development of the CONOPS should include careful consideration of the full range of factors that together are required to fulfill the mission. For example, the ability to prevent illegal border crossings is a combination of capital and service acquisitions of personnel, training and

technology factors. This is accomplished by following the Doctrine, Organization, Training, Leadership, Materiel, Personnel, Facilities, and Resources plus Regulations, Grants and Standards (DOTMLPF+R/G/S) resource factor structure of the new DHS Strategic Requirements Planning System to identify non-materiel as well as materiel capabilities. In the Coast Guard, non-materiel factors are considered prior to the MNS being prepared. Nevertheless, these factors should be described in the CONOPS to realistically depict how the asset or solution system would work in a real world scenario where most, if not all, of the DOTMLPF+R/G/S factors are involved.

Outputs from the CONOPS:

The CONOPS culminates in two matrices of prioritized functional capabilities which provide ORD teams a starting point as well as a traceability tool in which to base their efforts.

The CONOPS conveys the operational and support concept of the asset or system to the ORD team and future stakeholders so that they may better understand the intended employment and support.

The CONOPS initiates the thought process of verifying suitability and effectiveness of the system or asset by providing a reference for determining “fitness for purpose and effectiveness in use.”

The CONOPS development process can enable operational, maintenance, support, acquisition, and supplier personnel to improve their understanding of the user needs and expectations.

Sample Template and Guidance

EXECUTIVE SUMMARY

This section is a succinct summary of the "core parts" of the document including a top-level description of the asset, capability or system, its major features and sub-capabilities. The executive summary focuses the reader's attention on the most important aspects of the document and provides sufficient information for the executive decision maker to understand the contents of the CONOPS. To ensure that all of the highlights have been captured, the executive summary should be written last.

REVISION SUMMARY (IF APPLICABLE)

This section provides a bulletized, high-level description of changes made to the previous version and why. For each revision discussed, provide the date that the revision was made. If the current version in production is the first version of the CONOPS, this page should be left blank below the title.

SECTION 1: MISSION(S) AND CAPABILITIES

1.1 This section is a synopsis of the MNS (and can in fact be used to develop the MNS). It should be a short explanation of the need/gap. The principal source for the capability needed for the mission is the MNS. The following section of the DHS MNS should be summarized or referenced to identify the capabilities needed for the mission (irrespective of whether the Component or DHS actually possesses these capabilities):**MNS Required Mission(s) and Need(s)**

- Identify the required mission(s) in functional terms.
- If appropriate, discuss the threats, threat assessment and threat environment that drive the mission (e.g., terrorist attack, natural disaster).
- Describe capabilities required by DHS or its stakeholders/partners to accomplish the mission. Describe the capabilities independently of whether or not DHS currently possesses them.
- Do not specify capabilities in terms of assets, equipment or other means that might satisfy the need; i.e. state the capability (need), not the solution (equipment). The next part of this section also builds upon and references the MNS section cited below. More detail than in the MNS may be provided.

1.2 MNS Capability Gap

- Using the DOTMLPF+S/R/G factor structure (as appropriate) describe the capability gaps. These are capabilities that DHS and/or its stakeholders/partners require to perform the mission but do not currently possess and are not planned to be provided by existing programs.

- Very briefly describe at a high level the capabilities and gaps in the context of how DHS and its stakeholders currently perform the missions.

- Discuss what other existing and planned systems (IT or non-IT) are conducting the same or similar missions or performing the same or similar functions.

- Discuss efforts made to determine whether these existing systems and planned programs could be used or leveraged to provide the required capability.

- Assess why it is not possible to perform this mission with existing capabilities and resources by showing that the existing systems can not provide the required capability.

- For needs/gaps that have potential IT solutions, describe the difference between the current capability and the future needs by describing the functions that lack systems with the required capabilities.

- Discuss how the potential investment fits into the DHS Enterprise Architecture (EA) Transition Strategy.

Current Situation: If appropriate, provide a brief description of the current operational situation, and address the gap in relation to this context. As a notional example, currently agents from two DHS organizations must coordinate plans and operations in mountainous terrain, where there are no commercial communications networks. Their current line of sight radio equipment is unable to connect these forces. Therefore, they cannot share a common understanding of the situation and cannot collaborate with each other. Future capabilities with superior technology will be a "fit" into this operational context to determine if and how well they solve the gap/need**.**

SECTION 2: OPERATIONS AND SUPPORT DESCRIPTION

This section is used to identify and explain the missions, nodes, user groups, organizations, environment, interdependencies and other circumstances in which the solution must operate.

2.1 Missions (Primary/Secondary). List, in priority order (if possible), each of the statutory Coast Guard and/or DHS missions that the solution will contribute to or perform. Indicate if the mission is primary or secondary. This sub-section provides linkage to the appropriate Mission Manager(s) in Commandant (CG-5), provides linkage to the MNS, lays the foundation for scenario development, and informs development of a subsequent ORD.

2.2 Users and Other Stakeholders. List and briefly describe the various groups of people/user classes who will interact with the asset. Factors that distinguish a user class include common responsibilities, skill levels, work activities, and modes of interaction with the asset, capability or system. In this context, a user is anyone who interacts with the existing system, including operational users, data entry personnel, system operators, operational support personnel, system maintainers, and trainers. It also includes non-operators who are using the output of the asset or system. Graphical diagrams, such as Use Case Diagrams, are very helpful when describing users and stakeholders and their level of involvement with the system.

2.3 Policies, Assumptions, and Constraints – List any policies, assumptions or constraints that apply to the current or proposed asset or system.

2.3.1 Policy – Guidance that is directive or instructive, and includes tactics, techniques, and procedures. [Source – Coast Guard Pub 1; Dictionary of Military and Associated Terms, JP 1-02; National Crypto logic Doctrine, CP 1-0] Policies normally govern the operations of the current asset or system, normally in the form of general statements or understandings that guide or limit decision-making activities, but do allow for some discretion. Policies also include laws and regulations that inform or limit project decision-making. For example, compliance with safety regulations and environmental protection laws may limit or preclude certain capabilities or activities. Restraints are internally imposed but removable.

2.3.2 Assumption – An assertion about some characteristic of the future that underlies the current operations or plans of the organization. An assumption is treated as if it is true until proven otherwise. [Source – Coast Guard Pub 5-0 lexicon (draft). See also JP 1-02]. Assumptions are self-imposed but needed to permit planning/ops to continue. Assumptions must be firmly based, however, and not made arbitrarily. Also, it is important to list all of the assumptions made, in order to ensure continuity.

EXAMPLES:

An assumption may be that a Component's mission scope will be increased in the near term necessitating additional capabilities.

If the CONOPS for a large cutter is written to include helicopter operations, an appropriate assumption is that it will have a flight deck.

2.3.3 Constraint. A requirement placed on the command by a higher command that dictates an action, thus restricting freedom of action. See also operational limitation; restraint. [Source: Joint Pub 1-02] Operational constraints are limitations placed on the operations of the current asset or system (e.g., available hours of system operation, available number of personnel to operate the system, computer hardware and operational facilities constraints). Constraints are externally imposed and not easily removable.

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

2.4.1 Operating Concept (OpCon): An OpCon is a description, usually graphical, showing the major, interactive participants/players/subsystems and their interrelationships. Provide and describe the proposed system's high-level operational view (OV) graphic(s).

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

2.4.3 Scheduling and Operations Planning – This section can be used to describe what is envisioned in terms of availability, readiness, frequency of use or employment, home-porting, and basing.

2.4.4 Operating Environment – This section is used to describe the conditions and environment, both natural and artificial, in which the system will operate. The information contained in this sub-section informs development of a subsequent ORD and Required Operational Capability/Projected Operational Environment (ROC/POE) document.

2.4.4.1 Geographic Area(s). Provide a bulletized list of the geographic area, Coast Guard region or regions where the asset will normally operate. Specific descriptions of regions may be found elsewhere, such as in the Coast Guard Deepwater CONOPS 2025: Deepwater Operating Area of Responsibility, COMDTINST M16014.2 (series). In this case, they do not need to be re-described here, provided the reader is directed to the source document.

2.4.4.2 Environmental Conditions – Define the environment in which the asset or system will be operated and maintained. Consider: environmental compliance, electromagnetic/frequency interference, meteorological and oceanographic conditions. Whenever possible, be as specific as possible regarding environmental conditions. Include specifics such as: temperature ranges, sea states, wind velocities, precipitation, humidity levels, etc. possible in the geographic areas listed above.

2.4.5 Threats and Hazards. This section should explain all of the hazards (natural) and threats (manmade) that the asset or system may face. In the case of threats, list opposing forces expected and their general capabilities. Briefly discuss the security factors necessary to maintain overall operational and/or mission support effectiveness. Threat descriptions require caution, however, as often times, the source information is classified. As it is desirable to keep the CONOPS at the lowest classification level possible, using a pointing statement, such as "for information on classified threats, see appropriate documentation" may be appropriate. For hazards, describe the natural dangers to mission execution. Briefly discuss the safety aspects and considerations necessary to ensure a safe environment for the system and operators. If any applicable directives and regulations are identified, be sure to list them in sub-section 6.4.

2.4.6 Interoperability with other Elements. Describe how the asset or system will be integrated into the Coast Guard and DHS command and control structure that is forecast to exist at the time the asset or system is fielded. Identify the interfaces with other Coast Guard; DHS; DOD; international, federal, state and local governments; as well as the general public. Describe how the asset or system will be integrated into existing, developing, or planned systems and operational procedures. This section should also identify all other system and assets which the new asset must interface with both internal and external to the Coast Guard.

2.5 Mission Support Description. Mission success depends upon two equally important components: Operations and Support. While operations is initially described in the MNS (as mission performance), support of the asset or system is first described in the CONOPS. Support is integral to the CONOPS because it is interlaced with operations. Support questions are addressed in a CONOPS.

EXAMPLES:

If a ship experiences a significant equipment casualty while underway, it may cease mission execution until the casualty is repaired. The plan to provide repair support affects the CONOPS. In this example, the support plan may limit ship operations closer to homeport. If the same personnel performing operation functions on the ship also perform support functions, as in a minimal crew paradigm, they may not have the skills or tools to fix major problems and therefore must avoid hazardous conditions. This may in turn limit their effectiveness in accomplishing the mission. .

2.5.1 The support analysis conducted prior to commencing the draft phase of the CONOPS should provide the information required to describe the support vision of the appropriate organizations. However, since support plays such an important role in this document, the CONOPS IPT should also include adjunct members from the support organizations during the CONOPS draft phase.

2.5.2 Since support plays such an important role in this document, the CONOPS working group must include members from the support organizations during the CONOPS draft phase.

2.5.3 There are two common models that help describe the support of a system or asset, *The Six Facets of Readiness* or *The Twelve Elements of Logistics*. (See chart below) Either may be followed as a guide when writing the mission support description. Briefly describe – from a user-oriented perspective – the concept of mission support for this asset using the *Six Facets of Readiness* or *The Twelve Elements of Logistics* framework as a guide. In other words, describe how the Coast Guard/DHS will support these facets in order to ensure readiness to perform the assigned missions. Topics to discuss include support agency(ies); administrative and medical support; Morale, Welfare and Recreation and work-life considerations; facilities; equipment; configuration management; information technology support; repair/replacement criteria; maintenance levels and cycles; storage, distribution, and supply methods.

Six Facets of Readiness	Twelve Elements of Support
People	Maintenance
Training	Supply Support
Equipment	Design for Supportability
Support	Support and Test Equipment
Infrastructure	Manpower, Personnel, and Training (MPT)
Information	Packaging, Handling, Storage and Transportation (PHS&T)
	Environmental, Safety and Occupational Health (ESOH)
	Facilities/Infrastructure
	Information Technology Resources

	Automatic Identification Technology (AIT)
	Product and Technical Data
	Obsolescence Management

EXAMPLE:

Applying the *Six Facets of Readiness* model, the following questions may be answered by the mission support description:

How will the **people** that deploy with the asset receive routine medical care?

How will the Coast Guard **train** the maintainers for this new asset?

Who is going to maintain configuration control of the **equipment** that is put into the asset?

How will maintainers and suppliers **support** the asset if it breaks down while deployed?

Will the current Coast Guard/DHS or other **infrastructure** support the new system or will new or upgraded infrastructure (air stations, homeports, buildings, equipment, etc.) be required?

Who will be in charge of maintaining **information** on the new system, including publications and instructions?

2.5.4 Number each facet or element individually as 2.5.X.

2.5.5 Identify the different support modes that the asset or system could be in. These support modes later become the titles for the mission support scenarios. For instance, a cutter might have the following support modes: Homeport, Underway, Inport – deployed, Inport – foreign, Dry-dock. An aircraft might use: Home station, Airborne, Deployed – foreign, Deployed – Border Patrol facility, Deployed – Coast Guard facility, Deployed – civilian facility, Depot repair. Information and communication systems might have normal, alerted, high alert, maintenance, etc.

2.6 Potential Impacts – Describe anticipated operational, mission support and other organizational impacts the proposed asset, capability, or system will have on the user, acquirer, developer, and support and maintenance organizations. These impacts may include changes in interactions and interfaces with command centers; change in procedures; use of new data sources; changes in quantity, type, and timing of data to be input to the system; changes in data retention requirements; new modes of operation based on peacetime, alert, wartime, or emergency conditions, modification of responsibilities; addition or elimination of responsibilities or positions; need for training or retraining; changes in infrastructure, including facilities and services; and changes in number, skill levels, position identifiers, or location of personnel in various modes of operation. This information allows all affected organizations to prepare for the

changes that will be brought about by the new system and to plan for the impacts during development and transition to the new system. The DOTMLPF+R/G/S factor structure from the new Strategic Requirements Planning System should be used to the extent possible to discuss these impacts in a structured manner.

3.0 Scenarios – Scenarios are one way to gain insight into how a capability solution will perform and fit into the processes, activities, organizations, personnel, procedures, environment, threats, constraints, assumptions, and support involved in responding to the mission(s). In general, scenarios describe the role of the asset or system, how it will interact with external entities (both inside and outside the Coast Guard) in various modes and how key internal interfaces or key internal capabilities are used. In other words, HOW does the asset or system dynamically perform to deliver mission outputs or provide capability? Other ways to determine fit may include modeling and simulation, prototyping and piloting.

3.1 Carefully selected and defined scenarios tie together all parts of the asset, capability, or system, the users, and other entities by describing how they interact. As such, scenarios perform a number of important roles in the development of the CONOPS:

3.1.1 Scenarios illustrate the more general needs expressed in other parts of the CONOPS, providing a simple justification for why a particular capability, operational, or support characteristic is needed.

3.1.2 Scenarios bind together different capabilities, showing how the capabilities are related.

3.1.3 In developing and 'working' a scenario (usually in a work group), additional needs are usually revealed.

3.1.4 By focusing on a real situation, deficiencies and omissions in the defined needs can be detected.

3.1.5 Because scenarios describe operations and support in plain language, they assist all non-users to understand the operational and support domains, including the roles and needs of the users.

3.1.6 Scenarios can also provide detailed and validated information which can be used for analysis and modeling tasks later in the project.

3.1.7 Because scenarios represent realistic specific situations, they can contribute to the development of acceptance and operational testing.

3.2 Mission Operations Scenarios

3.2.1 (mission name) – In collaboration with the appropriate Mission Manager and current or future hands-on users, develop one or more representative “stories” that depicts the asset and its operational functional capabilities in action. Usually, each story has a set of activities carried out by agents/organizations working together. Each scenario depicts “how” the asset, capability, or system helps in this broad operational context to deliver operational results. Several scenarios may be constructed to more fully represent the mission(s) and environment(s). They should be

distinct enough to cover the spectrum of factors affecting the mission. Normally, three to six scenarios are developed.

3.2.2 Functional Capabilities Needed – First, identify the specific activities taking place in the scenario. Then group the activities, if possible, by the functional capabilities required by the capability solution (e.g., asset) to perform the activities (See section E-2). Using bullets, list in this section each functional capability identified in the scenario. Later, similar functional capabilities from all of the operations scenarios are combined and used as titles for the individual functional capabilities descriptions in sub-section 4.1 and in the Functional Capabilities Matrix, sub-section 4.3.

3.3 Mission Support Scenarios

3.3.1 (support mode name) – In collaboration with appropriate Mission Support Managers, develop a representative "story" that depicts the asset and either (a) its functional mission support capabilities in action or (b) the support the capability solution (e.g., asset) requires to operate. Each scenario should depict "how" the asset or system conducts mission support activities or is provided with support and sustainment to deliver mission support outputs. In each scenario, consider the facets or elements used in the mission support description in section 2.5.

3.3.2 Functional Capabilities Needed. First, identify the specific support activities taking place in the scenario. Then group the activities, if possible, by the functional capabilities required by the system to perform the activities (See section E-2). Using bullets, list in this section each functional capability identified in the scenario. Later, similar functional capabilities from all of the support scenarios are combined and used as titles for the individual functional capabilities described in sub-section 4.2 and in the Functional Capabilities Matrix, sub-section 4.3.

4.0 Functional Capabilities – This section describes the functional capabilities of the asset and how they achieve mission operations and mission support objectives. Each description should include those activities performed by the asset or system that produce capabilities and, in turn, affect mission outcomes. A short discussion on the physical components and interfaces to the environment should be included.

4.1 Mission Operations. Provide an individual description for each capability listed in paragraphs 3.1.#.1. Number each as a sub-section in 4.1 (i.e., 4.1.#).

4.2 Mission Support. Provide an individual description for each capability listed in paragraphs 3.2.#.1. Number each as a sub-section 4.2 (i.e., 4.2.#).

4.3 Functional Capabilities Matrix. Insert two tables (see below example) that list the functional capabilities identified in the previous two sub-sections respectively.

4.3.1 Mission Operations Matrix. Populate the left column with the title of each Mission Operations functional capability listed in Sub-section 3.1 above. List the functional capabilities in order (descending) based on number of occurrences throughout the scenarios. Populate the top row only with those missions identified in the MNS. Within the matrix field, insert a "P" to indicate the functional capability is primary, or essential to mission success. Insert an "S" to

indicate the functional capability supports the mission indicated yet is secondary, or not essential to mission success. This sub-section provides linkage to the appropriate Mission Manager(s) in Commandant (CG-5), lays the foundation for the development of the ORD and refinement of the Required Operational Capabilities/Projected Operational Environment (ROC/POE), and assists the requirements team with prioritizing requirements.

	Missions										
Functional Capability	**SAR**	**CD**	**AMIO**	**LMR**	**OLE**	**PWCS**	**DR**	**MS**	**MEP**	**ICE**	**WWM**
Boat Operations	P	P	P	P	P	S	P				
Helo Operations	P	P	S	P	S	P	P				

4.3.2 Mission Support Matrix - Populate the left column with the title of each Mission Support functional capability listed in Sub-section 3.2 above. List the functional capabilities in priority order (descending). Prioritization is based on an assessment of support to the mission scenarios through a prioritization matrix or count of the number of occurrences throughout the scenarios. Populate the top row only with those support modes identified in section 2.5.4. Within the matrix field, insert a "P" to indicate the functional capability is primary, or essential to readiness. Insert an "S" to indicate the functional capability support the mission indicated yet is secondary, or not essential to readiness. When determining "P" or "S", consider whether or not the asset needs to have the capability while in the specific support mode.

EXAMPLE

The table below represents a cutter. A question to consider is, "Does the ship need the capability for medical care while underway?" and further, "Does the ship need the capability for medical care while the ship is in dry dock?" The answer to the first question is that medical care is essential to readiness when underway, there is no alternative for this functional capability; it is listed as primary, "P." While in dry dock there are alternatives that result in this functional capability not being required at all; hence that entry is blank.

	Support MODES					
Functional Capability	**Homeport**	**Underway**	**Inport**	**Inport foreign**	**Dry Dock**	
Administration		P	P	P		
Organic Maintenance	S	P	P	P		
Subsistance		P	S	P		
Medical		P	S	P		
Inorganic Maintenance	P		S	S	P	
MWR	S	P	P	P		

4.4 CONOPS Development Team. List the office codes and names of personnel who made meaningful contributions to the document. This provides the reader with points of contact to follow-up when questions arise.

4.5 Appendices

4.5.1 Analysis Reports – Include each report of analysis conducted to include:

4.5.2 Human Resources Analysis

4.5.3 Operational Analysis

4.5.4 Support Analysis

4.5.5 Budgetary Assessment

4.5.6 Marketplace Assessment

4.6 Table of Changes – Insert a table (see below example) that describes specific changes and the reason(s) why, including reference to the applicable location (section/sub-section/paragraph) within the document.

EXAMPLE

Version #	Date	Location	Description
0.1	2 Jan 2008	Sub-Section 2.2	Added Mission Support Description to support follow-on mission support functional capability descriptions.

4.7 Glossary of Terms. Include an alphabetical listing of any terms and definitions needed to understand this document

4.8 Acronym Listing. Include an alphabetical listing of all acronyms, abbreviations, and their meanings as used in this document

4.9 References – Provide a list of all documents used in the development of the CONOPS. Each document listing includes the number, title, revision, and date. This includes but is not limited to legislation, feasibility studies, cost benefit studies, system architectural studies, documents concerning related projects, relevant technical documentation, MNS and ORD, instructions, program management directives, system handbooks, policy directives and OPLANS, etc. Include all documents referenced in this document. Identify the source for all documents that are not available through normal Government stocking activities.

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5.0 Capability Development Plan

5.1 Capability Develop Plan Purpose

The purpose of the Capability Development Plan (CDP) is to assure that the necessary analysis and information will be developed to enable an informed ADE-2A acquisition decision. The CDP is developed during the Need Phase by the assigned Program Manager in CG-93 and approved by the Coast Guard Component Acquisition Executive (CAE) and the DHS Acquisition Decision Authority (ADA) at ADE-1. The CDP is implemented during the Analyze/Select Phase and defines the fundamental agreement between the acquisition project manager, the Chief Acquisition Officer, CAE and the DHS ADA on the activities, cost, schedule and performance boundaries for the work to be performed.

Once the CDP is approved, the project manager must notify the PEO and DHS Acquisition Program Management Division in a timely manner of significant variances in the execution of CDP plan of action and milestones (such as schedule slippages).

5.2 Capability Develop Plan Content

The CDP should discuss topics and issues, specific to the acquisition, that allow the project manager to clearly define the "body of work" that must be accomplished during the Analyze/Select Phase. The CDP explains the strategy and approach to determining the "optimum" solution(s) within the trade-space and the risks of the preferred alternative. Overall, the CDP describes the key activities to occur in preparation for ADE-2A.

The CDP content should include a record of changes to the CDP as they occur; a statement identifying the capability that needs to be acquired; a section that identifies the potential range of alternatives; and this section should be further decomposed to include an approach for identifying, managing and mitigating risks; a Plan of Actions and Milestones (POAM) laying out the MSAM and SELC required activities, reviews and documentation. Additionally, include a description of how users/operators will be engaged during this phase; a description of the Alternatives Analysis Approach; describe how pilots will be utilized; include system engineering reviews; and a description of how the project aligns with the enterprise architecture; detailing the approach for identifying technology maturity and assessing risk associated with technology maturity. Furthermore, state the goals and ground rules for developing the Acquisition Plan to the degree known for the project; describe the approach used to planning for supportability and sustainment; and describe the approach for developing the LCCE.

5.3 Capability Develop Plan Roles and Responsibilities

Project Management Responsibilities
Prepare and submit CDP
Notify CAE of significant variances from the plan.
CG-9x/93/9/
Endorse CDP

Component Acquisition Executive (CAE) Responsibilities
Approves CDP for CG
DHS Acquisition Decision Authority (ADA) Responsibilities
CDP approval via Acquisition Decision Memorandum

5.4 Capability Development Plan Cover Page

CAPABILITY DEVELOPMENT PLAN (CDP)

for the

[PROJECT TITLE]

Submitted by:	_____	_____
	Program Manager (CG-93Y)	Date
Endorsed by:	_____	_____
	Director of Acquisition Programs (CG-93)	Date
CG Approval by:	_____	_____
	Chief Acquisition Officer (CG-9)	Date
DHS Approval:	_____	_____
		Date

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The CDP should describe the following topics, as appropriate to the needs and strategy of the intended acquisition project:

Record of Changes – Identify changes to the CDP as they occur. Include a short description of the change, with specific reference to any schedule, resources, or risk changes encountered as the Analyze/Select Phase is executed.

Capability Statement – Identify the capability that needs to be acquired. Briefly describe the capability needs/gaps that will be filled by the proposed program. These must be traceable to the MNS once it is approved. Describe any further efforts required to refine the statement of the problem and how these will be accomplished.

Frame the Analyze/Select Trade Space – Identify the potential range of alternatives to be examined. Describe any bounds or constraints on the program such as expected time to delivery capability and potential resources available.

1. Risk – Describe the approach for identifying, managing and mitigating risks (to the extent known) of potential solutions and alternatives. Describe the methods to continuously identify risks throughout the analysis activity, and how the risks for the preferred alternative will be translated into a risk management plan that will describe how they are to be mitigated (e.g. accepted, reduced, off-loaded).
2. Plan of Actions and Milestones (POAM) – Identify (in the form a table or chart) the MSAM and SELC required activities, reviews and documentation and associated schedule that will be performed during the Analyze/Select Phase.
3. Participation of Users/Operators – Describe how users/operators will be engaged in this phase, particularly for developing the CONOPS and ORD, and assess potential alternatives for operational utility.
4. Alternatives Analysis (AA) Approach – Describe the approach to the analysis.
    - Establish the ground rules and assumptions for the AA and the constituent LCCE.
    - Describe the level of detail in the AA
    - Identify the AA lead or the manner in which an independent AA lead will be selected
5. Pilots – Describe any pilots that will be conducted and how these will be managed in accordance with the guidance in Chapter 2.
6. System Engineering Reviews – Set out the ground rules for the two Systems Engineering Reviews (Study Plan Review SPR) and the Solution Engineering Review (SER)) that are to be conducted during the Analyze/Select Phase.
7. Alignment with Enterprise Architecture – Describe the approach to ensure alignment with both the Coast Guard and DHS enterprise architectures and standards.
8. Technology – Identify the approach for identifying and assessing the maturity of key technologies required and the approach to mitigate any technology maturity risk.
9. Project Dependencies and Interfaces – Describe the approach for identifying systems or information sources that this capability will be required to interface with (both internal and external to USCG/DHS) to the extent known, and how the program will

work with these sources. Describe the approach for identifying any other systems or programs that may contribute to meeting the need/gap and the approach to leveraging and collaborating with them (cite actual programs if known).

10. Acquisition Planning – State the goals and ground rules that will be used to develop the Acquisition Plan for the proposed program to the degree known. This should include Government and contractors (support and system development) over the life of the program (development, production, fielding operation and logistics) and potential mechanisms such as services acquisitions.
11. Integrated Logistics Sustainability and Support – Describe the approach for planning for supportability and sustainment (logistics support) that will be analyzed during this phase.
12. Life Cycle Cost Estimate (LCCE) – Describe the approach for developing the LCCE in accordance with Appendix A, Section 9.
13. Program Management Office Resources – Address the adequacy of Program Management Office (PMO) resources, including staff/qualifications, funding, and facilities to accomplish the above tasks. Identify critical shortfalls in resources and proposed solutions.
14. References – List all references that are key to the proposed program, particularly those that pertain to the activities performed in the Analyze/Select Phase.

6.0 ACQUISITION PLAN

6.1 AP Purpose

The purpose of the Acquisition Plan (AP) is to discuss the acquisition process and document the decisions made prior to processing each contractual action. The AP serves as a mechanism to review, approve and document acquisition decisions, as well as creating a road map for implementation of the acquisition decisions. Once approved, an AP provides direction and approval for execution of each contractual action.

The format and content of APs is specified in the DHS Acquisition Planning Guide (DHS policies and procedures for Acquisition Planning are set forth in Chapter 3007 of the Homeland Security Acquisition Manual (HSAM)). The guide is written in three parts. Part I is general information about acquisition planning. Part II provides narrative detailed information on the contents required in an AP and how to prepare an AP. Part III is a set of AP templates designed to assist with completing an AP for standard types of acquisitions.

6.2 AP Preparation

The PM is responsible for preparing the AP in accordance with the DHS Acquisition Planning Guide and the appropriate template. The Federal Acquisition Regulations (FAR) 7.102(a) and Homeland Security Acquisition Manual (HSAM) 3007.102 require planning for all acquisitions. The AP is prepared as the first step in any acquisition and should begin as early in the program life cycle as possible. Where the planned acquisition(s) meet or exceed the DHS thresholds in HSAM 3007.103(d)(2)(i) of $10 million, a formal written acquisition plan is required that can comply with the planning requirements of (FAR) 48 CFR part 7.1 including (FAR) 48 CFR 7.106, Additional Requirements for Major Systems.

The PM must develop the acquisition strategy in coordination with the Acquisition Strategy Integrated Product Team (AS IPT). Key members of the AS IPT should include the PM, the Deputy PM, and Commandants (CG-92, CG-912, CG-924, CG-85, CG-82), senior PM representatives (as available), and members of the functional communities.

Development of an acquisition strategy is a prelude to preparing an AP. Acquisition strategy planning shall begin as early in the project life cycle as possible. Early acquisition planning, even planning during Pre-Acquisition, should be conducted and documented. It should be noted that the acquisition strategy will be a required element of the ADE briefing to DHS. The initial AP should be prepared as soon as possible after DHS Project Authorization approval, and submitted for approval as shown in the AP Template (cover page only) in Section 6.3.

The PM and the Contracting Officer (KO) review the AP at least annually and at each ADE. The AP is revised whenever there is a major program change, or whenever there is a significant change to an approved AP. An AP change is significant if what is being procured changes; how it is being procured (including method and contract type) changes; or funding changes. Revisions to APs shall be subject to the same

concurrences, endorsements, and approvals as the original document. (The PM is to use the DHS Acquisition Planning Guide (AP) Template in preparation of the Projects APs)

If, during the AP annual review, or ADE AP review, the PM determines that the AP is current and does not require revision, the PM shall certify in writing that the information contained in the AP is accurate, complete, and that no change is required. The PM shall forward the AP Certification Memorandum to the Coast Guard Head of Contracting Authority (HCA), via the CGARC Executive Secretary, and Commandant (CG-9), for endorsement.

The Coast Guard shall assign a nine-digit identifier followed by the date of the AP for each formal written AP. The first four digits on Coast Guard APs will be "HSCG". The next two digits will be the fiscal year in which the AP was or will be approved. The last three digits will be assigned sequentially by the Office of Procurement Policy and Oversight Commandant (CG-913). The AP date is the date the AP was approved. Revision to the AP shall be identified with the identification number of the original AP followed by the revision number and date the revision was approved (see Part I of this Handbook for specific instructions for revision marking).

AP Approval		
Contract Value	**Approved By**	**Reviewed By**
> $50M	HCA	DHS CPO
> 10M - $50M	HCA	N/A
< $10M	CG-912	N/A

6.3 AP Template

ACQUISITION PLAN (AP)

for the

[PROJECT TITLE]

AP # HSCG06001 – MM/DD/YY

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Small Business Specialist (CG-91Y)	_____ Date
Endorsed by:	_____ Contracting Officer (KO)	_____ Date
Endorsed by:	_____ Chief, Contracting Operations Office (CG-912)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
USCG Approved by: Official:	_____ Head of Contracting Activity (CG-91)	_____ Date

DHS Approval by ADM:_____ _____
Date

7.0 PRELIMINARY OPERATIONAL REQUIREMENTS DOCUMENT and OPERATIONAL REQUIREMENTS DOCUMENT

7.1 PORD/ORD Purpose

The ability of the Department of Homeland Security and the Coast Guard to acquire major systems that meet operational mission needs within cost and schedule constraints begins with the establishment of operational performance requirements. The accurate definition of requirements by the Sponsor is imperative if the major acquisition is to be completed within cost and schedule constraints and still meet the DHS, Coast Guard and specific Sponsor's mission performance needs. To put the requirements in context, the ORD should clearly define the capability gap this project will address and discuss the threat that will be mitigated by the project. The Sponsor establishes absolute minimums (thresholds) below which the mission cannot be successfully performed. The Sponsor also sets objectives for selected requirements (not necessarily all requirements) to define a value beyond the threshold that reflects the maximum desired yield for project performance. Objectives define a value beyond the threshold that reflects an operationally meaningful and cost effective increment to an operationally effective system. Projects are to budget to achieve the "Objective-level" requirements. The Preliminary Operational Requirements Document/Operational Requirements Document (PORD/ORD) prioritizes the various requirements to guide future trade off analyses.

The ORD, along with the Concept of Operations (CONOPS), are formal documents that provide a bridge between the top level capability needs spelled out in the Mission Need Statement (MNS) and the detailed technical requirements found in the performance specifications that ultimately govern development of the system. The ORD translates the capabilities defined in the MNS into system-level performance requirements that complement the approved CONOPS. The ORD's performance requirements are also a source for the Critical Operational Issues (COIs) contained in the Test and Evaluation Master Plan (TEMP).

7.2 PORD/ORD Overview

The PORD is the first requirements document and incorporates the vision set out in the CONOPS assigning desired operational performance expectations. The PORD is derived from the MNS, CONOPS, and early sponsor analysis. The PORD expresses the requirements statement needed to guide further analysis. The PORD establishes the trade space between and initial set of thresholds and objectives. The PM and the Sponsor's Representative will use this trade space to further refine the requirements in light of cost, schedule, and performance to a final set that will be captured in the ORD. The PORD is a required document for every major systems acquisition unless a waiver is approved by Commandant (CG-771).

To effectively develop an ORD and be able to translate it into an affordable acquisition project, there are a number of precepts related to the ORD that need to be well understood.

The ORD is an acquisition document. It is prepared by the Sponsor with assistance from other activities. Its singular purpose is to identify and provide a number of performance parameters that will be needed in an asset or system in order to provide a useful element of capability to the user and either fully or partially closes the mission deficiency(s) identified in the MNS.

Operational Performance Thresholds and Objectives. The minimum level of operational performance that the Government is willing to accept is considered a threshold value within the ORD. A level of performance that significantly improves mission performance, safety or supportability beyond that of the threshold value, and represents the maximum desired yield for program performance is considered an objective. In simple terms, the asset is acceptable at the threshold level but will be much more effective at the objective level. Objective values are not required. If objectives are included, caution must be used in objective selection. The objective value must be supported by analysis and expressed in quantitative terms. The number of objectives in the ORD should kept to a minimum because the PM must build the project's budget to the ORD objective level and determine what performance can be attained in the contracting and selection process. To do this, the objectives need to be included within the evaluation factors so that the contractor has incentive to bid to the objective level of performance as part of a best value solicitation for the government. Some requirements will have only a single parameter value. When this is the case, these values are essentially thresholds.

Critical Operational Issues. The Critical Operational Issues (COI) are the key concerns that must be examined in operational testing to determine a product's capability to perform its mission. COI are derived from the Key Performance Parameters and other mission performance attributes in the MNS and CONOPS which lead to operational requirements in two areas: 1) technical parameters associated with operational effectiveness and 2) non-technical requirements associated with operational suitability. While the bulk of suitability issues are referred to as "non-technical" in the MSAM, issues like Reliability, Maintainability, and Availability are of a technical nature and can be quantitatively measured and have comparable importance to effectiveness issues. Both the material developer and the operational test agency need to know under what conditions the proposed system will be used. Does the system need to be waterproof or merely water resistant? Will it be used under extreme climatic conditions? Will its use in normal operations be different than that envisioned in heightened operations? The CONOPS sets general operating conditions for the asset; the ORD needs to ensure that those conditions are explained in enough detail for the requirements to be testable. Key Concepts. Key concepts that should be addressed during ORD development include end-user input and verification, testability, interoperability, security, human system interface (if applicable), training, and supportability and sustainment.

Measurable and Testable Requirements. Each threshold, objective, and KPP must be measurable and testable in order for users and acquirers (and other stakeholders) to determine: 1) whether the delivered capability meets its approved requirements, and 2) to what degree they are met. This is particularly critical for KPPs since they are non-negotiable requirements that must be met for the system to fully meet its fundamental purpose.

Initial Operational Capability (IOC) and Full Operational Capability (FOC). Key schedule dates (IOC, FOC) are included in the ORD. Threshold values for schedule parameters represent when that event is needed to close he capability gap. Objective values represent an

affordable and operationally useful acceleration in the schedule.

Affordability and Impact of Objectives on Budgeting. To achieve the requirements identified in the ORD, the budget and appropriations need to match the cost of doing the work in developing the capability. It is the PM's responsibility to highlight to senior management and the acquisition decision authority if there is any disconnect between the PM's cost estimate for achieving the ORD and the Coast Guard's proposed (or approved) budget and the Congressional appropriation. The PM is required to build the project's budget to meet all the requirements in the ORD, including objectives.

ORD Updates to Reflect Situational Realities. During the life of the project, events may occur that jeopardize the PM's ability to achieve the ORD as it was initially approved. Those events can range from unexpected technical difficulties during project development to insufficient funding in the Coast Guard budget or in the Congress appropriation to achieve the approved ORD. Irrespective of the cause, the ORD must reflect the required performance of the asset or system when it is to be fielded for test and evaluation. The initially approved ORD will be ORD 1.0. Subsequent updates will be labeled ORD 2.0, ORD 3.0, etc.

Discrete Segments. Discrete segments (or increments) of capability are desired if they can accelerate the fielding of capability to the user. If discrete segments of capability are planned, each discrete segment must have clear identity within the ORD or have a separate ORD.

7.3 PORD/ORD Preparation

PORD Preparation

After the MNS has been submitted for approval, the Sponsor's Representative should begin preparation of the PORD in accordance with the template provided in section 7.9. The PORD amplifies and derives from the MNS and early mission analysis and affordability trade-offs. Developed early in the Analyze/Select Phase (target date within 6 months of ADE-1), the PORD describes the CONOPS operational capabilities, operating environment, and system constraints which competing system concepts must satisfy. It identifies requirements in terms of the range of minimum thresholds and operationally effective objectives needed to develop and evaluate alternative design concepts. The PORD evolves into the ORD following the Alternatives Analysis.

Using the PORD, and working closely with the Sponsor's Representative, the PM conducts feasibility studies and/or trade-off studies. The operational requirements are analyzed, system concepts synthesized, concepts evaluated (in terms of cost, mission and environmental impacts), and the best system concept(s) selected and described. The optimum capabilities resulting from the trade-off analyses are documented in the ORD. The accepted PORD shall be in place not later than six months after DHS ADE-1 approval.

The PM and the Sponsor's Representative shall consult with those Headquarters Offices/Staffs that will be involved in the matrix tasking of the acquisition, including all Support Managers for support requirements noted in the MNS for the project. After incorporation of comments, the resultant product will be a PORD, which accurately reflects the Sponsor's requirements and addresses the PM's acquisition concerns.

ORD Preparation

The ORD is a top-level decision document which establishes the minimum acceptable standards of performance (thresholds) and optimum performance goals (objectives) for the system and following approval serves as a "contract" between the Sponsor and the acquirer, the Assistant Commandant for Acquisition (CG-9).

ORD Integrated Product Team. Developing requirements is to be an integrated, cross-functional endeavor. An ORD IPT is to be chartered by the Sponsor to develop the ORD for a major systems acquisition. The Sponsor's Representative and Commandant (CG-771) will co-chair the IPT. IPT membership should include representatives from the following:

a. Commandant (CG-4) (engineering and logistics)
b. Commandant (CG-6) (enterprise architecture, IT, IA, Spectrum, etc.)
c. Commandant (CG-1B3) (human engineering, personnel, training, manpower, system safety)
d. Commandant (CG-9) Project Manager
e. Commandant (CG-924) (IPT requirements training, process)
f. Commandant (CG-926) (T&E)
g. OT&E representative
h. Ad Hoc members as needed (Commandant (CG-5), users, etc.)

The ORD IPT is to receive requirements management training at the initiation of the team.

Requirements Database Management. To provide clear traceability of all requirements, a relational database is to be used to capture and document the requirements identified by the team. Key attributes the database needs to provide to the team include:

i. Provide unique identity to each requirement.
ii. Be able to baseline so that changes can be clearly tracked.
iii. Develop and export/print a requirements traceability matrix.

The database will be initiated and maintained by the Sponsor through the development of the ORD. The PM will continue to use the database in the development of the SOW/P-Spec.

Based upon the results of the Alternatives Analysis, feasibility studies, and trade-off studies, the Sponsor's Representative revises and clarifies the PORD to become the formal ORD. ORD development is an evolutionary process flowing from the PORD and should be prepared in consultation with the same Program and Support Managers involved in the development of the PORD in order to ensure that all mission needs and requirements have been properly addressed. Based upon the above studies, the Sponsor's Representative will also need to identify critical test and evaluation issues (i.e., COIs).

The primary responsibility for defining requirements in the PORD and ORD lies with the Project Sponsor who has the primary need for the system. The roles and responsibilities of each of the organizations involved in requirements development are shown in the following

chart.

Sponsor
Directs the Sponsor's Representative to prepare the PORD/ORD
Sponsor's Representative
Prepares a PORD/ORD
Conducts mission utility and other analyses to validate the need for specific performance parameters
CG-771
Co-Chair the Requirements Development IPT
Validates the ORD prior to release for concurrent clearance
Project Manager (PM)
Member of the Requirements Development IPT
Provide funding to support mission utility analyses
Assists the Sponsor's Representative in defining the operational and support requirements for the system

7.4 ORD Validation

The completed ORD will be reviewed and validated by Commandant (CG-771) (with Commandant (CG-924) support) prior to being submitted for concurrent clearance. Some of the key criteria Commandant (CG-771) will be using to validate the ORD include:

a. Attainability of the parameters.
b. Clarity. Unambiguously written.
c. Substantiation. Appropriate analyses and documentation at the parameter level.
d. Testability. The parameters being called out in the ORD are testable.
e. Measurable. The parameters can be measured.
f. Cost estimate is to the objective value.

7.5 ORD Approval

Following resolution of User/Operator/Acquisition issues raised during the ORD preparation process, the final iteration of ORD preparation should be a Matrix-level Concurrent Clearance review, followed by a CGARC-level Concurrent Clearance review. Once endorsed by the Coast Guard, and a minimum of 60 days prior to (ADE)-2A, the ORD is submitted to DHS APMD. APMD will facilitate routing and staffing of the ORD through DHS headquarters with final review by the Requirements Coordination Team (RCT) and/or members of the Joint Requirements Council (JRC).

Once the ORD has been staffed and reviewed by the RCT/JRC, APMD forwards the ORD to the ADA for approval. The ADA may delegate ORD approval authority to a lower level depending on project complexity and magnitude.

7.6 ORD Revisions

It may become necessary during the acquisition process to revise requirements, often as a result of changing missions, or fact-of-life funding changes. If requirements change, a revised ORD shall be prepared using the process described above. The revision number and

date (e.g. Revision 1, Jul 03) shall be indicated on the bottom of each page, and an indicator bar shall be placed in the margin to identify the change. Approved procedures for revised ORDs shall be identical to those for the original ORD. If changes to the ORD are made, the APB and the TEMP shall be reviewed for any impact and changes made as necessary. A sample ORD cover page and table of contents, along with content and format requirements are in the following pages.

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7.7 PORD/ORD Approval Page Template

PRELIMINARY OPERATIONAL REQUIREMENTS DOCUMENT (PORD)

for the

[PROJECT TITLE]

Prepared by:	_____ Sponsor's Representative (CG-YYY)	_____ Date
Submitted by:	_____ Sponsor (CG-Y)	_____ Date
Endorsed by:	_____ Project Manager (CG-9YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
Accepted by:	_____ Chief Acquisition Officer (CG-9)	_____ Date

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7.8 ORD Approval Page Template

OPERATIONAL REQUIREMENTS DOCUMENT (ORD)
for the
[PROJECT TITLE]

Prepared by:	_____ Sponsor's Representative (CG-YYY)	_____ Date
Submitted by:	_____ Sponsor (CG-Y)	_____ Date
Endorsed by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date
Endorsed by:	_____ Assistant Commandant for C4&IT (CG-6)	_____ Date
Endorsed by:	_____ Assistant Commandant for Human Resources (CG-1)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
Endorsed by:	_____ Chief Acquisition Officer (CG-9)	_____ Date
Endorsed by:	_____ Chief of Staff (CG-01)	_____ Date
CG Approval:	_____ Component Acquisition Executive (VCG)	_____ Date
DHS Approval:	_____	_____ Date

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.

7.9 ORD Sample Template and Guidance

TABLE OF CONTENTS

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OPERATIONAL REQUIREMENTS DOCUMENT

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief one or two page discussion of the PORD/ORD, highlighting the salient points of each section.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: INTRODUCTION

The introduction provides a project summary and should include a brief reference to each of the following points:

1.1 Purpose

Define the purpose of the Preliminary Operational Requirements Document (PORD)/Operational Requirements Document (ORD) as it relates to accomplishing specific missions and performance goals of the Coast Guard and the Department of Homeland Security (DHS). This should flow from and be consistent with the Mission Need Statement (MNS), and the Concept of Operations (CONOPS), which should be referenced. If a documented MNS did not precede the PORD/ORD, explain the process that investigated alternatives for satisfying mission need.

1.2 Background

Provide a brief discussion of the acquisition. Briefly describe the system in general terms, without describing specific hardware requirements. When replacing an existing system, include information on age, service life, maintenance time and costs, and system availability to meet project standards that need to be solved by the replacement system.

1.3 Timeframe

Identify required timeframes for the following; include justification:

1.3.1 Initial Operational Capability Date

Initial Operational Capability (IOC) is defined as the first attainment of the capability of a platform, system, or equipment. IOC for software is when the minimum capability necessary to field the application is achieved. It must meet approved specific characteristics, be operated by an adequately trained and equipped Coast Guard unit, and effectively perform the required mission. Identify what constitutes the first operational unit for purposes of IOC (e.g., it may be the first ship, aircraft, or radar system for hardware projects; it may be when software is operating in a defined environment, such as the Standard Workstation III operating in the Acquisition Directorate; or it may be when a useable segment of a geographically diverse system such as the Ports and Waterways Safety System is performing

its operational mission in a designated location.) Clearly specify the operational capability or level of performance necessary to declare IOC.

1.3.2 Coast Guard Support Date

Coast Guard Support Date (CGSD) is defined as the date when all resources required to support sustained operations and maintenance are in place, either organically or through contract(s). Clearly specify all logistics support which must be in place to declare attainment of CGSD.

1.3.3 Incremental Operational Capability Date(s)

If the system is to be acquired in discrete segments of capability, state the date each segment is required. Clearly specify the operational capability or level of performance necessary to achieve each segment of capability.

1.3.4 Full Operational Capability Date

Full Operational Capability (FOC) is defined as the delivery of the last platform, system, or equipment. FOC for software is when the application provides the capability to satisfy all ORD requirements. Clearly specify the operational capability or level of performance necessary to declare FOC.

1.3.5 Other Key Dates

Identify any other important project-specific dates. In particular, identify any interdependencies between acquisition projects (e.g., the delivery of a new surface vessel may be dependent on the delivery of a new radar system which is being developed in another project).

1.4 Constraints

List all constraints that influence or mandate specific requirements for the asset or system described in this document. Include an explanation for each constraint.

SECTION 2: MISSION REQUIREMENTS

Describe the mission requirements as contained in the MNS

2.1 Operating Requirements

In specific terms, describe:

- The requirements derived from operating environment for the system (e.g., open ocean, coastal, sea state, ice cover, etc.).
- The operational functions which must be performed to execute the mission (e.g., hoisting, towing, interdiction, surveillance, etc.).
- Interoperability requirements necessary to complete each mission area described in the CONOPS.
- The geographic area in which the operations will be performed (e.g., polar regions, Great Lakes, inland rivers, etc.).
- The climatological envelope in which the mission must be performed (e.g.,

temperature, humidity, wind speed, current, etc.).

2.2 Critical Operational Issues

List the Critical Operational Issues (COI) for the system. COIs are the operational effectiveness and operational suitability issues (not characteristics, parameters, or thresholds) that must be examined during OT&E to evaluate/assess the system's capability to safely perform its mission.

A COI should be phrased as a question that must be answered in order to properly evaluate the operational effectiveness (e.g., Will the system possess sufficient maneuverability [speed, power, and control] to operate in its intended open water environment?) and operational suitability (e.g., Does the system have the reliability, maintainability, and availability characteristics sufficient to meet operational requirements?).

The list of COIs should be thorough enough to ensure that, if every COI is resolved favorably, the system will be operationally effective and operationally suitable when employed in its intended environment by trained users within accepted human performance requirements. The list of COIs should be divided into Effectiveness COIs and Suitability COIs and will normally consist of five to ten issues for each category; they should reflect only those issues that are truly "critical" in nature. Thus, if a COI cannot be favorably resolved, the acquisition should not proceed to production.

SECTION 3: EFFECTIVENESS REQUIREMENTS

Identify and describe parameters, which must be part of, or met by, the system. Focus on operational parameters; i.e., those that are required for the system to effectively complete its mission. Avoid trying to design the system or overly constraining the design.

3.1 Basic Requirements

Describe the system operational capabilities necessary to effectively satisfy mission performance requirements. Basic Asset Requirements (below) lists the basic requirements that should be considered for cutters, aircraft, and other systems. Basic Information Technology Requirements provides basic C4 and IT requirements.

Basic Asset Requirements

Cutters & Boats	Aircraft
Length	Speed
Beam	Maneuvering
Draft	Overall Endurance
Speed	On-scene Endurance
Maneuvering	Range
Endurance	Design Life
Range	Maximum Gross Weight
Damage Control	Cargo Capacity

Design Life	Personnel Capacity
Ship Control	Navigation
Sea keeping	Communications
Human Factors	Major Equipment
Safety/Environmental Health	Human Factors
Armament	Safety/Environmental Health
Outfit	Survivability Systems
Major Equipment	Navigation
Survivability Systems	Command & Control
Communications	Sensors
Navigation	
Command & Control	
Sensors	

Basic Information Technology Requirements

Computers/IT SYSTEMS	Sensors/Emitters
Architectural Compliance	Range
Speed of Calculation	Detection Limits
Memory Utilization	Jamming Protection
Throughput Capability	Reliability
Reliability	Error Rate/Signal Processing
Software Maintainability	Susceptibility
Security Controls	
Human Factors	

3.2 Interoperability

Identify the scope within which this system must interoperate including all overarching Enterprise Architectural standards.

3.3 Communications/Information Technology

Identify any special or unique requirements for communications or information technology. Address any interoperability issues involved. Identify radio spectrum requirements.

3.4 Navigation

Identify any special or unique navigation requirements. Identify radio spectrum requirements.

3.5 Sensors

Identify any special or unique sensors, which are required. Address any interoperability issues concerning sensors. Identify radio spectrum requirements.

SECTION 4: SUITABILITY REQUIREMENTS

Address the following suitability requirements (this section of the ORD will serve as the

basis for portions of the specification and the Integrated Logistics Support Plan (ILSP)):

4.1 Design

Identify whether the design is constrained or unconstrained (e.g., parent craft, off-the-shelf, etc.); advanced technology or proven technology.

4.2 Supportability and Sustainment (Integrated Logistics Support)

Identify Supportability and Sustainment (S&S) requirements and constraints; identify the overall S&S concept for the project. Describe any unusual or known specific support requirements needed for the project, with particular emphasis on those which could drive cost, schedule, or performance.

4.3 Reliability

Identify reliability requirements; specify the duration or probability of failure-free performance under stated conditions (i.e., the probability that an item can perform its intended function for a specific interval under stated conditions). Reliability requirements are often stated in terms of Mean Time Between Failure (MTBF).

4.4 Availability

Identify availability requirements; specify the probability that the item or system, to include equipment and personnel, are in an operable and committable state at the start of a mission when the mission is called for at unknown (random) times. Availability requirements are usually stated in terms of Operational Availability (Ao).

4.5 Maintainability

Identify maintainability requirements; specify the measure of the ability of an item to be retained in or restored to specified condition when maintenance is performed by personnel having specified skill levels, using prescribed procedures and resources. Describe any unusual or known maintainability constraints or requirements. Identify any support activities required to maintain the system. Maintainability requirements are often stated in terms of Mean Time to Repair (MTTR).

4.6 Survivability

Identify survivability requirements; identify the conditions under which the system is expected to survive a hostile environment (natural or man-made) without suffering an abortive impairment of its ability to accomplish its designated mission(s). Software survivability must address security, fault and error tolerance, safety, reliability, reuse, performance, verification, and testing to recover from attack, failure, and accident.

4.7 Personnel, Safety, Human Factors and Environmental (or Human Systems Integration) Considerations

Identify factors and requirements relating to personnel, safety, human factors, and environmental considerations.

- Identify the personnel necessary to safely operate, maintain, and support a similar existing system. Include required training requirements and Knowledge, Skills, and Abilities (KSA’s).

- Identify any staffing goals or requirements for the system to be acquired.
- Describe, in general terms, the physical (habitability) requirements for personnel Describe any unique personnel or safety requirements, system redundancy for safety purposes, installed safety-specific capabilities, or post-mishap analysis capability.
- Describe any unique human factors or human engineering requirements, such as human machine interface or ergonomic requirements to include expectations for design to support human performance in areas of usability, maintainability, operability, suitability, simplicity, and accessibility.
- Describe any environmental considerations identified in the environmental impact analysis.

4.8 Training Requirements.

Describe the training philosophy required (pipeline, On-the-Job Training (OJT), etc.) to support operational and maintenance concepts to accomplish the mission intended by the system**.**

SECTION 5: KEY PERFORMANCE PARAMETERS

Key Performance Parameters (KPP) are those system capabilities or characteristics considered essential for successful mission accomplishment. KPPs should be linked to specific missions and organizational goals of the Coast Guard and DHS. The ORD should only contain a limited number of KPPs (approximately four to eight) that capture the parameters needed to reach the overall desired capabilities for the system. Failure to meet an ORD KPP threshold will require reevaluation of the project by the Sponsor and the ADA.

ORD KPPs should be presented in a tabular form and include both thresholds and objectives; they are included verbatim in the performance section of the Acquisition Program Baseline. If interoperability with other systems or agencies is an important factor in mission accomplishment, an interoperability KPP shall be included.

5.1 Selection Criteria

The following guidelines should be applied when selecting KPPs:

- Is it essential for defining system or required capabilities?
- Does it align with performance measures linking capabilities with DHS and Coast Guard organizational goals?
- Is it achievable and testable?
- Can the numbers/percentages be explained by analysis?
- If not met, are you willing to cancel the project?

5.2 ORD KPP Development

Selection of valid KPPs is more than just identifying a requirement and providing a threshold/objective value. The following is a suggested method for developing KPPs:

- List system required capabilities for each mission/function as described above.

- Prioritize these requirements.
- For each mission/function build one measurable performance parameter and link to Coast Guard and/or DHS goals.
- Determine the parameters that are most critical to the system and designate them as Key Performance Parameters in the ORD.

  Note: KPPs can be tied to a timeline to achieve discrete segments capabilities and a timeline for achieving full capability.

SECTION 6: TRADE-OFFS

Provide a listing in priority order of requirements or critical technical parameters. Include cost factors such as acquisition cost or life cycle costs. These factors will be analyzed during the trade off studies conducted to obtain a balanced and affordable system. This section will be refined in ORD updates as a result of the feasibility and cost studies conducted to support the ADEs.

APPENDICES

Appendix A, B, C, D, etc. Provide information on studies or other analytical activities conducted thus far. Typically this would include the results of any feasibility studies or trade-off studies conducted to refine preliminary requirements in the PORD to firm requirements in the ORD. If lengthy, Executive Summaries of the studies are appropriate. For ORD revisions, provide information or analysis which justifies all proposed revisions to requirements.

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8.0 ALTERNATIVES ANALYSIS

8.1 Alternatives Analysis Purpose.

The purpose of Alternatives Analysis (AA) is to provide a systematic decision making process to identify and document the most resource efficient method of satisfying an identified mission capability gap. This includes examining human performance aspects of the overall system performance and how it affects mission capability. The Alternatives Analysis is conducted during the Analyze/Select Phase and the Alternatives Analysis Report is a key document supporting the acquisition project's ADE-2A decision.

Alternatives Analysis involves the use of trade studies, identification of Life Cycle Cost (LCC) for each viable alternative, and a Cost-Benefit Analysis (CBA) for each viable alternative to establish the return on investment (ROI) measure. In order to be considered viable, an alternative must satisfy the ORD performance requirements. The OMB Circular A-11, Exhibit-300, Capital Asset Plan and Business Case requires a minimum of three viable alternatives to be identified. The Alternatives Analysis provides source information for the Exhibit-300.

In certain circumstances, such as a joint project with DHS or in cases where the needed asset type is unclear, a more expansive Analysis of Alternatives may be performed. The DHS Acquisition Directive 102-01-001 provides guidance for the conduct of Analysis of Alternatives.

8.2 Alternatives Analysis (AA) Study Plan and Report

AA Study Plan Development begins in the Need Phase with the Capabilities Development Plan (CDP) which sets the initial ground rules and assumptions. During the Analyze/Select Phase, the AA Study Plan is developed based upon the ground rules and assumptions and in accordance with Sections 1 through 5 of the provided AA template. The AA Study Plan is reviewed and approved during the Study Plan Review as described by the SELC. The AA Study Plan is to be completed within 90 days of ADE-1.

Conducting the Analysis

The lead organization/entity identified to conduct the AA must be independent of the acquiring organization (CG-93) and the sponsor organization, i.e., the lead organization must be objective, with no biases or vested interests in the outcome of the study, which can be contracted out. Only the top three to five most effective, viable, and affordable alternatives should be fully examined in the AA. The alternatives are usually conceptual solutions that satisfy the MNS. In order to properly conduct the AA, there needs to be a tight coupling between the MNS, the CONOPS, and the analyses performed to evaluate the various alternatives.

The analyses conducted during the AA (e.g., trade studies, modeling, simulation, and experimentation) must be completed at a sufficient level of resolution to clearly show

the effectiveness, suitability, and LCC of each of the alternatives considered. The achievable level of resolution must be balanced against the fact that program level information on alternative costs may not be readily available at this point. Upon completion of the AA, a full LCCE is developed for the preferred alternatives to support the project's ADE-2A decision.

AA Report

At the conclusion of the analysis effort, the AA Report provides the analysis results (part 6) and preferred solution alternatives (part 7) following the AA template included in this appendix. The AA Report is prepared in accordance with Sections 1 through 7 of the provided template and reviewed and approved by the Coast Guard CAE. The approved AA Report is a key document for the project's ADE-2A decision.

The AA Report is a dynamic document and will require updating if significant changes to cost parameters are experienced or changes are made to operational requirements, and must be updated for ADE-3. The AA Report should be reviewed each year in conjunction with Exhibit-300 updating.

8.3 Alternatives Analysis Template

ALTERNATIVES ANALYSIS (AA)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Office of Resource Management (CG-928)	_____ Date
Endorsed by:	_____ Office of Budget & Programs (CG-82)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
Endorsed by:	_____ Chief Acquisition Officer (CG-9)	_____ Date
Approved by:	_____ Component Acquisition Executive (VCG)	_____ Date

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ALTERNATIVES ANALYSIS (AA)

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

Provide a brief (one to two page) summary of the Alternatives Analysis (AA). Highlight the salient points of each section in the document.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: INTRODUCTION

1.1 Background

Summarize the relevant studies/analyses that were accomplished prior to initiating the AA process. Reference the ADE-1 Acquisition Decision Memorandum, Mission Need Statement, CONOPS and any approved Exit Criteria. Identify (if applicable) any related science and technology research projects or activities.

1.2 Purpose

The purpose of this document is to record the results of the Alternatives Analysis and identify the optimal method of satisfying an identified mission capability gap.

1.3 Scope

Describe, in broad terms, the nature of the possible alternative solutions to be considered. Identify any constraints on alternatives identified by the Mission Need Statement, Capability Development Plan, and/or Operational Requirements Document and/or Concept of Operations.

1.4 Study Team/Organization

Outline the AA study organization and management approach. Provide short summaries (one paragraph apiece) on the qualifications and experience of the study director and key personnel. The program office may provide support to the study team, but the responsibility for the performance of the AA must not be assigned to the program manager, and the study team members should not reside in the program office, with the exception of Subject Matter Experts which can be consulted on an “as needed” basis.

1.5 AA Review Process

This section describes the planned oversight and review process for the AA. The review process should comply with the review and approval section of this guide as well as Component requirements.

SECTION 2: GROUND RULES AND ASSUMPTIONS

2.1 Scenarios

Identify and describe the scenarios for employment of the alternatives. The scenarios should be derived from the CONOPS and augmented by more detailed and intelligence products as appropriate.

2.2 Threats

Identify the threats to which the alternative will be exposed and/or be required to counter as per the CONOPS.

2.3 Environment

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

2.4 Assumptions

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

2.5 Constraints

Identify any constraints or limitations of the analysis and identify any potential impact on the results.

SECTION 3: ALTERNATIVES

3.1 Description of Alternatives

Identify and provide a detailed description of each possible alternative that was analyzed. Provide a table with a side-by-side comparison of the alternatives, if possible. Identify the legacy baseline (current system and its funded improvements) that is being replaced, if applicable. Include a discussion of the role Doctrine, Organization, Training, Leadership, Materiel, Personnel, Facilities (DOTLMPF) and Statutes, Regulations and Grants (SRG) played in the selection of alternatives, if significantly different/changed from the MNS discussion.

3.2 Non-viable Alternatives

Identify any initially-identified alternatives that were not included in this analysis and describe the rationale for non-selection.

SECTION 4: DETERMINATION OF EFFECTIVENESS MEASURES

This section describes the hierarchy of metrics selected to assess the relative effectiveness of the alternatives.

4.1 Mission Tasks

Mission tasks are usually expressed in terms of the general tasks needing to be performed to correct the identified gaps, or to obtain the needed capability.

4.2 Measures of Effectiveness

Measures of Effectiveness (MOEs) are the first step in the AA metrics process. They describe the mission utility of the capability in operationally meaningful terms. They typically derive from detailed operational analyses and are qualitative in nature.

4.3 Measures of Performance

A Measure of Performance (MOP) is a quantitative measure of a system characteristic (e.g. range, speed, logistics footprint, etc.) chosen to support one or more MOEs. Measures of Performance may, in turn, be linked to Key Performance Parameters (KPPs), Critical Operational Issues (COIs), or other parameters in the MNS, ORD, TEMP, and contract system specification.

SECTION 5: METHODOLOGY

5.1 Models, Simulations and Source Data

Describe any models, simulations, or other analytical tools used during the course of the analysis. Describe each tool's capabilities, limitations, and sources of input data.

5.2 Operational Effectiveness Analysis

Fully describe the methodology to be used to determine the relative operational effectiveness of each of the alternatives.

5.3 Cost Analysis

Briefly summarize the techniques and data sources used in development of the LCCE, e.g., indexes, parametric, cost estimating relationships and models, learning curves, etc. The LCCE should be attached to the AA as an appendix. If a Cost-Benefit Analysis (CBA) is required (e.g., for Capital Planning and Investment Control), briefly summarize the techniques and data sources for this information.

5.3 Cost-Effectiveness Analysis Approach

This section is the heart of the AA. It should include a complete description of the approach to relate cost and effectiveness in order to determine the best alternative.

5.4 Sensitivity Analysis

Describe how sensitivity analyses on both cost and effectiveness measures will be performed to determine which measures have the greatest effect on a given alternative.

5.5 Schedule

Include a study schedule showing the major milestones planned for the effort.

SECTION 6: ANALYSIS RESULTS

Provide an objective presentation of the results of the analysis. Results should be shown in tabular or graphical form to clearly show differences in the results for each analyzed alternative..

SECTION 7: RECOMMENDED ALTERNATIVE AND RATIONALE

Provide the recommended alternative and provide the detailed rationale for this recommendation, based on analytic results. Identify key parameters and conditions that drove the selection, and may impact the acquisition.

APPENDICES:

(A) LCCE Documentation

(B) CBA Documentation

(C) References

9.0 LIFE CYCLE COST ESTIMATE

9.1 LCCE Description

The Life Cycle Cost Estimate (LCCE) provides the foundation for the Coast Guard business decisions concerning project affordability at each ADE. A life-cycle cost estimate provides an exhaustive and structured accounting of all resources and associated cost elements required to develop, produce, deploy, and sustain a particular program. An LCCE encompasses all past, present, and future costs for every aspect of the program, regardless of funding source. Life-cycle costing enhances decision making, especially in early planning and concept formulation of acquisition. The LCCE usually becomes the program's budget baseline and helps to ensure that all costs are fully accounted for so that resources are adequate to support the program. Developing a quality LCCE is at the core of the Coast Guard's ability to successfully manage a project within cost and affordability guidelines.

9.2 LCCE Preparation

The Project Manager shall prepare the LCCE during the Analyze/Select Phase in accordance with the template provided in section 9.3. The LCCE should provide a record of the procedures, ground rules and assumptions, data, environment, and events that underlie the cost estimate. Ensure it is constructed in such a manner that it can be replicated and substantiated by an independent third party. It should be complete and well organized so that a cost estimating professional can use the documentation, by itself, to assess and reconstruct the estimate.

Develop the LCCE in accordance with the GAO Cost Assessment Guide, July 2007, GAO-07-1134SP, available at www.gao.gov/new.items/d071134sp.pdf.

Use the project work breakdown structure (WBS) in developing the LCCE. The WBS should be based on MIL-HDBK-881A (for acquisition cost elements) and DoD Operating Cost and Support Cost Estimating Guide (for Produce/Deploy/Support cost elements).

Develop the estimate to the performance parameter level. Understanding the cost of specific levels of performance allows the Project Manager and Sponsor to effectively perform trade-off analyses in developing the operational requirements. This cost to the performance parameter level for the operational requirements is to be documented in an attachment to the LCCE.

Develop the estimate to the objective values of the ORD. Provide the difference in costs between the threshold and objective parameters. Ensure all sunk costs are reported as part of the LCCE in order to show the full cost of the asset from initial concept through acquisition, operations, support, and disposal.

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9.3 LCCE Template

LIFE CYCLE COST ESTIMATE (LCCE)

FOR THE

[PROJECT TITLE]

Submitted by: _____ _____
Project Manager (CG-93YY) Date

Endorsed by: _____ _____
Program Manager (CG-93Y) Date

Endorsed by: _____ _____
Director of Acquisition Programs (CG-93) Date

Endorsed by: _____ _____
Office of Resource Management (CG-928) Date

Approved by: _____ _____
Chief Acquisition Officer (CG-9) Date

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10.0 AFFORDABILITY ASSESSMENT

10.1 Affordability Assessment Purpose

The Affordability Assessment is an evaluation of a project's estimated cost-to-complete versus anticipated Coast Guard budget ceilings.

10.2 Affordability Assessment Preparation

The Affordability Assessment is an internal document required for all ADEs. Project Identification provides the first opportunity for the senior management within the Coast Guard to assess the potential benefits of a project against the anticipated cost in relation to budget ceilings.

The Affordability Assessment is drafted by the sponsor's representative during the Need Phase and subsequently updated by the Project Manager during the Analyze/Select, and Obtain Phase. The Affordability Assessment should be provided to Commandant (CG-82) for their input and review. The outcome from the assessment is a Coast Guard strategy for funding the project.

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10.3 Affordability Assessment Template

Affordability Assessment

XXXX- PROJECT HISTORY AND PURPOSE

Provide a brief history and purpose of the project.

The project is/will:

-
-

This project will significantly improve the Coast Guard's operational effectiveness and ability to _____.

(Project Name) Project alignment – place an * to show specific alignments with USCG Mission Programs and DHS Strategic Goals and Objectives.

USCG Mission-Programs

Maritime Safety		Maritime Mobility		Protection of Natural Resources		Maritime Security				National Defense
Search & Rescue	Marine Safety	AtoN	Ice Operations	MEP	LMR	Drugs	Migrants	Other LE	PWCS	Defense Readiness

DHS Strategic Goals and Objectives

Awareness		Prevention			Protection		Response			Recovery	Service	
1.1	1.4	2.1	2.4	2.5	3.1	3.6	4.1	4.2	4.3	5.2	6.3	6.4

ASSETS TO BE ACQUIRED (provide the quantity of assess that will be acquired)

By the end of this acquisition project in FY 20XX, the USCG will have _____ in ___ locations throughout the United States.

Quantity

- Total number of assets that will be acquired

Location

- See attached for list and delivery schedule

Service Life

- # years

PROJECT RESOURCE REQUIREMENTS (provide the funding needs for the project)

Table 1 – (Project Name) Life Cycle Cost Estimate of Funding ($M)

C-Stage Budget	Appropriation		**FY 20XX-20XX Capital Investment Plan**						Annually	Total
(Then-year dollars)	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	Recurring	(Initial Estimate)
FY 20XX-20XX CIP									(In Congress)	**n/a**
AC&I REQUIRED									(Per Sponsor/)	
AC&I DELTA									(needs resolution)	
AC&I – # assets **Obligated**							[FOC]		(Project Complete)	
OE – FTE										
OE - FTP										
OE – Personnel*										
O&M**										
OE per Req'd AC&I										
OE – # assets **Delivered**							[FOC]			

*OE Personnel cost = $__M per asset annually; **O & M cost = $__M per asset annually. Note: OE [tail] = Personnel + O&M costs

CONCLUSION

{CG-82 completes this section}

Total Acquisition Cost

Summary statement

In FY 20XX RAP	Appropriation		C-Stage	**FY 2007-2011 Capital Investment Plan**					Annually	Total
(Then-year dollars)	FY 20XX	FY 2005	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	FY 20XX	Recurring	(Initial Estimate)
FY 20XX-20XX CIP										**n/a**
AC&I REQUIRED									(Per Sponsor)	
AC&I DELTA									(needs resolution)	
AC&I – Number of									(Project Complete)	

Operating Expenses

Personnel – {issue(s)}

Operations – {issue(s)}

Maintenance – {issue(s)}

Future Years Homeland Security Program

OE tail and the FYHSP – is this project's OE costs currently in the FYHSP?

Yes	No	What is (or will be) the annual recurring OE funding requested?	Beginning when?
			FY

Funding Strategy(ies) (CG-82 Completes this portion)

Briefly explain how the project is to be funded. Include a description of trade-offs that will be needed to fund the project.

11.0 ACQUISITION PROGRAM BASELINE

11.1 APB Purpose

The Acquisition Program Baseline (APB) is a top management tool that provides insight and control to prevent cost growth, schedule slip, and requirements creep due to unnecessary changes or imposition of new, unapproved operational requirements. The approved APB is the fundamental agreement or a "contract" between the Project Manager, the Component Acquisition Executive (CAE) and the DHS Acquisition Decision Authority (ADA).

The key cost, schedule, and performance parameters in the APB should be continuously monitored and assessed by the PM. The PM may allow trade-offs within the APB parameters, as long as baseline thresholds are met. If a breach occurs or a change due to influences beyond the PM's control such as adjustments in funding, Congressional direction, or an approved requirement change, then a revised APB must be prepared and submitted for approval by the ADA.

PM's are expected to use all available and appropriate performance management measurement tools throughout the acquisition to anticipate potential problems in meeting the key performance, cost and schedule parameters.

11.2 APB Process

The original APB is normally drafted during the Analyze/Select (A/S) Phase of the acquisition process and will serve as the current baseline description until it needs to be revised or until a change/breach occurs. The APB must be approved before an Acquisition Decision Event-2 (ADE-2) decision and revised, as needed, for an ADE-3 decision. PM's need to ensure that their project APB is reviewed and if necessary, revised and submitted to the ADA for approval immediately following the submittal of the annual President's Budget with the corresponding 5-year Capital Investment Plan (CIP). Approved APBs may be revised as a result of a major program change that is fully funded or as a result of a project breach.

The APB is a summary document. The information of which it is populated comes from source documents such as the Operational Requirements Document (performance), Project Management Plan (schedule) and Life Cycle Cost Estimate-LCCE (cost). These source documents are required to undergo concurrent clearance reviews to give the opportunity for appropriate staff (including Technical Authorities) to provide meaningful input.

In the instance that an APB is generated out of sequence without any one of the above source documents being completed, then an APB will go through a limited Flag level clearance to include the Technical Authorities.

11.3 APB Breaches

If the Total Acquisition Cost (TAC) actually is or will be 8% or greater than the approved baseline objective value, then a breach is considered to have occurred. If any of the approved baseline objective schedule dates slip or will slip 90/180 days or

more depending on the length of the project (90 days for projects lasting 3 years or less and 180 days for projects lasting more than 3 years), then a breach is considered to have occurred. If any of the threshold Key Performance Parameters in the performance baseline cannot be met or are expected to not be met, then a breach is considered to have occurred and must be reported. **Table A-6: Acquisition Program Baseline Breaches** contains the APB breach parameters.

When a breach condition exists, the PM will immediately notify the Program Executive Officer (PEO) and Commandant (CG-924) of the situation. The Commandant (CG-924) Office Chief will review the information, ensure that it meets the breach reporting policy and advise the PM to follow breach notification and reporting procedures. The PM will then work with the PEO to prepare an APB breach notification memorandum through the chain of command to the ADA.

Within 90 days of the formal breach notification, a revised APB needs to be submitted to the ADA for review and approval. Before the APB is routed for final Coast Guard approval, the PM will provide a copy of the new APB to Commandant (CG-924) for Independent Verification and Validation (IV&V). Following IV&V by Commandant (CG-924), the APB can be submitted up the chain for endorsement and approval.

Table A-6: Acquisition Program Baseline Breaches

Key Parameter	Breach
Performance	**Doesn't satisfy any threshold Key Performance Parameters (KPPs)**
Cost	**Exceeds threshold Total Acquisition Cost parameter (≥ 8% increase of objective)**
Schedule	**Exceeds threshold schedule parameter (≥ 90 or 180 day slip of objective) depending on project length**

11.4 Remediation Plans

Within 30 days of breach notification, a remediation plan will be submitted to the ADA. After the initial submission of the remediation plan, the status and progress of remediation efforts will be reported in the shortfall comments section of the Quarterly Project Report (QPR) until all remediation efforts are complete and the revised APB is approved. At a minimum, the remediation plan will contain the following:

- Purpose: a sound approach/methodology to resolving the problem with an emphasis on assessing impact and determining the way ahead.
- Problem Statement: a summary of the situation.
- Cause of Breach: a root cause analysis that explains the cause for the shortfall or breach.

Program Impact: identification of the impact(s) of the breach on affected APB parameters. Include effects of action on project interdependencies, any resulting issues and risk, how progress will be measured/monitored in addition to EVMS and an updated Integrated Master Schedule.

11.5 APB Preparation

The PM is responsible for the initial preparation and submission of the APB, and for preparing and submitting any revisions. The initial APB is developed during the A/S Phase for approval at ADE-2 in accordance with the template provided in section 11.7. Projects may have multiple discrete segments of capability. For each major project with multiple discrete segments of capability, the APB will cover the total project investment and provide additional baseline parameters for each discrete segment of capability.

For all revisions, insert a column entitled, “Revision #n”, showing “Date" of baseline, and list the corresponding change(s) under the appropriate heading as shown in the sample tables within the Section 8.7 APB Template. A new column must be added each time the APB is revised. All changes need to be annotated using footnotes below the applicable table with the corresponding reason(s). In addition, all revisions caused by a breach need a brief explanation of the circumstances surrounding the breach in the revision summary. All items that remain unchanged in the revision are left blank. The latest revisions should be “boldfaced”. All changes will require a subsequent approval by the ADA. If a new parameter needs to be added, state “Not Specified” or “N/S” in the previous column. If older parameters no longer apply, state “Deleted” in the new column. **Do not change titles and values of old or previous parameters**.

11.6 APB Roles and Responsibilities

Project Manager Responsibilities
Prepare/update and submit APB
CG-924 Responsibilities
Conduct an independent V&V of the APB
Sponsor/CG-93X/93/9/01/ Responsibilities
Endorse APB
Component Acquisition Executive (CAE) Responsibilities
Endorses and approves APB for CG
Acquisition Decision Authority (ADA) Responsibilities
APB approval via Acquisition Decision Memorandum

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11.7 APB Template

ACQUISITION PROGRAM BASELINE (APB)

for the

[PROJECT TITLE]

Submitted by:	_____	_____
	Project Manager (CG-93YY)	Date
Validated by:	_____	_____
	Chief, Acquisition Support Office (CG-924)	Date
Endorsed by:	_____	_____
	Program Manager (CG-93Y)	Date
Endorsed by:	_____	_____
	Sponsor (CG-4, 6, or 7)	Date
Endorsed by:	_____	_____
	Director of Acquisition Programs (CG-93)	Date
Endorsed by:	_____	_____
	Chief Acquisition Officer (CG-9)	Date
Endorsed by:	_____	_____
	Chief of Staff (CG-01)	Date
CG approval by:	_____	_____
	Component Acquisition Executive (VCG)	Date
DHS approval by ADM:	_____	_____
		Date

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ACQUISITION PROGRAM BASELINE

CONTENT REQUIREMENTS

A. Revision Summary

Provide a summary of the revisions made to the document, including the date of the revision. Changes to the baseline should be described at a high level. This annotation allows the reviewer to understand the scope change and follow the history of changes. If this APB is the first submission, indicate so in this section. Baseline dates of prior APB's need to reflect the date of DHS approval via the Acquisition Decision Memorandum in the revision summary and all performance, schedule and cost tables.

B. Introduction (1-2 pages in length)

B.1. Strategic Goals – This section describes the DHS strategic goals supported by the acquisition project and the Coast Guard mission area(s) that correspond to each DHS goal.

B.2. Mission Need – This section summarizes the business/mission need as described in the Mission Need Statement (MNS) and describes the high-level project requirements, as contained in the Operational Requirement Document (ORD).

B.3. Project Description – This section provides a summary of the project approach and acquisition strategy. If applicable, describe the relationship of discrete segments within the project, such as how they interface, interact, or integrate.

B.4. References – This section identifies the relevant source documents used to establish the project baseline in the APB. Typical APB source documents include: MNS, ORD, Acquisition Strategy and Life Cycle Cost Estimate as shown in below table. If any referenced document is not yet approved, it shall be noted as "Draft". Include the title, version, date approved, etc.

Requirement Parameters	Cost Parameters	Schedule Parameters
Mission Need Statement	Life Cycle Cost Estimate	Integrated Master Schedule
Operational Requirements Document	Independent Cost Estimate	Earned Value Management
Systems Engineering Plan	Alternatives Analysis	Project Management Plan
Test & Evaluation Master Plan	OMB Exhibit 300	Acquisition Plan
	FYHSP	Work Breakdown Structure

Section C. Top Level Project Baseline

This section of the APB shall contain the project's baseline parameters and their associated threshold and objective values. The baseline parameters must be stated in measurable, quantitative terms. The number of parameters will be the minimum number needed to

characterize the project's operational performance, technical performance, schedule, and cost. Definitions for the terms "objective" and "threshold" are listed below.

- Performance Threshold. The threshold value is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the need. If threshold values are not achieved, project performance is seriously degraded, the project may be too costly, or the project may no longer be timely.
- Performance Objective. The objective value is that value desired by the user for which the PM is contracting or otherwise planning to obtain. The objective value should represent an operationally meaningful, time-critical, and cost-effective increment above the threshold performance parameter. If no objective is otherwise indicated, the objective is left blank and assumed as the threshold.
- Cost Threshold. The Cost Threshold establishes the maximum cost the project is allowed to incur before declaring a cost breach. Unlike performance thresholds, the cost threshold value is greater than the project's planned cost (cost objective) to obtain the performance stated in the ORD. Therefore, the cost threshold is a value that is 8% greater than the Cost Objective
- Cost Objective. The Cost Objective is the lowest cost at which the project expects to incur in order to obtain the performance stated in the ORD. The Cost Objective is the Project Manager's estimate (based on the Life-Cycle Cost Estimate) to obtain the performance stated in the ORD (to include the objective performance parameters of the ORD).
- Schedule Threshold. The Schedule Threshold is the maximum amount of time that is allowed to achieve key project events without having to declare a schedule breach. The Schedule Threshold will always be the later date (the Schedule Objective date plus the prescribed addition (normally 3-6 months)) for each key event
- Schedule Objective. The Schedule Objective is the minimum (or planned) amount of time the Project Manger intends to take to meet key project milestones. The Schedule Objective will always be the earlier date for each key event

For documenting changes to APB parameters, the Project Manager shall create a new column or table, as appropriate, entitled "Revision #" and enter only the values for the parameters that are proposed to be changed or deleted. If the ADA approves the change, that column will remain in the table with only the changed values indicated. Previously approved APB parameters shall not be removed and are to be retained in the APB to capture the overall historical record of change to the project's baseline.

C.1. Project Performance

The performance baseline shall be based upon the Key Performance Parameters (KPPs) specified in the Operational Requirements Document (ORD). In this document, a KPP is defined as those attributes or characteristics of a system that are considered critical or essential to the development of an effective capability or system required to successfully meet the mission of DHS. The values of each KPP represent the project as it is expected to be produced and deployed. Failure to achieve a KPP (threshold is not met) would require rebaselining or termination of the project based upon the decision by the ADA.

Each KPP included in the APB must have both an objective and a threshold value. These objective and threshold values shall be consistent with those contained in the ORD. If no objective is otherwise indicated, the objective is left blank and assumed as the threshold. Performance thresholds and objectives must be verifiable by testing. The performance baseline may include operational, technical, and supportability parameters. Other system-specific requirements, such as a cost KPP, may be specified as applicable. The Component Acquisition Executive (CAE) or ADA may mandate additional Component-wide/Department-wide performance parameters (for example interoperability, enterprise architecture, economic benefit or return on investment) as they deem necessary.

The PM shall describe the program/project KPPs with thresholds and objectives in accordance with the below table format.

Note: It is anticipated that the majority of Coast Guard APBs will report at the project vice program level.

KEY PERFORMANCE PARAMETER (KPP)	BASELINE: 15 MAR 2008		REVISION #1	
	THRESHOLD	OBJECTIVE	THRESHOLD	OBJECTIVE
KPP #1	15 sec	5 sec		
KPP #2	99.8%	99.9%	**99.0%[1]**	
KPP #X	65 knots; gusts to 100 knots			

Performance Revision

[1]Use superscript and describe the reason(s) for revision(s) and the impact(s) on the project.

Technical Performance Measurement

In this paragraph, briefly describe/list PM tools (i.e., Preliminary Design Review (PDR), Critical Design Review (CDR)) that are being used to monitor technical performance during the upcoming acquisition phase.

C.2. Project Schedule

The Project Manager should enter the planned completion dates for major project events. Minimum required major project events are listed in the below table. Additional program/project events, such as those in the optional list below, may be specified as well. Discrete segment events that are documented at the project level do not have to be duplicated in the discrete segment section.

Schedule dates shall be specified as MONTH YR (e.g., 03/09) or QUARTER YR (e.g., 2QFY09). Objective and threshold dates for each event must be specified. The threshold value should not typically exceed the objective value by six months for projects lasting more than 3 years. For short projects lasting 3 years or less, the threshold value should not typically exceed the objective value by three months.

MAJOR PROJECT EVENT	SCHEDULE BASELINE: 15 JAN 2008		SCHEDULE REVISION #1:	
	THRESHOLD	OBJECTIVE	THRESHOLD	OBJECTIVE
Solution Engineering Review (SER)	3QFY09	2QFY09		
ADE-2 Decision	4QFY09	3QFY09		
Preliminary Design Review (PDR)	2QFY10	1QFY10		
Critical Design Review (CDR)	4QFY10	3QFY10	**1QFY11[1]**	
Production Readiness Review (PRR)	1QFY11	4QFY10		
Initial Operational Test & Evaluation (IOT&E)	2QFY11	1QFY11		
Initial Operational Capability (IOC)	3QFY11	2QFY11		
Follow-on Operational Test & Evaluation (FOT&E) (when applicable)	4QFY11	3QFY11		
ADE-3 Decision	2QFY12	1QFY12		
Full Operational Capability (FOC)	3QFY13	2QFY13		

Examples of optional project events to consider

System Definition Review	Asset Deliveries (DD-250)	Contract awards
Application Test Readiness Review	System Design Review	DT&E (start/complete)
Implementation Readiness Review	LRIP	Operational Support Date
Operational Test Readiness Review	First article/Prototype delivered	Project Transition

Schedule Revision

[1]Use superscript notes and describe the reason(s) for revision(s) and the impact(s) on the project.

Schedule Performance Measurement

In this paragraph, briefly describe/list PM tools (i.e., IMS, EVM) that are being used to monitor schedule performance during this upcoming acquisition phase.

C.3. Project Cost

The PM shall enter program/project total cost by *Then Year dollars* (also known as *current dollars)* in millions. Cost data reflected in the baseline should reflect realistic life cycle cost estimates or independent cost estimates and be fully documented and defendable. Project cost data totals should reflect cost parameters of corresponding discrete segments documented in Section D, if applicable.

APB costs must represent total project funding requirements, not just the amount funded in the budget and programmed through the Future Years Homeland Security Program (FYHSP) (i.e., baseline costs must include unfunded requirements if those unfunded requirements are a part of the approved program). However, the APB should not include costs that are not part of the program/project approved by the ADA. The APB should contain cost parameters (objectives and thresholds) for major elements of the project life-cycle costs. The cost elements include:

1. Acquisition Cost – All costs related to the acquisition including conceptualization, initiation, planning, design, development, test, contracting, production, deployment, logistics support, modification and disposal of a system to satisfy DHS/CG needs.
2. Operation & Maintenance (O&M) Cost – Including costs associated incurred for using and supporting the system or capability, such as personnel, maintenance (unit and depot), spares, and training.
3. Total Life Cycle Cost - Costs of the entire life cycle of the program or project, including operations and maintenance support.
4. If applicable, total system quantity (to include both Low Rate Initial Production (LRIP) and production units).

5. Any other cost objective established by the ADA.

Project Cost Baseline in *Then Year* Dollars

• Program Cost Estimate in *Then Year* Dollars (Millions)				
• Current Phase: Analyze/Select (A/S)				
	15 MAR 2008			
Cost Categories	Baseline Threshold	Baseline Objective	Revision #1 Threshold	Revision #1 Objective
Acquisition	108	100	**120[1]**	
O&M	1,080	1,000		
Life Cycle Cost	1,188	1,100		
Quantities	20	20		
Useful Life	30 Years			

Cost Revision

[1]Use superscript and describe the reason(s) for revision(s) and the impact(s) on the project

Cost Performance Measurements

In this paragraph briefly describe/list PM tools (i.e., Earned Value Management) that are being used to monitor cost performance during the upcoming acquisition phase.

Sections D and beyond- Discrete Segment/Project Baselines

These sections of the APB shall contain the baseline parameters for discrete segments or projects (if reported at program level) and their associated threshold and objective values. As in the top-level project baseline (if reported at the project level), the discrete segment baseline parameters must be stated in measurable, quantitative terms. The number of parameters will be the minimum number needed to characterize the operational/technical performance, schedule, and cost of the discrete segment or individual project.

12.0 PROJECT MANAGEMENT PLAN

12.1 PMP Purpose

The Project Management Plan (PMP) provides the framework to define the activities/tasking, responsibilities, risk management techniques, earned value management, and the timing of events, and is the Project Manager's (PM's) blueprint for project management and supports implementation of the SELC. It provides members of the matrix organization or IPT a clear understanding of what is required of them and when it is required, so they can work together with clarity of purpose. The PMP is considered the primary project-planning document; planning in other technical functional areas such as test and evaluation, integrated logistics support, environment impact analysis, and enterprise architecture documentation must flow from and be consistent with the PMP.

12.2 PMP Preparation

The PM shall prepare an initial PMP, in accordance with the template provided in section 12.3, as early in the project as possible, but it must be submitted for approval within six months of the approval date of DHS Project Authorization.

The PM should prepare the draft PMP in consultation with all Program and Support Managers involved in the project to ensure all appropriate tasks are addressed and assigned.

The PMP addresses the project planning for the acquisition of an individual asset or system, whether as one single acquisition or as a number of different discrete segments. However, if a System of Systems or Family of Systems is being followed, the PMP must also address how the planning ensures compliance with the overall systems architecture and supports the overall systems' performance and interoperability requirements.

The PMP is a dynamic document and will require regular updating. As a minimum, the PMP shall be reviewed at the end of each fiscal year and updated and approved at each DHS ADE. In addition, the PMP shall be updated any time significant changes in project execution plans, schedule, or resource requirements occur.

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12.3 PMP Template

PROJECT MANAGEMENT PLAN (PMP)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
Endorsed by:	_____ Office or Resource Management (CG-928)	_____ Date
Endorsed by:	_____ Project Sponsor (CG-Y)	_____ Date
Endorsed by:	_____ Office of Budget and Programs (CG-82)	_____ Date
Approved by:	_____ Chief Acquisition Officer (CG-9)	_____ Date

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TABLE OF CONTENTS

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Content Requirements

EXECUTIVE SUMMARY

The Executive Summary should be a brief one or two page discussion of the Project Management Plan (PMP), highlighting the purpose and salient points of each section. Be sure to include the goals and objectives of the project and expected outcomes. Briefly discuss the roles and responsibilities of key participants and discuss reports expected to be prepared and how the reports will support project decisions.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: INTRODUCTION

1.1 Scope

This section should describe the plans and objectives of the project and how the PMP will be used to accomplish these objectives. If the project is a System of Systems or Family of Systems acquisition, address how the planning ensures compliance with the overall systems architecture and supports the overall systems' performance and interoperability requirements.

1.2 Current Status

This section should briefly discuss the key activities of the project to date, with bullet highlights and references. This includes focusing on where the project is within the acquisition process (i.e., what was the last DHS ADE and when is the next ADE). The status of the Acquisition Program Baseline (APB) should be discussed in this section.

SECTION 2: PROJECT PLANNING

2.1 Key Events

The focus should be the key actions of the upcoming phase required to complete the acquisition strategy and the specific objectives and milestones to be met to deliver the capability required by the sponsor. A brief description of each key event should be provided including the major accomplishments and success criteria associated with each key event. The below following table provides a sample format.

Key Event Description

Key Event	Major Accomplishments	Success Criteria
1	List Major Accomplishments	List Success Criteria
2	List Major Accomplishments	List Success Criteria

2.2 Resource Planning

This section should describe the current personnel assigned to the project staff or funded by the project and assigned to other staffs, and the financial resources of the project. Project Managers are to use the PMP to identify their staffing requirements as well as support required from other Coast Guard offices or activities. Project staff requirements are to be identified by billet and specific acquisition workforce qualifications required (e.g., Logistician, Level III) across time (a matrix is recommended). Project Managers are to use Task Commitment Memoranda to coordinate and document all matrix-level personnel supporting the project. A draft Task Commitment Memorandum is available in the MSAM Appendix A, Section 18.

A description of the resources required to execute the next acquisition phase and those planned to complete the project should be included in this section. Provide charts which show personnel and financial resources broken out by fiscal year, including prior years.

SECTION 3: PROJECT MANAGEMENT STRUCTURE

3.1 Organization

Describe the organizational relationships, lines of authority, and any other elements such as Integrated Product Teams (IPTs) within the project. This information should also depict any relationships the project has with any IPTs. The responsibility and authority of each Coast Guard element with respect to the project should be stated. The plan for building up and/or scaling back the project staff should also be discussed. Describe here and also depict in Appendix (B) the project operational and support organizations chart that shows the relationships of the project within the Coast Guard as well as any relationships external to the Coast Guard. Provide in Appendix (B) and describe here the project's contract administration structure and its relationships within the Coast Guard and any external relationships.

3.2 Required Reports

Reports are used as tools to assist senior leadership in the oversight of acquisition projects.

3.2.1. Internal Reports

Establish and describe any anticipated reports which will be required within the project and prepared by the matrix/IPT team members and provided to the PM. These reports should provide updated status on the completion of project tasks, and should identify any problems within the project. The PM will oversee and determine the need for these reports.

3.2.2. External Reports

Establish and describe the reports which will be required of the PM. External reports will include those provided to the Department of Homeland Security (DHS) Joint Requirements Council (JRC), the DHS Acquisition Review Board (ARB), the DHS Acquisition Executive (ADA) and any interested Congressional staffs. These reports should update and report the status and completion of project tasks, and should identify any problems with the project. Reports external to the Coast Guard must be cleared through the Chief of Staff Commandant (CG-01).

SECTION 4: EARNED VALUE MANAGEMENT

Using Earned Value Management (EVM), the PM can readily compare how much work has actually been completed against the amount of work that was planned to be accomplished. EVM requires that the project plan, budget and schedule the work effort in a time-phased manner that serves as a performance measurement baseline. EVM is an integrating project management tool that facilitates improved planning and control of cost, schedule, and work scope. EVM:

- produces an aggregate picture of performance and provides the PM with the necessary information to ensure that day-to-day decisions keep project performance consistent with project cost and schedule objectives
- provides an early warning system for deviations from the plan and quantifies technical and schedule problems in terms of cost
- provides a sound and objective basis for considering corrective actions
- can mitigate the risk of cost and schedule overruns, while providing a forecast of final cost and schedule outcomes

Projects will use EVM against the WBS at sufficient levels to enable understanding of the performance against the time and budget allocated and will develop an Integrated Master Schedule (IMS) incorporating the WBS items. The IMS will be used in management of the project, including the capture of EVM data. The IMS should include both the contractor's work and the government's work against the joint timeline.

For all contracts that require compliance with the DHS EVM guidelines, the validity of the program's baseline costs will be substantiated through an Integrated Baseline Review (IBR), the first of which should normally occur within 90 days after contract award, but no later than 180 days after contract award. The intent of the IBR is to institutionalize a process that facilitates the involvement of the project manager and the project technical staff in the management of the project using EVM. The IBR is a formal review conducted by Government project managers and technical staff jointly with their contractor counterparts following contract award to verify the technical content of the contract's baseline and the accuracy of the related resource budgets and schedules. The purpose of the IBR is to ensure that the baseline captures the entire technical scope of work, that it is consistent with contract schedule requirements, and that the appropriate mix and level of resources have been assigned to the project.

FAR Part 34, Major System Acquisition, contains guidance and prescribes solicitation provisions. FAR 52.234 provides a clause applicable to contracts with EVM requirements.

Commandant (CG-9) Standard Operating Procedure (SOP) #4 for Earned Value Management Reporting PMs is applicable to all projects and is available at the Commandant (CG-9) CG Central site.

4.1 EVM

This section should address the Earned Value Management (EVM) system that the project and contractor will use to objectively measure how much work has been accomplished. Compliance with ANSI/EIA Standards should be documented or plans for verification and

surveillance reviews.

4.2 EVM Reporting

This section describes the reports and their frequency during the current and forthcoming phases of the project, and the responsibilities of all the parties involved.

DHS requires the use of EVM system on all major acquisitions (Level 1, Level 2, and IT Level 3) in development with total acquisition costs of $20M or greater and on major systems in development and on their associated contracts with a contract price of $20M and greater. DHS EVM Guidance requires the following reports:

CPR Format 1 – WBS-oriented cost report. Costs are organized by WBS element at a level pre-determined by the Government.

CPR Format 3 – Baseline Report. This format provides information on the contract baseline; it tracks changes to it throughout the program's duration.

CPR Format 5 – Problem Analysis Report/Variance Narrative. This format provides explanations for cost and schedule variances that have exceeded established threshold. It provides an explanation as to why the variance occurred and descriptions on how the program plans to resolve the cause of the variance.

CFSR – Contract Funds Status Report. This report provides the planned and actual costs against the contract WBS element and provides explanations for variations.

Note: In some instances, such as certain fixed-price contracts, the CFSR may not be a viable tool for insight into progress and therefore would not be required.

Acquisitions using EVM are required to procure the services of a verifying organization as part of their acquisition costs. DHS has negotiated a Memorandum of Agreement (DCMA-DHS-03-0001) with the Defense Contract Management Agency to provide these services on a reimbursable basis. Commandant (CG-928) should be consulted for help with EVM compliance (verification and certification).

All major acquisitions (Level 1, Level 2, and IT Level 3) EVM systems are required to have full compliance with the ANSI/EIA Standard guidelines. The below table provides a synopsis of contract levels for EVMS ANSI/EIA Compliance and Verification.

Contract Level	ANSI Standard-748 Compliance
≥$50M	• Full • Government-verified EVMS
≥$20M, <$50M	• Full • Self-verified EVMS
≥$5M, <$20M	• PM decision based on risk • Verification as necessary

DHS reserves the right to require an acquisition to utilize an EVMS on any particular contract based on its risk to the overall acquisition and its risk to the mission.

SECTION 5: DETAILED PLANNING DOCUMENTS

Specific plans to execute technical activities of the project are developed in detailed planning documents, to include Human Systems Integration (HSI) Plan, Human Factors Engineering (HFE) Plan, System Safety (SS) Plan, Test and Evaluation Master Plan (TEMP), Risk Management Plan (RMP), Integrated Logistics Support Plan (ILSP), Configuration Management Plan (CMP), environmental documentation, and Enterprise Architecture application system perspective documentation. These plans are not a part of the PMP. The PMP should describe the basic objectives of these documents and how they relate overall to the planned project activities. For each of the detailed planning documents discussed above, describe the project goals and objectives for their respective functional areas, their management structure, and their development schedules.

Appendices

The following documents should be attached as Appendices to the PMP.

(A) Project Master Schedule

This appendix is the project's Project Master Schedule which is an event-driven schedule that the project uses to delineate the key events of the work effort. Typically the Project Master Schedule is depicted as a chronological listing of key events and their respective dates; actual and planned dates are distinguished. To add stability to the Project Master Schedule and to avoid the use of “point” dates, use the standard date formats in Section 1: Introduction to this Handbook. The Project Master Schedule will be reviewed and updated as needed.

(B) Organizational Charts

These appendices depict the Project's current organizational structure and their relationships.

(a) Project Staff

(b) Project Operational and Support Organizations

(c) Contract Administration

(C) Project Work Breakdown Structure (WBS)

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13.0 PROJECT MANAGER'S CHARTER

13.1 Charter Purpose

The project manager's charter provides the Project Manager with the authority to apply organizational resources to project activities. It includes the scope of the project and the Project Manager's responsibilities and accountability.

13.2 Charter Preparation

Section 13.3 provides the basic template for the Project Manager's Charter. The content of the charter may be adjusted as needed to meet the unique requirements associated with each project.

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13.3 Project Manager's Charter Template

U.S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: CG-924
Phone: (202) 475-3150
Fax: (202) 475-3911
Email: Peter.J.Boyd@uscg.mil

5200

MEMORANDUM

From: ***First Name MI. Last Name***, VADM
CG-01

Reply to CG-924
Attn of: ***FI. Last Name***

To: ***First Name MI. Last Name***
CG-93***XX***

Thru: ***First Name MI. Last Name***, RADM
CG-9

First Name MI. Last Name, RDML
CG-93

Subj: ***PROJECT NAME*** PROJECT MANAGER CHARTER

Ref: (a) Major Systems Acquisition Manual, COMDTINST M5000.10 (series)
(b) DHS Acquisition Review Process, DHS 102-01
(c) DHS Acquisition Certification Requirements for Program Managers, DHS MD #0782

1. Purpose. You are hereby designated Project Manager for the ***Project Name*** (***Project Name Acronym***) Project. You shall carry out your duties as the ***Project Name*** Project Manager in compliance with references (a) and (b). The ***Sponsor Office*** (***Sponsor Office Staff Symbol***) is designated the Project Sponsor for the ***Project Name*** Project, with the ***Sponsor Representative Office*** (***Sponsor Representative Office Staff Symbol***) designated as the Sponsor Representative. This Charter supersedes all previous designations.

2. Project Objectives. The ***Project Name*** Project ***[provide a brief description of the project objectives here.]***

3. Project Manager Charter.

a. Scope of Project. The ***Project Name*** Project is a Department of Homeland Security (DHS) Level ***X*** acquisition in conformance with reference (b). The ***Project Name*** Project shall meet requirements established in the Acquisition Program Baseline, ***[provide actual or planned Requirements Document(s), e.g., Operational Requirements Document(s), Memorandums, etc.]***

b. Your Responsibilities. Under the general direction and supervision of the Assistant Commandant for Acquisition, you shall:

(1) Use project management principles and associated disciplines described in reference (a) in achieving all documented requirements to be performed within established cost and schedule parameters;

(2) Manage project resources (funds and personnel) using sound business practices and maintain a project financial plan that ensures a complete audit trail of project funds. Ensure project financial resource management is in compliance with the Financial Resource Management Manual (FRMM), COMDTINST M7100.3 (series);

(3) Coordinate submission of resource proposals for the acquisition and initial sustainment of fielded end items and software;

(4) Comply with DHS guidance on earned value management (EVM);

(5) Serve as the principal source of information for internal and external inquiries and for project documentation;

(6) Develop plans, documentation, reports, and briefings identified in reference (a);

(7) Collaborate with other DHS and Coast Guard acquisition projects to ensure interoperability and to address standardization;

(8) Ensure that the interests of all Coast Guard Operating and Support Program Managers are addressed by the project;

(9) Acquire and field an initial sustainment support capability for the delivered ***Project Name*** asset capability;

(10) Chair the ***Project Name*** Configuration Control Board (CCB) for the duration of the acquisition project;

(11) Continually populate the Acquisition Directorate's Lessons Learned System as key events produce shared insights for enhancing acquisition processes; and,

(12) Obtain Level ***XXX*** DHS Project/Program Manager certification, and maintain certification by satisfying annual skills currency requirements identified in reference (c).

c. Your Authority. You shall:

(1) Serve as the Approving Official with final approval authority over all project funding related matters;

(2) Serve as the Approving Official and CCB Chair for proposed engineering and configuration changes;

(3) Obtain resource commitments from Operating and Support Program Managers to perform specific project tasks;

(4) Sign correspondence relating to the ***Project Name*** Project as:

Project Manager
Project Name Project (CG-93***XX***)

d. Your Accountability. You shall be accountable to the Assistant Commandant for Acquisition (CG-9).

4. Action. You shall comply with this Charter. By copy of this Charter, all directorates are directed to take all proper actions necessary to achieve the objectives of the project.

Copy:

CG-094	CG-0949				
CG-1	G-11	CG-13			
CG-2					
CG-3	CG-3P	CG-3R			
CG-4	CG-41	CG-43	CG-44	CG-45	CG-48
CG-5	CG-512				
CG-6	CG-6B	CG-61	CG-62	CG-63	CG-64
	CG-65				
CG-7	CG-7***XX***				
CG-8	CG-81	CG-82	CG-83		
CG-9	CG-91	CG-92	CG-924	CG-93	CG-93***X***

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14.0 RISK MANAGEMENT PLAN

14.1 Risk Management Plan Purpose

Risk management is the overarching process that encompasses identification, analysis, mitigation planning, mitigation plan implementation, and tracking. Risk management should begin at the earliest stages of project planning and continues throughout the total life-cycle of the program. Additionally, risk management is most effective if it is fully integrated with the project's systems engineering and project management processes—as a driver and a dependency on those processes for root cause and consequence management. A common misconception, and project management practice, concerning risk management, is to identify and track issues (vice risks), and then manage the consequences (vice the root causes). This practice tends to mask true risks, and it serves to track rather than resolve or mitigate risks. An important difference between issue management and risk management is that issue management applies resources to address and resolve current issues or problems, while risk management applies resources to mitigate future potential root causes and their consequences.

Without effective risk management projects may find themselves doing crisis management, a resource-intensive process that is typically constrained by a restricted set of available options. Successful risk management depends on the knowledge gleaned from assessments of all aspects of a project coupled with appropriate mitigations applied to the specific root causes and consequences.

Effective risk planning and implementation provides the foundation for effective project management. Figure A-3: Risk Process shows the risk process.

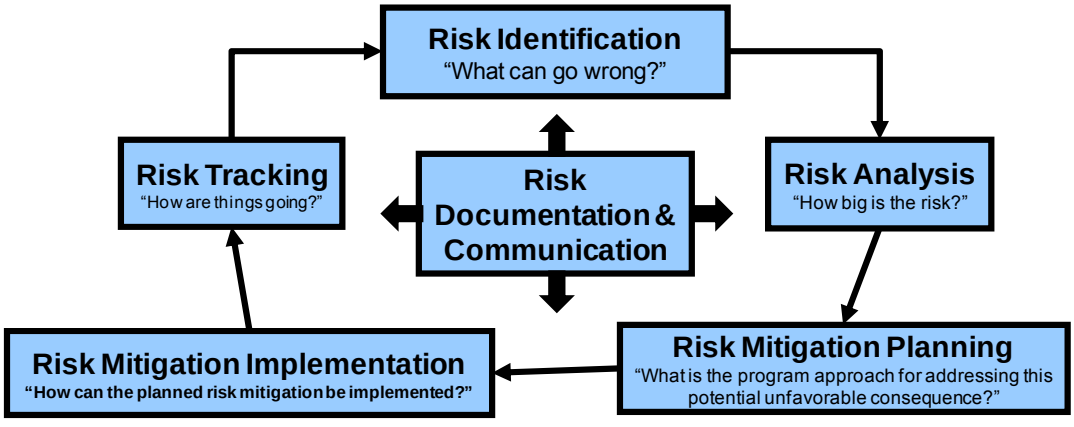

Figure A-3: Risk Process

14.2 Risk Management Plan Preparation

The PM is to prepare the Risk Management Plan (RMP) and submit it for approval, in accordance with the template provided in section 14.3, within six months following ADE-1. Early development of a risk management program within the project is essential for

management success. The RMP will be updated and re-submitted for approval prior to each subsequent ADE.

The Project's Work Breakdown Structure (WBS) is a required tool that will be used when performing risk identification and assessment.

Commandant (CG-9) SOP #7 provides project risk reporting requirements.

14.3 Risk Management Plan Format

Risk Management Plan (RMP)

for the

PROJECT TITLE

Submitted by:	_____	_____
	Project Manager (CG-93YY)	Date
Endorsed by:	_____	_____
	Program Manager (CG-93Y)	Date
Approved by:	_____	_____
	Director of Acquisition Programs (CG-93)	Date

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Risk Management Plan
Table of Contents

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Risk Management Plan Content

EXECUTIVE SUMMARY

Provide an Executive Summary of the Risk Management Plan. The Executive Summary should be a brief (one to two pages) discussion of the Plan, highlighting the salient points of each section in the Plan. Be sure to include the goals and objectives of the Plan and expected outcomes. Briefly discuss the roles and responsibilities of key participants.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

TABLE OF CONTENTS

SECTION 1. INTRODUCTION

1.1 Purpose

This section of the RMP should address the purpose and objective of Risk Management and include the approach being used to manage project risks and the acquisition strategy. The Risk Management strategy should address its linkage to the acquisition strategy.

1.2 Management Organization

Identify all organizations which will be participating in the Risk Management effort. Discuss in detail the roles and responsibilities of each of the identified organizations. Organizations which must be included in the Risk Management project include the Project Manager, the Project Sponsor, the Independent Operational Test and Evaluation Advisor (IOTEA), if applicable, and contractors. Other organizations which could be included, depending on the nature and extent of the project, are members of the operational and support organizations, and organizations responsible for contract administration.

SECTION 2. RISK MANAGEMENT APPROACH

Provide an overview of the Risk Management strategy and approach, to include the status of the Risk Management effort to date. Describe the project Risk Management process to be employed to identify and analyze the risk associated with the project, i.e., risk planning, identification, assessment, handling, monitoring, and documentation. Include the frequency the Risk Management Team will meet to assess and update project risks. Address how test and evaluation techniques will be used to determine the products/capabilities maturity and how it will be used to identify areas of technical and operational risk.

SECTION 3. RISK ASSESSMENT

3.1 Risk Identification

For each cost, schedule, and technical performance parameter identified in the Acquisition Program Baseline (APB), identify areas of potential risk. Highlight those critical parameters that are design cost drivers or those that have a significant impact on readiness, capability, and/or life cycle costs. These parameters must be identified early and managed intensively. For risks related to contracting activities identify how solicitation documents will be structured to require contractors to identify risks and specify their plans to assess and eliminate risks or reduce them to acceptable levels.

3.2 Risk Quantification and Classification

Describe the risk quantification methods used to evaluate risks and the risk interactions to assess the range of possible project outcomes. Preliminary quantification should be conducted to provide some prioritization of the risks for further evaluation. A simple rating system should be applied using the classifications High, Moderate, and Low risks. These terms should be defined and applied using the notion that the degree of risk is a judgment reflecting the probability of occurrence and the severity of impact. Appendix (1), the Project Risk Watchlist, will depict the assigned rating to each identified risk element.

SECTION 4. RISK ANALYSIS

4.1 Risk Analysis Approach

Describe the risk analysis approach that will be used during the project. Discuss the analytical tools (e.g., sensitivity and “what if” analyses) that will be used and how potential impacts will be evaluated against total project completion.

4.2 Risk Analysis Products

As a result of risk analysis, a list of events and items which need to be monitored, i.e., a “Project Risk Watch list” should be prepared. A sample “Project Risk Watch list” is provided in the Appendix (1) section below. It is only provided as an example; other methods of showing risk analysis results may be more appropriate and may be substituted at the discretion of the PM. If other methods to track risks are selected, they should be described and justified in this section of the RMP.

SECTION 5. RISK HANDLING

Describe the risk handling approach that will be used to deal with risks. For each risk element identified in the risk identification process, describe specific management strategies that will be used to control risk. Specify the cost associated with each of the management strategies selected. Examples of risk handling techniques include:

- Risk Avoidance - Rejection of an option because of potentially unfavorable results
- Risk Control - The process of continually monitoring and correcting the condition of a project risk
- Risk Assumption - A conscious decision to accept the consequences should the event occur
- Risk Transfer - Choosing options which reduce risk exposure by sharing the risk with other parties, e.g., a contractor

Appendices

The following appendix should be developed and attached to the RMP.

(A) Project Risk Watchlist

Continuously monitor all project risks with a Project Risk Watchlist; sample provided below.

Sample Project Risk Watchlist

PROJECT TITLE RISK WATCHLIST

Date: *MM/DD/YYYY*

Event/Item	Area of Impact	Handling Action
Loss of Competition	Production Cost	Break Out Qualify 2nd Source Get Tech Data as a Deliverable
Incomplete Logistics Support Analysis	Support Costs	Contractor Support for 2-3 years Warranty on High Risk Items Emphasis in Contractor Reviews Logistics Reviews
Immature Tech Data Package with many Engineering Changes for Design Fixes	Production Cost with High First Unit Costs and many ECPs	Require Production Engineers on Contractor Design Team Fixed Price Contract Competition Producibility Engineering Planning Production Readiness Reviews
Long Lead Items Delayed	Production Schedule	Get Early Identification of Long Lead Items Contractor Emphasis on Early Delivery Transfer or Leveling from Less Urgent Projects Buy a Position in Line for Waiting

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15.0 TEST AND EVALUATION MASTER PLAN

15.1 TEMP Purpose

The Test and Evaluation Master Plan (TEMP) is the basic "top-level" planning document for all Test and Evaluation (T&E) related activities for a major acquisition. The TEMP describes the necessary Developmental Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E), including Early Operational Assessment (EOA). The TEMP identifies all critical technical characteristics and operational issues and describes the objectives, responsibilities, resources, and schedules for all completed and planned T&E, including Modeling and Simulation tools used in the process. It also describes all subordinate plans (e.g., DT&E Plan, EOA Plan, OT&E Plan), required reports (e.g., DT&E Report, EOA Report, OT&E Report), and assigns responsibility for preparing and approving these plans and reports.

The TEMP is a living document that should accurately reflect major changes in program requirements, schedule, and funding. An approved TEMP should be reviewed and updated by the PM at each ADE or whenever a breach occurs in the program's Acquisition Program Baseline (APB). For example, the TEMP should be revised when the PM is unable to execute the TEMP as written, or when changes to the program's cost/funding, schedule, performance make the existing TEMP obsolete. Revision of the TEMP should receive the same endorsements and approvals as the original document.

Projects are required to have an approved TEMP and subordinate test plans prior to commencing any associated test and evaluation unless a specific waiver is granted by the Chief Acquisition Officer Commandant (CG-9).

15.2 TEMP Preparation

The PM shall prepare a TEMP in accordance with the template provided in section 15.5 as early in the project as possible, but no later than three months after approval of the initial PORD/ORD. If the initial PORD/ORD is prepared in support of an ADE, the initial TEMP shall be prepared to support that ADE.

The PM will prepare the draft TEMP in consultation with all Project and Support Managers and other organizations involved in the T&E activities that are represented on the Test Management Oversight Team (TMOT).

The Operational Test Authority (OTA) is the activity that develops and executes the OT Test Plans. The OTA is responsible for completing Section 4 of the TEMP.

15.2.1 Developmental Test and Evaluation Plan

The Developmental Test and Evaluation Plan (DT&E) provides detailed information, guidance, scheduling, and tasking for all planned DT&E. The DT&E Plan is prepared by the PM with the assistance of the TMOT.

An approved DT&E Plan is required prior to commencing DT&E unless waived by

the Chief Acquisition Officer Commandant (CG-9).

15.2.1.1 Developmental Test and Evaluation Report

The DT&E Report provides the results of all developmental testing; the results are used to support the decision to move on to OT&E. For projects which include LRIP, the DT&E Report will also support the decision to enter LRIP. Upon receipt of all data and subordinate reports required by the TEMP and DT&E Plan, the PM will prepare the DT&E Report.

15.2.2 Early Operational Assessment Plan

For projects where the Sponsor has elected to conduct Early Operational Assessment (EOA), the EOA Plan is prepared by the Sponsor/Sponsor's Representative with the assistance of the PM and the TMOT; it provides detailed information, guidance, scheduling, and tasking for planned EOA.

15.2.2.1 Early Operational Assessment Report

For projects electing to conduct EOA, the EOA Report is prepared by the Sponsor's Representative and signed by the Sponsor; it summarizes the results and conclusions of the EOA process to assess how well the design is expected to meet the Critical Operational Issues. The EOA Report is used to support the decision to enter the Obtain Phase or commence LRIP, as appropriate.

15.2.3 Operational Test and Evaluation Plan

The Operational Test and Evaluation (OT&E) Report provides detailed information, guidance, scheduling, and tasking for all planned OT&E. The OT&E Plan is prepared by the Sponsor/Sponsor's Representative with the assistance of the TMOT.

An approved OT&E Plan is required prior to commencing OT&E unless waived by the Chief Acquisition Officer Commandant (CG-9).

15.2.3.1 Operational Test and Evaluation Report

The OT&E Report supports the ADE to enter the Produce/Deploy/Support Phase. After receipt of all data and subordinate reports, the Sponsor/Sponsor's Representative will prepare the OT&E Report, which should address the acceptability of OT&E and include a recommendation whether or not to enter production. The Sponsor/Sponsor's Representative should be prepared to brief the CGARC and/or the ARB on the results of OT&E and make a recommendation regarding production.

15.3 TEMP Review and Approval

TEMP review and approval should follow the standard document review and approval procedures in Part I, Documentation, Section 1.0 Document Review and Approval Process of this Appendix.

15.3.1 Developmental Test and Evaluation Plan

Following consensus of the TMOT through concurrent clearance, the DT&E Plan shall be approved by Commandant (CG-93). Recommended changes should be submitted to the PM for consideration by Commandant (CG-93).

15.3.1.1 Developmental Test and Evaluation Report

A draft copy of the report shall be sent to the Sponsor/Sponsor's Representative for review and comment. The final DT&E Report will be signed by the PM and forwarded to Commandant (CG-9); copies will also be made available to the CGARC members to support entering OT&E and/or LRIP.

15.3.2 Early Operational Assessment Plan

The EOA Plan shall undergo a concurrent clearance review by the TMOT. Following resolution of any concerns, the Sponsor shall submit the EOA Plan via the PM to Commandant (CG-93) for endorsement prior to Sponsor approval.

15.3.2.1 Early Operational Assessment Report

A draft copy will be sent to the PM for review and comment. The final report will be signed by the Sponsor and copies will be provided to CGARC members for consideration.

15.3.3 Operational Test and Evaluation Plan

The OT&E Plan shall undergo a concurrent clearance review by the TMOT. Upon resolution of any concerns, the OT&E Plan shall be jointly approved by the Sponsor and Commandant (CG-93). Recommended changes should be submitted to the Sponsor/Sponsor's Representative for consideration by the Sponsor and Commandant (CG-93).

15.4 Waivers

An approved TEMP and associated test plans are required before any elements of test and evaluation can be initiated and conducted, unless a waiver by the Chief Acquisition Officer (CG-9) is granted in writing.

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15.5 TEMP Template

TEST AND EVALUATION MASTER PLAN (TEMP)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Office of Research, Development, Test & Evaluation (CG-926)	_____ Date
Endorsed by:	_____ Operational Test Authority	_____ Date
Endorsed by:	_____ Project Sponsor (CG-Y)	_____ Date
CG Approval by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
DHS Approval:	_____	_____ Date

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TEST AND EVALUATION MASTER PLAN

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

Provide an Executive Summary of the Test and Evaluation Master Plan (TEMP). The Executive Summary should be a brief (one or two pages) discussion of the Plan, highlighting the salient points of each chapter in the Plan. Be sure to include the goals and objectives of the Plan and expected outcomes. Briefly discuss the roles and responsibilities of key participants and discuss reports expected to be prepared and how the reports will support project decisions.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: INTRODUCTION

1.1 Background

Briefly summarize the mission of the deployed asset or system. Briefly describe the design including key features and subsystems; describe unique characteristics of the system or unique support concepts which may result in special test and evaluation requirements. Do not repeat detailed background information included in the Project Management Plan (PMP); focus should be on test and evaluation issues.

1.2 Operational Performance Requirements

List in matrix format (see below table) the minimum acceptable operational performance requirements. Candidates for inclusion in the list are those included by the Sponsor in the Operational Requirements Document (ORD). Include and identify all Key Performance Parameters (KPP) listed in the ORD.

Thresholds, against which each of the effectiveness and suitability parameters will be measured, are normally quantitative. Thresholds should represent the level of system performance acceptable to the user to successfully execute the mission.

Examples of Operational Performance Requirements

Operational Effectiveness		
Requirement	**Parameter**	**Threshold**
Speed	Minimum Top Speed	25 Knots
	Continuous Speed (Sea State 2)	20 Knots
Interoperability	Communicate with RESCUE 21	99.5%
Operational Suitability		
Requirement	**Parameter**	**Threshold**
Reliability	Mean Time Between Maintenance Actions	1000 Hours
	Mean Time Between Failures	2000 Hours
	Mean Time Between Critical Failures	5000 Hours
Maintainability	Mean Time To Repair	2.5 Hours
Operational Availability	Percentage Of Time Available To Start Mission	80%

1.3 Critical Technical Parameters

List in a matrix format (see below table) the critical technical parameters of the system from Section 3 of the ORD that have been evaluated or will be evaluated during the remaining phases of Development, Test, and Evaluation (DT&E).

For each technical parameter, list the appropriate technical threshold.

Highlight critical technical issues that must be demonstrated before entering the next acquisition phase or before entering Operational Test and Evaluation (OT&E).

Sample Critical Technical Parameters Matrix

< Project Title >					
Critical Technical Parameter	**Test Event**	**Technical Threshold**	**Test Location**	**Test Schedule**	**Decision Supported**
Stability	Model Test	Self-right through 360°	U.S. Naval Academy	DT	Preliminary Design Completion
Stability	Static Roll-over	Self-right through 360°	Contractor	DT	Preliminary Acceptance
Minimum Top Speed	Model Test	25 Knots	U.S. Naval Academy	DT	Preliminary Design Completion
Minimum Top Speed	Speed Trials	25 Knots	Contractor	PAT	Preliminary Acceptance

Additional examples of Critical Technical Parameters for various types of systems are included in the following table.

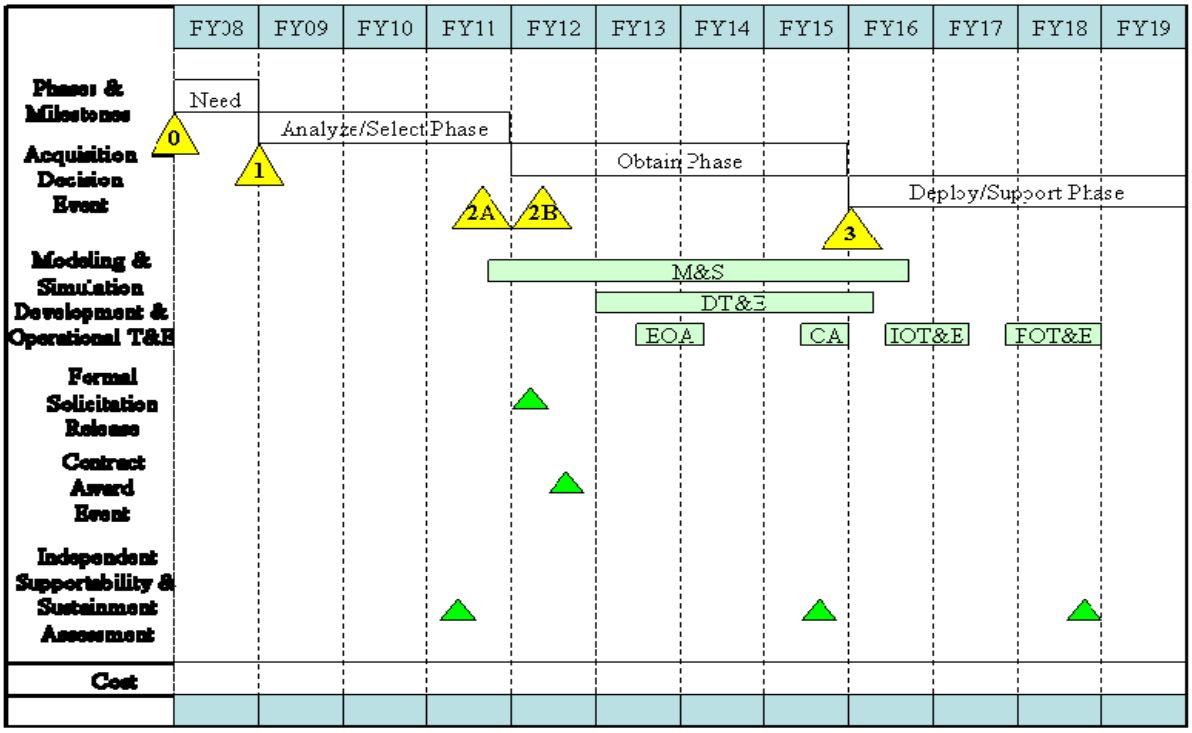
Examples of Critical Technical Parameters

Cutters & Boats	Aircraft
Length	Speed
Beam	Maneuvering
Draft	Overall Endurance
Speed	On-scene Endurance
Maneuvering	Range
Endurance	Design Life
Range	Maximum Gross Weight
Damage Control	Cargo Capacity
Corrosion Control	Corrosion Control
Design Life	Personnel Capacity
Ship Control	Navigation
Sea keeping	Communications
Human Factors	Major Equipment
Safety/Environmental Health	Human Factors
Armament	Safety/Environmental Health
Outfit	Survivability Systems
Major Equipment	Airworthiness
Survivability Systems	
Information Technology	**Radars**
Enterprise Architecture Compliance	Range
Speed of Calculation	Detection Limits
Memory Utilization	Jamming Protection
Throughput Capability	Reliability
Reliability	Error Rate/Signal Processing
Software Maintainability Information Management	Human Factors
Security Controls	
Human Factors	

SECTION 2: PROJECT SUMMARY

2.1 Integrated Master Schedule.

Graphically display the integrated time sequencing of the critical T&E phases and events. The PM may use any graphical technique that clearly shows the key T&E events and their sequential relationship (see below for an example).



Sample Integrated Schedule

Display on a second chart the specific T&E details for the current and the next acquisition phase. Include event dates related to the testing program, such as ADEs, test article availability, appropriate phases of DT&E, Early Operational Assessment (EOA), and OT&E, Initial Operational Capability (IOC), Full Operational Capability (FOC), and Low Rate Initial Production (LRIP), if applicable. Include all T&E planning documents (TEMP/TEMP Updates, DT&E Plan, EOA Plan, and OT&E Plan) and T&E reports (DT&E Report, EOA Report, and OT&E Report).

2.2 Management

Identify all organizations that will be participating in the T&E program. Discuss in detail the roles and responsibilities of each of the identified organizations. Organizations which must be included in the T&E program include the Project Manager, the Project Sponsor and Sponsor's Representative, the Test Management Oversight Team (TMOT), and any organization conducting actual testing, including contractors. Other organizations, which could be included, depending on the nature and extent of the testing program, include Support Project Managers, the Coast Guard Research and Development (R&D) Center, the Project Resident Office (PRO), and operational units.

SECTION 3: DEVELOPMENTAL TEST AND EVALUATION OUTLINE

3.1 Developmental Test and Evaluation Overview

Discuss the overall goals and objectives of the DT&E program. Explain how the planned (or accomplished) DT&E will verify the status of the engineering design and development progress, verify that design risks have been minimized, and substantiate the achievement of technical performance. This section should also address:

- Any technology which has not demonstrated its ability to contribute to system performance and ultimately fulfill mission requirements.
- The degree to which system hardware and software design has stabilized so as to reduce manufacturing and production decision uncertainties.

3.2 Developmental Test and Evaluation to Date

Describe all DT&E which has been conducted to date. Include all DT&E conducted by both contractors and the government. Briefly note the results of the testing and reference all reports completed or under preparation.

3.3 Planned Developmental Test and Evaluation

Discuss all remaining DT&E that is planned, beginning with the date of the current TEMP revision and extending through completion of production. Place emphasis on the testing which will occur during the upcoming acquisition phase. For each segment of testing (e.g., modeling, laboratory tests, in-plant tests, at-sea tests), the following topics should be discussed.

Configuration Description. Summarize the functional capability of the system configuration (model, mock-up, prototype, first article, etc.) and how it differs, if any, from the planned production model.

DT&E Objectives. State the test objectives for the phase in terms of the critical technical parameters to be confirmed. Identify any specific technical parameters which an Acquisition Decision Memorandum or legislative action has directed to be demonstrated during a particular phase of testing.

DT&E Events, Scope of Testing, and Basic Scenarios. Summarize the test events, test scenarios, and the test design concept. Quantify the testing in terms of the number of test events planned, and discuss the information which will be expanded upon in the DT&E Plan. Discuss the environment in which testing will be conducted and how realistic that environment is. Describe any models or simulations that will be used and justify their use.

Limitations. Discuss any test limitations that may significantly affect the evaluator's ability to draw conclusions and make recommendations concerning the critical technical parameters. Discuss the impact of these limitations and resolution approaches.

3.4 Special Developmental Test and Evaluation Topics

Discuss any areas of special interest that have not been addressed previously. These areas will vary from project to project, but may include:

- Logistics Supportability;

- Reliability, Maintainability, and Availability (RMA);
- System Safety, Human Factors Engineering;
- Software Test and Evaluation;
- Manpower, Personnel, and Training (MPT);
- Survivability;
- Environmental and Habitability concerns (including noise, lighting, climate, vibration, etc.);
- Interoperability with Other Coast Guard or Component Systems;
- Electromagnetic Effects;
- Spectrum Supportability and Compatibility Analysis; and
- Vulnerability.

3.5 Developmental Test and Evaluation Plans and Reports

Describe all required DT&E plans and reports. Include information on the scope of each plan or report, who prepares it, who reviews it, who approves it, and when it is to be submitted.

SECTION 4: OPERATIONAL TEST AND EVALUATION OUTLINE

Section 4 is to be completed by the Operational Test Authority (OTA).

4.1 Operational Test and Evaluation Overview

Discuss the overall goals and objectives of the OT&E program, including any combined DT&E/OT&E, EOA, and all OT&E. Discuss how OT&E is structured to ensure that an operationally effective and operationally suitable system is delivered to the Sponsor. Provide information to show how OT&E will (or has) evaluated the system in an environment as operationally realistic as possible; i.e., using typical operators, expected ranges of natural environmental conditions, and expected operational scenarios.

4.2 Critical Operational Issues

List the Critical Operational Issues (COI) that have been identified by the Sponsor in the ORD. COIs are the operational effectiveness and operational suitability issues (not characteristics, parameters, or thresholds) that must be examined in OT&E to evaluate/assess the system's capability to perform its mission.

A COI is typically phrased as a question that must be answered in order to properly evaluate the operational effectiveness (e.g., Will the system possess sufficient maneuverability [speed, power, and control] to operate in its intended open water environment?) and operational suitability (e.g., Will the system be maintainable within the planned funding base, rate structure, and expertise level at support facilities?).

Some COIs will have required operational characteristics, parameters, thresholds, and/or evaluation criteria associated with them. Attainment of individual attributes does not necessarily guarantee that a particular COI has been resolved; the evaluators must use their

collective best judgment to determine if a COI has been favorably resolved.

The list of COIs should be thorough enough to ensure that, if every COI is resolved favorably, the system will be operationally effective and operationally suitable when employed in its intended environment by typical users. The list of COIs will normally consist of five to ten issues and should reflect only those that are truly "critical" in nature. Thus, if a COI cannot be favorably resolved, the decision to proceed to the Produce/Deploy/Support Phase should be carefully evaluated.

4.3 Early Operational Assessment Overview

For those projects electing to conduct EOA, provide an overview of the EOA effort. Describe the objectives of EOA and how they will be met. Describe any EOA, which has been completed, and discuss all remaining EOA.

4.4 Early Operational Assessment Plans and Reports

For those projects electing to conduct EOA, describe all required EOA plans and reports. Include information on the scope of each plan or report, who prepares it, who reviews it, who approves it, and when it is to be conducted and submitted.

4.5 Operational Test and Evaluation to Date

Briefly describe all OT&E that has been completed; if none has been conducted, so state. The descriptions should include the following:

- A description of the asset or system actually tested and how its configuration relates to the asset or system that will be fielded.
- A summary of the actual testing that occurred, including events, scenarios, resources used, test limitations, evaluations conducted, results achieved, and a reference to any test report detailing the results of such testing. Emphasis should be upon those Critical Operational Issues that were resolved, partially resolved, or unresolved at the completion of that portion of testing.

4.6 Planned Operational Test and Evaluation

Planned Operational Test and Evaluation may be required because of changes to the assets or system that occur after the initial operational testing. For all remaining Planned OT&E, address the following:

Configuration Description. Identify the system to be tested, and describe any differences between the tested system and the system that will be fielded. Include, where applicable, the extent of integration with other systems with which it must be interoperable or compatible. Characterize the system (e.g., first article, production representative, or production configuration).

Operational Test and Evaluation Objectives. State the test objectives including the Critical Operational Issues to be addressed during remaining OT&E and the ADE(s) supported.

Operational Test and Evaluation Events, Scope of Testing, and Scenario. Summarize the scenarios and identify the events to be conducted. Indicate the type of resources to be used, the simulation(s) to be employed, the type of representative personnel who will operate and maintain the system, the status of logistic support, the operational and maintenance

documentation that will be used, and the environment under which the system is to be employed and supported during testing. This section should also identify planned sources of information (e.g., developmental testing, modeling, and simulations) that may be used by the operational testers to supplement this phase of OT&E. Whenever models and simulations are to be used, explain the rationale for their credible use.

Logistics Test and Evaluation. Specifically discuss the planned logistics test, evaluation, and demonstrations that will be a part of the Planned OT&E.

Limitations. Discuss the test limitations including the mission realism, resource availability, limited operational environments, limited support environment, maturity of tested system, safety, etc., that may impact the resolution of affected COIs. Indicate the impact of the test and evaluation limitations on the ability to resolve critical operational issues and the ability to formulate conclusions regarding operational effectiveness and operational suitability. Indicate the COI(s) affected in parentheses after each limitation.

4.7 Operational Test and Evaluation Plans and Reports

Describe all required OT&E plans and reports. Include information on the scope of each plan or report, who prepares it, who reviews it, who approves it, and when it is to be submitted.

SECTION 5: TEST AND EVALUATION RESOURCE SUMMARY

Provide a summary (preferably in a table or matrix format) of all key T&E resources, both government and contractor, which will be used during the course of the acquisition project. Specifically, the TEMP shall identify the following test resources:

Test Articles. Identify the actual number of and timing requirements for all test articles, including key support equipment and technical information required for testing in each phase of DT&E and OT&E. If key subsystems (components, assemblies, subassemblies, or software modules) are to be tested individually, before being tested in the final system configuration, identify each subsystem in the TEMP and the quantity required. Specify when prototypes, development pre-production or production models will be used.

Test Sites and Instrumentation. Identify the specific test facilities/test ranges to be used for each type of testing. Compare the requirements for test facilities/test ranges dictated by the scope and content of planned testing with existing and programmed facility/test range capability, and highlight any major shortfalls. Identify instrumentation that must be acquired specifically to conduct the planned test program.

Test Support Equipment. Identify test support equipment that must be acquired specifically to conduct the test program. Identify unique or special calibration requirements associated with any such equipment.

Threat Systems/Simulators. For those systems that have Defense Operations or Homeland Security missions, identify the type, number, and availability requirements for all threat systems/simulators. Compare the requirements for threat systems/simulators with available and projected assets and their capabilities. Highlight any major shortfalls.

Test Targets and Expendables. Identify the type, number, and availability requirements for all targets, flares, chaff, sonobouys, smoke generators, acoustic countermeasures, etc., that will be required for each phase of testing. Identify any major shortfalls.

Operational Program Test Support. For each T&E phase, identify the type and timing of aircraft flying hours, boat hours, and/or cutter underway days, and other critical operating program support required.

Simulations, Models, and Testbeds. For each T&E phase, identify the system simulations required, including computer-driven simulation models and hardware and human-in-the-loop testbeds (a system representation consisting partially of actual hardware and/or software, and partially of computer models or prototype hardware and/or software). The rationale for their credible usage or application must be explained in an approved TEMP before their use.

T&E Administrative Support. For each test phase, identify all administrative and facilities support required. Identify the organization responsible for providing such support and the source and type of funding required. Such items as office space and equipment, pier or hangar space, and maintenance services should be discussed.

Manpower and Training. Identify manpower and training requirements and limitations that affect test execution.

Technical Interfaces. Identify any technical interface areas, which need to be addressed during the T&E program.

Special Requirements. Discuss requirements for any significant non-instrumentation capabilities and resources, such as: special data processing or databases, unique mapping or charting products, extreme environmental conditions, or restricted or special use air/sea/landscapes.

T&E Funding Requirements. Estimate, by Fiscal Year and appropriation type, the funding required for direct costs of planned testing, as shown in the following table. Identify any major shortfalls.

Sample Test and Evaluation Funding ($K)

	FY06	FY07	FY08	FY09	FY10	FY11	TOTAL
DT&E	50	100					150
AC&I			100	250	100		450
OT&E					100	150	250
TOTAL	50	100	100	250	200	150	850

The initial TEMP should project the key resources necessary to accomplish DT&E and OT&E. As system acquisition progresses, test resource requirements shall be reassessed and subsequent TEMP updates shall reflect any changed system concepts or requirements.

Appendices

The following should be attached as appendices to the TEMP.

(A) Bibliography

Cite in this appendix all documents referred to in the TEMP. Also cite all reports documenting developmental and operational testing and evaluation of the system.

(B) Acronyms

List and define all acronyms used in the TEMP.

(C) Points of Contact

Provide a list of Points of Contact for all participating organizations (Project Manager, Sponsor, Support Program Managers, testers, evaluators, etc.) List TMOT members (by organization).

16.0 INTEGRATED LOGISTICS SUPPORT PLAN

16.1 ILSP Purpose

The ILSP is the primary logistics document for Coast Guard systems. It identifies any logistics support constraints or requirements which must be satisfied; provides a description of the system/equipment that must be supported; identifies the applicable roles and responsibilities for planning and implementing an initial sustained support capability for the new system/equipment; identifies the support concepts and details on how the concepts are implemented for each ILS element; and provides information on other logistics related planning. The ILSP is a life-cycle document that is initially prepared and updated during acquisition, and transitioned to the sustainment community for continued use and updating for the complete life of the system/equipment. Planning for logistics should include the precepts identified in the System Integrated Logistics Support (SILS) Policy Manual, COMDTINST M4105.8 (Series).

16.2 ILSP Preparation

The ILS Manager shall prepare an initial ILSP, in accordance with the template provided in section 16.4, during the Analyze/Select Phase and submit it for approval prior to ADE-2A.

Once an ILSP has been properly endorsed and approved, any change in support concepts or other significant change in planning must be coordinated through a decision memo or updated ILSP with the applicable Technical Authority(ies), the Sponsor's Representative, and Commandant (CG-93) approval prior to implementation. The change will be incorporated into the next update to the ILSP if it was approved through a decision memo.

The template presents a sample ILSP Cover Page and Table of Contents, and ILSP content and format requirements. If a particular section is not applicable to the project, the preparer should so state and include a brief rationale to show how and why it is not applicable. Additional, tailored information should be incorporated with the "core" outline and content requirements.

The draft ILSP should be prepared in consultation with the project Integrated Logistics Support Management Team (ILSMT) to ensure all appropriate aspects of logistics support are addressed. ILS tailoring considerations for vessel, aircraft, and aviation electronics systems acquisitions are handled by Commandant (CG-41) and the technical and organizational specialties represented on the ILSMT. Surface and shore-based electronics systems are handled by CG-6 (CG-64). Tailoring considerations for IT systems are provided by the Assistant Commandant for Command, Control, Communications, Computers, and Information Technology, Commandant (CG-6).

The amount of detailed planning information that is included in the initial ILSP will be dependent on the type of acquisition being pursued. In a true

developmental project, only the logistics support strategy and basic support concepts within each ILS element may be known. On the other hand, for a true commercial off-the-shelf (COTS)/non-Developmental Item (NDI) system/equipment many of the detailed support processes and procedures may be known very early in the acquisition. In cases where specific details are not yet known, the requirements should be identified along with the identity of the activity responsible for developing the details.

The ILSP is an iterative document and will require regular updating. Iterations of the ILSP should contain more of the detailed procedures and processes to be implemented. The ILSP must be reviewed at least annually and updated as needed to reflect significant changes due to project dynamics. At a minimum, the ILSP shall be updated prior to each DHS ADE. The ILSP shall be updated if significant changes in logistics support concepts or procedures, schedule, or resource requirements occur and prior to transfer of support responsibility to the Support Program Manager for sustainment at Project Transition. Prior to deployment of the system/equipment, the ILSP must contain all of the detailed information needed to be transitioned to the Support Program Manager for use as the initial operational support planning document.

16.3 ILSP Review

Each member of the ILS Management Team (ILSMT) should provide input to the ILSP sections applicable to their functional area. Once the draft ILSP (or ILSP update) is drafted, it should be reviewed by the PM who decides whether the draft document is acceptable for matrix-level concurrent clearance review. The ILSP should be distributed to all activities having representation on the ILSMT, as a minimum. This would include, as appropriate:

- CG-1B3 — Human Systems Integration: Manpower, Personnel, Training, Human Factors Engineering, System Safety, Survivability, and Habitability
- Sponsor Representative — O-6/GS-15 representing the Sponsor organization
- CG-41 — Office of Aeronautical Engineering (logistics support of aviation assets)
- CG-43 — Office of Civil Engineering (projects with facility requirements)
- CG-44 — Office of Logistics (all projects)
- CG-45 — Office of Naval Engineering (hull, mechanical, and electrical support of surface assets)
- CG-62 — Office of Communication Systems (as applicable)
- CG-63 — Office of Information Systems and Infrastructure (as applicable)
- CG-64 — Office of C2 and Navigation Systems (cutter/boat and shore-based electronics systems)
- Field Activity — As needed

16.4 ILSP Template

INTEGRATED LOGISTICS SUPPORT PLAN (ILSP)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Assistant Commandant for Human Resources (CG-1)	_____ Date
Endorsed by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date
Endorsed by:	_____ Assistant Commandant for C4&IT (CG-6)	_____ Date
Endorsed by:	_____ Assistant Commandant for Resources (CG-8)	_____ Date
Endorsed by:	_____ Sponsor (CG-Y)	_____ Date
CG Approval by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
DHS Approval:	_____	_____ Date

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Integrated Logistics Support Plan

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The executive summary should be a brief (one or two pages) discussion of the plan, highlighting the goal, objective, projected outcome, and possible constraints/issues of the ILSP. Also discuss salient points of each section in the plan to include the applicable support concepts that are being used. Briefly discuss the roles and responsibilities of key participants and discuss reports expected to be prepared and how the reports will support project decisions.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION A: INTRODUCTION AND PROGRAM SUMMARY

The introductory chapter of the ILSP should set the stage for ILS planning. In order to develop support for a system, it is essential to know what type of system it is, what it consists of in terms of subsystems and equipment, how and under what conditions it is to be used and the constraints or unique support considerations that must be observed.

1.0 General

Briefly describe the objective of the ILSP, list the important topics, and summarize the current project status. This paragraph should be very brief and should not attempt to identify the entire history of the project in step-by-step or milestone fashion. It should identify the particular acquisition stage and system/equipment development stage of the project. This sets the stage for determining how much detail should be included in the ILSP and the ILS planning efforts in order to achieve a logistically supported system/equipment when it is operationally fielded. It should also identify the type of system/equipment that is being acquired. This dictates the type of logistics support that will be required. For example, logistics support requirements for a cutter or aircraft are radically different from those for a web-based software application.

2.0 Background

Briefly summarize the planned mission(s), environment, project service life and current design concept for the deployed system. Include any key features and subsystems. Identify and describe any support constraints or consideration affecting the design concept. Identify and describe any constraints or unique considerations affecting the support planning. Reference the appropriate project documentation, as applicable.

Mission Employment. Identify the planned missions and any known constraints or unique support considerations due to the system/platform mission role or performance requirements.

Operational Environment. Summarize the planned operational environments and identify any known constraints that affect human performance or the integration of the user with the system or unique support considerations generated by any operational environment.

Service Life. Identify the planned/projected service life of the system/platform, i.e., the expected time period that the system/platform will remain fully functional and operational.

Current Design Concept/System Description. Initially, there may be multiple design concepts that are considered. Each of them should be identified if this is the case. Identify any known constraints or unique support considerations that each concept presents. As the acquisition progresses, the single design concept to be followed will be finalized. As this occurs, the information in this paragraph needs to be revised, accordingly. Once design of the system/platform commences, a system description should be provided. The system description needs to initially identify the major operating and design features of the system or platform (i.e., system characteristics). By the time the ILSP is updated for the DHS ADE-3, (or at such time as a production or fielding approval is provided), the system description should identify major assemblies and sub-assemblies (i.e., engines/propulsion components, weapons, electronics/avionics systems, etc.) by nomenclature, manufacturer, and part number (when applicable) and describe their application to the end item. Identify any software or firmware embedded within the system. For software applications that are being developed for acquisition the system description should identify the version and any modular breakout by identity and function, and any required interface provisions (hardware and/or software), as well as the hardware in which it resides and its operating language. Depending on the complexity and scope of the system/equipment description, the detailed description may need to be incorporated as an appendix or by reference to a completely separate document (or several documents). For any document that is referenced, information must be provided on how a copy can be obtained (preferably electronically).

3.0 Integrated Schedule

Graphically display the integrated time sequencing of the critical Supportability and Sustainment phases and events. Figure A-4 is provided for illustrative purposes only and is located in Appendix A. The PM may use any graphical technique that clearly shows the key Supportability and Sustainment events and their sequential relationship. Include event dates related to supportability and sustainment, such as ADEs. Identify key logistics events completed and those schedules/planned to be completed during the next acquisition phase.

4.0 Management

This section includes the objectives and scope of the ILSP as well as a description of the program management organization and responsibilities. Include specific explanations of quantitative and qualitative goals for Supportability and Sustainment as developed in conjunction with the user and stakeholder communities. This may include goals for any of the Supportability and Sustainment elements, for example, overarching goals for reliability, availability, and maintainability that will translate into specific Supportability and Sustainment element objectives. It should clearly show the relationship between the supportability and sustainment organization and other program management entities as well

as key supporting organizations. If a contractor has been selected, it should show the corresponding contractor organizations and relationships.

4.1 Integrated Logistics Support Manager

Identify the roles and responsibilities of the integrated Logistics Support Manager (ILSM). Specifically identify the responsibility of the ILSM to chair the integrated Logistics Support Management Team

4.2 Integrated Logistics Support Management Team

Describe the Integrated Logistics Support Management Team (ILSMT), its function, and how often it meets. Identify the ILSMT members/participants. Identification should be by activity/office code rather than by individual name, to reduce the frequency of change required. To better associate the ILSMT membership with the logistics elements addressed by the project, identify the functional, technical or ILS element area(s) that each member represents. (The use of tables or figures is encouraged to depict the ILSMT organization and membership.)

4.3 Integrated Logistics Support Management Team Duties

Since the ILSMT is primarily responsible for the development of the ILSP and support planning details, indicate that each version of the ILSP will be reviewed by the ILSMT for the accuracy and completeness of data. The ILSM will also solicit data inputs from field units. Indicate that these consolidated inputs and review comments will form the basis for validating the accuracy and appropriateness of the data in the ILSP. Identify the applicable duties and responsibilities of the ILSMT Chairperson and member participants. (This information may be depicted in a consolidated table or figure along with the identification of ILSMT membership.)

SECTION B: SUPPORTABILITY AND SUSTAINMENT PLANNING MANAGEMENT

1.0 Design for Supportability

This section describes how system supportability considerations and decisions will be integrated into the overall systems engineering process. It should describe appropriate Supportability and Sustainment participation on systems engineering and design related Integrated Process Teams (IPT) as well as various system technical reviews such as the system readiness review, preliminary design review (PDR) and critical design review (CDR). It should also describe the interfaces and data flows between other technical analyses and the Systems Engineering Life Cycle (SELC) process with a direct impact on supportability and sustainment such as those conducted in the reliability, maintainability, availability, survivability, and safety areas.

Concept/Approach.

Identify Human Systems Integration(i.e., human to machine) integration criteria and limitations that are applicable to the project and any resultant impacts (positive or negative) on supportability.

Identify how the ILS community will participate in, or review the results of both

Developmental Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E). What support requirements/parameters will be evaluated during OT&E. Are operation and maintenance technical manuals evaluated for adequacy and suitability during OT&E? The specific things to be discussed in this section of the ILSP must be tailored to the individual acquisition project and the applicable logistics support requirements that are identified.

2.0 Sustainment Concept

Include a description of how a capability will be sustained. Describe the "what, when, how" of sustainment (e.g. who will maintain it, how will supply support be provided, how and when will training be provided, what facilities are required, etc). Identify the overall logistics support concept, logistics acquisition strategy and support objectives planned for the system/platform. Identify whether the system/equipment being acquired is a totally new capability being introduced or a replacement for an existing capability. Identify whether the new system/equipment will be logistically supported by an existing support infrastructure, a modified existing support infrastructure, or a totally new support infrastructure that must be developed.

Identify those existent support infrastructure activities that are anticipated to be used. Identify known areas where new infrastructure assets will be required. Identify any areas where contractor support is anticipated to be used in lieu of developing new infrastructure. Performance Based Logistics (PBL) shall be considered. If PBL is used, it will include clearly identified metrics that are tied to the performance parameters that must be achieved by the support organization(s). If Contractor Logistics Support is used, the applicable performance metrics must be identified in the support contract.

Summarize how logistics support will be addressed in the configuration management/configuration control process. This section of the ILSP should address how the ILS community maintains awareness of the system/equipment configuration and proposed/implemented configuration changes, and how the logistics support impact of changes (i.e., impacts to provisioning data, technical manuals, etc.) is identified and considered.

3.0 Programming and Budgeting

This section shows the funding for the supportability and sustainment effort. It should include a top-level summary of the LCCE showing the development, procurement, deployment and sustainment funding requirements.

4.0 Contracting for Supportability

Provide an overview of the contracting approach to achieve the supportability and sustainment goals. Include details of contract process and methods during each phase of the life cycle.

5.0 Retirement and Disposal

Provide a description of what conditions the capability will be retired from service and planned methods for disposal. Include any unique environmental and security requirements that must be considered for retiring or disposing of the capability after its useful life.

SECTION C: SUPPORTABILITY ELEMENTS

This part of the ILSP identifies the top level tailoring of the project (concepts, approach, supporting analysis or basis, and detailed element planning requirements, responsibilities).

1.0 Maintenance Planning

This section describes the activities and events to be conducted to achieve the maintainability goals. It includes a detailed description of the maintenance concept, the collection of maintenance data, use of Level of Repair Analysis (LORA) or other analytical tools, maintainability demonstrations, depot capability development, etc. It also includes description of any warranties to be acquired and the use of any Contractor Logistics Support (CLS), Third Party Logistics provider (3PL), or Performance Based Logistics (PBL) type contracts for maintenance.

Concept/Approach. Describe the process conducted to analyze, evolve, and establish the maintenance concept or philosophy for the project; include the alternatives considered, and the maintenance considerations for the life of the system. The new standard Coast Guard business model calls for supportability analyses (Reliability/Maintainability/Availability analyses, Failure Modes, Effect and Criticality Analyses, Reliability Centered Maintenance Analyses, Task Analyses, Level of Repair Analyses, etc.) to develop the required maintenance documentation and the Maintenance Plan. Identify and describe the maintenance concept(s) for the particular acquisition project. Include and describe any interim, special, or unique support procedures and program constraints or requirements identified at this time.

Equipment Categories. Provide a brief description of each equipment category applicable to the system. Identify the major system hardware or software components, subsystems, equipment or parts for each of the following categories:

- HM&E or Airframe
- Electronics (ships) or Avionics (aircraft)
- Electronic HM&E (ships)
- Propulsion (aircraft)
- Electric and Hydraulic/Pneumatic
- Ordnance
- Information Technology (IT) Equipment and System Software

Maintenance Types. There are three general types of maintenance on Coast Guard systems. All three types are normally associated with maintaining a cutter. However, maintenance of aircraft or other type systems may require only two types. Computer hardware and some other types of systems may only require one type. Pure software systems (without the associated hardware) may not require any of the three types of maintenance. The ILSP should provide information concerning the maintenance requirements in each of the maintenance types that are applicable. This information should be provided in increasing detail as the acquisition progresses to production and/or deployment. At the time a production/deployment decision is made, the maintenance requirements should be known in

complete detail. The specific tasks that are required should be listed or specific references provided concerning where the requirements and accomplishment procedures for the tasks can be found. The three types of maintenance are:

- Preventive Maintenance. Preventive maintenance consists of inspection, servicing, and time change tasks that are routinely and systematically scheduled for the purpose of preventing equipment and system failures that might diminish the operation and safety of the system/platform. Painting, or the application of other coatings, to superstructure or fittings on surface assets and equivalent tasks on land-based systems is also considered preventive maintenance. Preventive maintenance tasks may be accomplished by crew members or other personnel assigned in direct support of the operating unit, or may be heavy maintenance tasks requiring assistance from a depot maintenance level capability (for example an aircraft programmed depot maintenance inspection or shipyard/ dry dock maintenance for a cutter). The intent of preventive maintenance is to take maintenance action to minimize conditions that cause unacceptable degradation of functions prior to the occurrence of actual failure.
- Facility Maintenance. Facility Maintenance consists of those actions such as routine cleaning and touch-up painting of decorative coatings on cutters and equivalent actions on land-based systems. The equivalent maintenance tasks for aircraft are normally identified as either preventive or corrective maintenance.
- Corrective Maintenance. Corrective maintenance consists of actions that repair equipment, systems, hull, and structure that restore lost functionality or restore failure resistance following a function failure. It is basically random in both time and severity. Corrective maintenance is applicable to all hardware items. The amount and severity of corrective maintenance required may be moderated considerably by preventive maintenance.

Maintenance Levels. The term “maintenance levels” refers to the different levels of capability established within the organizational structure for performing maintenance on, or in support of, the end item system/equipment. Maintenance capability is determined by the tools and equipment, and personnel training provided. The goal of maintenance planning is to provide maintenance capability for the end item system/equipment at the lowest level possible within the constraints of economics and technical feasibility, subject to any overriding operational considerations. Maintenance actions that are more time consuming, require complex expensive equipment, require a lot of training, and can be accomplished off-equipment may be accomplished at a higher level of maintenance. A bi-level (organizational and depot) maintenance concept is the accepted Coast Guard practice. Maintenance tasks which formerly would be identified as intermediate level is accomplished at organizational or depot level based on economic criteria or overriding operational constraints. Identify and describe the applicable maintenance levels for the acquisition project, in the terms indicated below.

- Organizational Level. Maintenance performed by the owner or user of the end item system/equipment is categorized as Organizational Level (O-level) maintenance. O-level maintenance capabilities are normally limited to periodic servicing, troubleshooting to isolate and identify failures, and removing/replacing components or major assemblies. O-level maintenance is performed on the end item system/equipment and is designed to

accomplish those maintenance actions that can be accomplished in the shortest amount of time to maximize operational availability of the system/equipment. Describe the types of maintenance which will be conducted at the organizational level, and by whom it will be accomplished.

- Depot Level. Depot level (D-level) is the highest level of maintenance capability which provides maintenance on material requiring major overhaul or a complete rebuild/remanufacture of parts, subassemblies or end item components including manufacture of parts, modification, testing and reclamation. D-level maintenance also supports lower levels of maintenance by providing technical assistance and performing complex or heavy maintenance tasks that are beyond their technical capabilities or for which extensive repair facilities and equipment are required. Identify Coast Guard, other government agency (OGA) and contractor depot level support facilities that are required. If interim contractor depot support is used, briefly describe the planned transition to Coast Guard or OGA support, as applicable. As applicable, describe how the project will comply with the Depot Maintenance Inter-service (DMI) program requirements of the Joint Logistics Commanders (JLC).

Miscellaneous. Identify any unique maintenance issues or planning problems (e.g., issues or planning problems new to the Coast Guard or requiring new support infrastructure establishment).

Element Detail Planning. Identify and briefly describe the detailed maintenance planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, who will update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. The following list is not all inclusive, but should be considered in providing maintenance planning element details, as appropriate.

Maintenance Support Outline, Maintenance Support Guide, or Maintenance Plans for installed equipments of each applicable equipment category.

Bi-Level Support Matrix and Coast Guard Planned Maintenance System (electronics).

Applicable support analysis results and support system reports/documentation.

2.0 Manpower Personnel and Training (MPT)

Describe, quantitatively and qualitatively, manpower requirements to support the capability. Identify any manpower constraints. If a predecessor system exists, describe differences in manpower requirements.

Describe the approach for obtaining timely and effective training for operators and maintainers. Include the development of training aids, devices, and curricula. Describe who will conduct training and where it will be provided.

Concept/Approach. Identify and describe any supporting analyses, crewing studies, constraints or other administrative or mission considerations for determining the system manning/crewing concept and requirements. Identify the type and number of personnel required to safely and effectively operate, maintain, and support the system. Provide an initial estimate of manpower and workload requirements. If applicable, identify the type and

quantity of billets/personnel that will transition from the system/equipment being replaced versus new billets/personnel that are required, or any anticipated manpower savings to be achieved. Give a brief description of the overall training concept for the system, platform, or equipment. Describe the front-end analyses or rationale for determining training and training support requirements. Identify any needs analysis or task analysis required or already performed. Identify and briefly describe any special requirements or constraints based upon the particular maintenance, support, and manpower concepts or philosophies identified at this time. Include any training constraints that may have an adverse effect on the system, platform, or equipment during its operational missions. Identify who will approve or validate training materials and who will maintain training materials and equipment.

Identify any initial contractor training courses to be provided for operator and maintenance personnel, a schedule for these courses to be conducted, and how many students will be trained in each course. If applicable, identify any contractor technical representatives to be provided, where they will be located, when they will be in place, and the duration of service to be provided. Identify any training equipment/aids/routines that are embedded in the system/equipment, and any interactive courseware to be used. Ensure training requirements for other organizational elements directly linked to the system, platform, or equipment are identified (e.g., Maintenance Augmentation Team (MAT) requirements for gas turbine class). Make a preliminary determination on whether pipeline, mandatory pre-arrival, or unit training is required. Determine if billet specific training is necessary. Identify areas where cross-utilization of personnel could reduce training costs. Make a preliminary determination of the personnel and resource costs associated with the required training Provide an estimate of life-cycle training costs. Include results from cost trade-off analysis of Coast Guard provided versus contractor provided training. Specify funding for post hand-off training tuition and travel by Office.

Element Detail Planning. Identify and briefly describe the detailed manpower and personnel planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, who will update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. The following list is not all inclusive, but should be considered in providing manpower and personnel element details, as appropriate.

Manpower requirements study, crewing study or staffing standards analysis report per Staffing Standards Manual, COMDTINST M5312.11 (series).Other documented planning requirements per *Naval Engineering Manual*, COMDTINST M9000.6 (Series); *System Integrated Logistics Support (SILS) Policy Manual*, COMDTINST M4105.8 (Series); *Coast Guard Air Operations Manual*, COMDTINST M3710.1 (Series); *Aeronautical Engineering Maintenance Management Manual* COMDTINST M13020.1 (Series); *Electronic Manual*, COMDTINST M10550.25 (Series), etc

Identify and briefly describe the detailed training and training support planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, who will maintain and update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. Identify any requirements for

new/additional training equipment that is required, and how these items will be acquired. The following list is not all inclusive, but should be considered in providing training and training support element details, as appropriate.

Master Training List(s) and Training Plan(s) identifying plans for all required pipeline, resident, exportable, On-The-Job, dockside, Computer-Based Training/Interactive Course, correspondence, factory, familiarization, initial and follow-on types of training, schedules, class locations, and ranks/ratings required to attend. This should include all required/desired training equipment, its current/intended location, and describe how this equipment will be made available for the project

3.0 Provisioning and Technical Data (PTD)

Concept/Approach. PTD is defined as Provisioning Technical Data

Describe the approach for development and acquisition of all required technical publications, drawings and other technical data. Describe applicable standards used in developing PTD (e.g.: XML, SD1000, ISO, etc.)

Identify and briefly describe the requirements for scientific or technical information recorded in any form or medium (such as manuals and drawings, provisioning technical data, software documentation, etc.) to support the system, and the format (electronic, hard copy, searchable text, drawings, etc.) in which the information is to be provided, and the activity that is to develop and provide the information.

Also identify who is responsible for approving technical data, the approval procedure, and who will maintain the data for the life cycle of the project. Specifically identify what, if any, participation by using activities is included. Each item of technical data should be enumerated. Computer programs and related software are not considered technical data; documentation of computer programs and related software are. Identify all software documentation to be delivered. Also excluded under this element are financial data or other information related to contract administration. If a performance type specification is used in the contract, all detailed system/segment specifications that are to be developed should be identified. Identify the types of Technical Manuals (TM) and drawings required to support the system or equipment installed aboard the vessel, aircraft or ashore, and whether these will be developed as part of the design effort or will consist of only contractor manuals primarily for Commercial and Non-Developmental Item (CANDI) items).

Identify whether TMs will be provided prior to or concurrently with the delivery of first production article. For any TMs not delivered by the time of first production article delivery, identify specific interim measures for overcoming this lack of data. Will preliminary TMs be available for use during OT&E? Identify how, and by whom, TMs will be validated and verified prior to final publication.

Element Detail Planning. Identify and briefly describe the detailed technical data planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. However, the ILSP should identify what details will be provided, who will provide them and when, who will approve them, who will review them, update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. The following list is not all inclusive, but should be considered in providing technical data element details, as appropriate.

- Technical Manual Contract Requirements document or Technical Manual Requirements summary.
- Engineering drawing requirements listing, summary or other documented requirements required by Naval Engineering Manual, COMDTINST M9000.6 (series), Information System Technology Architecture, COMDTINST M5230.45 (series), or other applicable documents.

4.0 Facilities/Infrastructure

Describe, quantitatively and qualitatively, facilities/infrastructure requirements to support the capability. Identify any funding, environmental, and space allocation constraints. If existing assets exists, describe differences in requirements or upgrades/additions needed.

Concept/Approach. Identify and briefly describe the process conducted to determine and develop requirements for the permanent, semi-permanent, or temporary real property assets required to support the system. Include any studies, needs analyses, or site surveys conducted to define facilities or facility improvements, construction requirements, locations, space needs, utilities, environmental requirements or considerations, real estate requirements, and equipment requirements for the system being acquired. Identify any constraints or special facilities requirements. Address only areas which pertain to the particular platform or system being supported, as applicable. Briefly describe the types of support facilities required for the system being acquired. If any required facilities will not be completed and available for use when the first production item is fielded, identify how long the facilities will not be available and any interim measures that are planned.

Element Detail Planning. The sponsor's representative and project office should coordinate with the Office of Civil Engineering Commandant (CG-43) early in the acquisition process concerning facilities requirements. Identify and briefly describe the detailed facilities planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. The following list is not all inclusive, but should be considered in providing facilities element details, as appropriate.

- Shore and afloat (or embarked) personnel berthing area requirements summary.
- Hangar, ramp (including aircraft tie-down requirements), taxiway and runway facilities.
- Facilities connections requirements summary (including service requirements for sewage, fuel, grey water, bilge water, potable water, telephone, electrical, fuel dispensing, compressed air, air conditioning, heat, etc.).
- Mooring devices, fendering system, and deck fitting requirements summary.
- Shore-side support services summary (including lighting, parking, refuse removal, hazardous waste disposal, replenishment of consumable materials, and fire protection).

Work space and storage facilities requirements summary (including hazardous material and

waste storage) and any special requirements for electrical power, compressed air, etc within these facilities

5.0 Obsolescence Management

This section describes the activities and events to be conducted to achieve availability and maintainability goals related to anticipated technology changes. It includes a detailed description of the technology refreshment plans and risk mitigation associated with Diminishing Manufacturing Sources and Materiel Shortages (DMSMS).

Diminishing Manufacturing Sources and Material Shortages (referred to as Obsolescence) impacts are experienced when the last known manufacturer of an item stops producing that item or a material shortage precludes continued availability of an item. *Diminishing Manufacturing Sources and Material Shortages (DMSMS)*, COMDTINST 4105.12, provides Coast Guard policy and guidance, and assigns responsibilities for the Coast Guard obsolescence program. Identify the management approach and strategy, and proactive planning actions being taken to ensure systems, subsystems, and components which are part of the platform/end-item system that is being acquired will have a continued support posture and will not be subject to obsolescence within the foreseeable future. Identify the indenture level at which DMSMS management will be provided. Identify what actions are to be taken by the prime contractor for the acquisition relative to DMSMS and what notification will be provided to the Coast Guard should DMSMS be encountered or forecast.

If any instance(s) of DMSMS are identified/forecast during the acquisition phases (prior to formal transition of the new platform/system to sustainment), a separate DMSMS Management Plan shall be prepared in accordance with LOGISTICS ELEMENT MANAGER'S (LEM) DESK GUIDE, COMDTINST 4105.11 to identify the specific DMSMS issues, impacts to logistic supportability of fielded assets, and specific actions being implemented to preclude or mitigate these impacts. This plan shall be appended to the ILSP and updated in the same manner as the ILSP.

SECTION D: SUSTAINMENT ELEMENTS

1.0 Supply Support

Fully describe the supply support concept. Include the provisioning process, organic or Contractor Logistics Support (CLS), Third Party Logistics provider (3PL), or Performance Based Logistics (PBL) type contracts, and any use of interim contractor supply support, testing support, etc

Concept/Approach. Briefly describe the supply support concept for the project. Identify and describe the applicable analyses, management actions, procedures, and techniques used to develop the supply support concept and determine requirements to acquire, catalog, receive, store, transfer, issue, and dispose of secondary items. Include the basis or rationale used to determine provisioning for both initial support and replenishment supply support, including the acquisition of logistics support for support and test equipment. Identify who will be responsible for providing supply support for the fielded/deployed system/equipment, and each applicable inventory control point. Include any planning actions being taken to provide interim contractor supply support or warranty support.

Element Detail Planning. Identify and briefly describe the detailed supply support planning documentation that will be used to support the project and how the information is to be derived. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review and update them, how often the documentation will be reviewed, and how this information will be distributed. The information should identify what items/components/parts are to be stocked at unit level, which ones are to be stocked centrally at each applicable inventory control point, and any items/components/parts for which spares assets will not be stocked. Parts lists shall include the unit price and the total price by line item for the individual parts. The following list is not all inclusive, but should be considered in providing supply support element details, as appropriate.

- Combined Allowance for Logistics and Maintenance Support.
- Allowance Equipage List.
- General Use Consumables List.
- Ordnance List and Stocking List (aviation only).
- Consolidated Shipboard Allowance List for Navy owned ordnance installed on Coast Guard vessels.
- Reparable Management Summaries or Source, Maintenance and Recoverability Code Listings.
- Unit Supply Support Summaries, Unit, and Depot Allowance Parts Lists (electronics and aviation).

2.0 Support Equipment

Describe the approach for the identification, selection, development, testing, and acquisition of all required support equipment

Concept/Approach. Identify and briefly describe the supporting analyses for developing the support and test equipment requirements for the project. Include the supporting analyses to identify all mobile or fixed equipment required to support the operation and maintenance of the system and the associated training equipment. Also include the basis for determining requirements for associated multi-use end items, handling and maintenance equipment, tools, metrology and calibration equipment, test equipment, and automatic test equipment. Briefly discuss the support equipment (SE) initial outfitting and replenishment concept and responsibilities. List pertinent points of contact and telephone numbers.

Element Detail Planning. Identify and briefly describe the detailed support and test equipment planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, who will update them for the life cycle of the project, how often the documentation will be reviewed, and how this information will be distributed. The following list is not all inclusive, but should be considered in providing support and test equipment element details, as appropriate.

- Built-in Test and Built-in Test Equipment lists.

- General and Special Purpose Electronics Test Equipment allowance lists.
- Special Tools
- Ship Portable Electrical/Electronic Test Equipment Requirements List, and Automated Test Equipment and associated Test Program Sets index or lists.
- SE exchange pool items lists.
- SE support provisions and procedures (including SE maintenance and support planning) documentation.
- Calibration requirements documentation, including who will provide support and test equipment maintenance and calibration support for the life cycle of the project.
- Electronics Equipment Information System documentation and Electronics Installation Record.

3.0 Environment, Safety and Occupational Health (ESOH)

Describe, quantitatively and qualitatively, ESOH requirements to support the capability. Identify any funding or regulatory constraints. Provide a summary of requirements and actions taken/planned relative to environmental issues applicable to the acquisition and the National Environment Policy Act (NEPA) requirements/process.

Identify any human systems (i.e., human to machine) integration criteria and limitations that are applicable to the project and any resultant impacts (positive or negative) on supportability, safety or occupational health..

4.0 Packaging, Handling, Storage and Transportation

Describe, quantitatively and qualitatively, PHS&T requirements to support the maintenance and sustainment of the capability

Concept/Approach. Identify and describe the supporting analyses, design considerations, constraints, and methods used to determine Packaging, Handling, Storage, and Transportation (PHS&T) requirements. Identify the resources, processes, and procedures to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly. Include any applicable constraints (such as reusable containers, Electro-Static Discharge/Electro-Magnetic Interference requirements) identified at this time. Include any applicable environmental considerations, hazardous material identification, equipment preservation requirements for short and long term storage, and transportability requirements. Reference any documentation that contains prescribed guidelines for packaging, handling, storage, and transportation of support items. Identify whether standard containers will be used or if special purpose containers are being procured. If reusable containers are to be used, identify what activity is responsible for storing them when not in use.

Element Detail Planning. Identify and briefly describe the detailed PHS&T planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, update them for the life cycle of the project, how often the documentation will be reviewed, and how this

information will be distributed. The following list is not all inclusive, but should be considered in providing PHS&T element details, as appropriate.

- Standard procedures document for transportation modes by equipment type.
- Storage considerations, to include environmental constraints and shelf life information.
- Special packaging, handling, storage, and transportation requirements summaries (including requirements for reusable containers and cases).
- Summaries of security marking, possible deterioration, electrostatic discharge, and other considerations for transport, handling, and storage of electronic items.
- Weight, cube, overall dimensions, and special shape summaries for large, heavy items requiring special handling procedures and equipment.
- Other documented planning requirements per *Transportation of Freight: Hazardous Material Code of Federal Regulations* 49CFR Part 100-177; and environmental considerations of 40 CFR Parts 1-800, *Transportation of Freight*, COMDTINST M4610.5 (series).

5.0 Information Technology Resources

Describe, quantitatively and qualitatively, IT requirements to support the sustainment of the capability.

Concept/Approach. Identify systems and sub-systems which have embedded software/firmware. For these embedded computer resources identify and describe the user requirements, facilities, hardware, system software, software development and support tools, documentation, and personnel needed to support these systems. Identify any supporting analysis or studies for determining the computer resource support requirements. Include any constraints or special considerations identified at this time. Identify the activity assigned responsibility for managing the software and any changes thereto after the system/equipment is fielded. Identify any interim support, warranty, or other special support to be provided. Identify the requirements included in the contract concerning Rights in Data. On an exception basis, identify any software application or software segment for which the government will have less than full data rights. Specifically identify all instances where the government will have limited data rights, and identify what rights will and will not be owned. Specifically identify any software that is proprietary. In each instance where the government will have less than full data rights, specific planning actions being taken for life cycle support must be identified under Element Detail Planning (next paragraph). For software acquisitions, maintenance planning and other support activities may be discussed under the respective ILS elements. Anything involving computer resources support that is discussed under another logistics element need not be repeated in this section of the ILSP, but appropriate cross references need to be provided.

Element Detail Planning. Identify and briefly describe the detailed computer resources support planning documentation that will be used to support the project. Note that these details are not part of the ILSP, but will be provided separately. Identify what details will be provided, who will provide them and when, who will approve them, who will review them, update them for the life cycle of the project, how often the documentation will be reviewed,

and how this information will be distributed. Identify who will provide life cycle support for updating/maintaining system software. Identify if system software code is being procured or if the software will be procured as "version controlled." The following list is not all inclusive, but should be considered in providing computer resources support element details, as appropriate.

- Software Development Plan.
- Software schedule.
- Software management organization and responsibilities index.
- Information Assurance Plan.
- Enterprise Architecture Documentation
- Documentation required by Executive Order 12845, Requiring Agencies to Purchase Energy Efficient Computer Equipment.

6.0 Automatic Identification Technology (AIT)

Describe, quantitatively and qualitatively, AIT requirements to support the maintenance, logistics support and sustainment of the capability. Include a description of the planned usage for and type of AIT (e.g.: Radio Frequency Identification (RFID), Unique Identifier (UID)) to be employed.

7.0 Deployment and Fielding

Describe any requirements unique to deploying and fielding a capability. For example, describe interim logistics support, interim maintenance, training, site preparation, and manpower requirements for activities designed to place a capability into operation.

8.0 Post Production Support

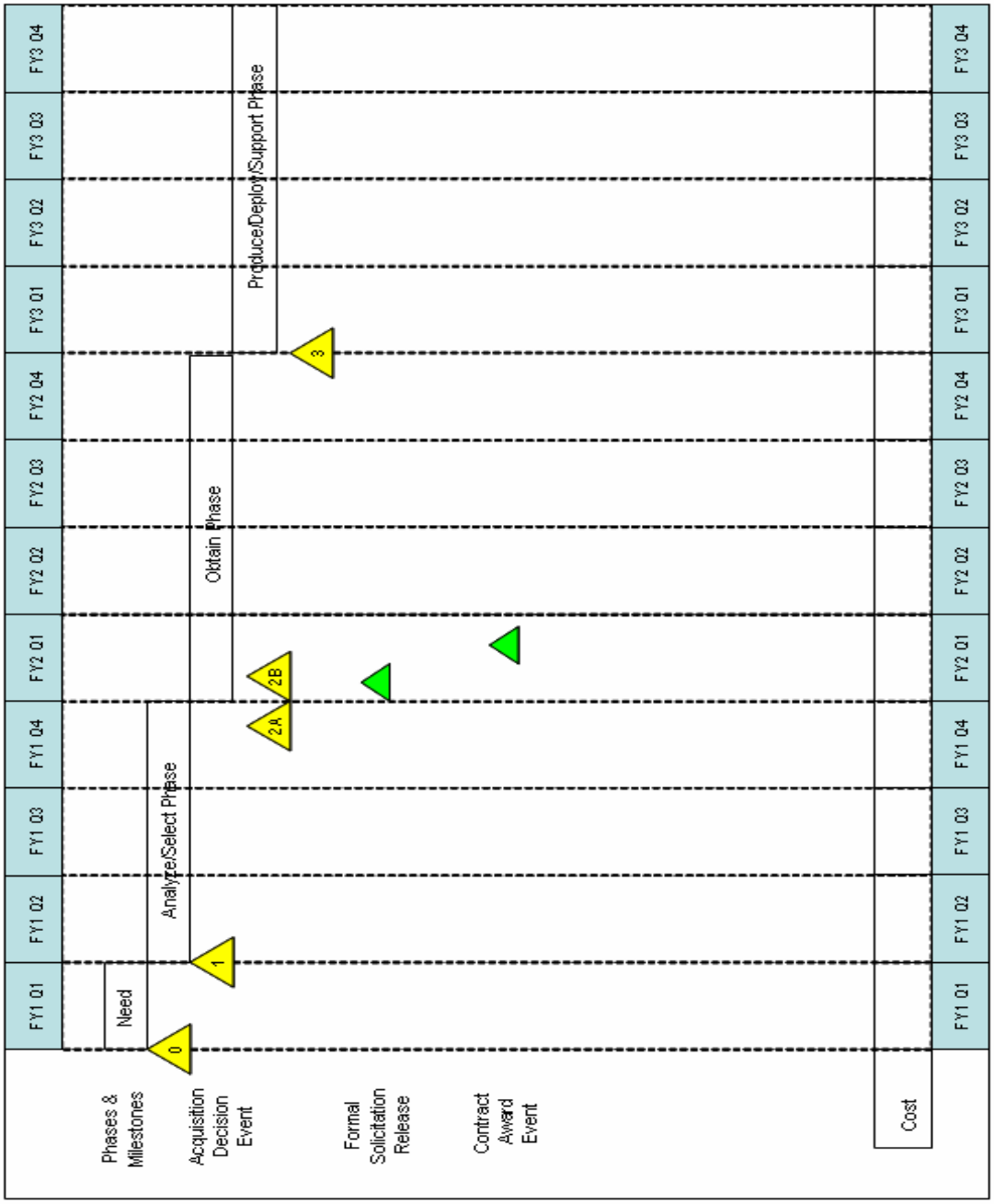
Describe sustaining engineering requirements and activities necessary to support ongoing sustainment of the capability after production of the original acquisition has ended. The focus of this activity is to provide a plan for support once the production lines have closed and sources of supply for repair parts, spares, technical data, etc. have become either scarce or unavailable due to any number of factors such as technological obsolescence and business closures. This is especially critical in the acquisition of low-density items or items where the technology is rapidly changing, e.g. IT systems. Examples of mitigation actions may include acquisition of detailed technical data and engineering drawings that would facilitate second sourcing if required. This is related to and uses the same principles of obsolescence management in Section C (above).

Appendices:

(A) ILS Portion of Integrated Master Schedule

(B) Acronyms

(A) Figure A-4 Notional Integrated Schedule (Fiscal Years)



(B) Supportability and Sustainment Acronyms and Glossary

ADA	Acquisition Decision Authority
ADE	Acquisition Decision Event
AIT	Automatic identification Technology
PM	Acquisition Manager
Aa	Achieved Availability
Ai	Inherent Availability
Ao	Operational Availability
AoA	Analysis of Alternatives
APB	Acquisition Program Baseline
APMD	Acquisition Program Management Division
ARP	Acquisition Review Process
CAE	Component Acquisition Executive
CDR	Critical Design Review
CLS	Contractor Logistics Support
DMSMS	Diminishing Manufacturing Sources and Material Shortages
ESOH	Environmental, Safety and Occupational Health
IPT	Integrated Process Team
ILS	Integrated Logistics Support
ILSP	Integrated Logistics Support Plan
ISSA	Independent Supportability and Sustainment Assessment
IT	Information Technology
KPP	Key Performance parameter
LCCE	Life Cycle Cost Estimate
MNS	Mission Need Statement
MPT	Manpower, Personnel and Training
MR	Mission Reliability
MTBCF	Mean Time Between Critical Failures
MTBF	Mean Time Between Failures
MTBMA	Mean Time Between Maintenance Action
MTTR	Mean Time To Repair
O&M	Operations and Maintenance
O&S	Operations and Support
ORD	Operational Readiness Document
PBL	Performance Based Logistics

PDR	Preliminary Design Review
PDT	Product and Technical Data
PHS&T	Packaging, Handling, Storage and Transportation
RPM	Reliability, Availability and Maintainability
RFID	Radio Frequency Identification
SELC	Systems Engineering Life Cycle
SEMP	Systems Engineering Master Plan
3PL	Third Party Logistics
UID	Unique Identifier
XML	Extensible Markup Language

17.0 INDEPENDENT LOGISTICS ASSESSMENT

17.1 Independent Logistics Assessment (ILA) Review Purpose

The purpose of an Independent Logistics Assessment (ILA) is to ascertain the status of the logistics support planning during the early acquisition phases prior to ADE-2A. The ILA includes review and assessment of the integrated master schedule and contracts, in addition to the review of pertinent planning documents, such as, the Integrated Logistics Support Plans, Risk Management Plans, Configuration Management Plans, Cutter Class Maintenance Plans, etc). The ILA will also consider financial, budget and life cycle cost estimates, interim support planning, long range support planning to meet FOC and concept of operations for the system or systems of systems. The review team will consist of a cross functional team chartered by Commandant (CG-4), the Assistant Commandant for Engineering and Logistics and will include members from each of the Technical Authorities. The team will assess the project's logistics support planning to ensure that logistics program requirements are properly defined and executable.

17.2 ILA Review Preparation

The Project Manager will identify the requirements for an ILA on the project's integrated master schedule, and ensure that the project's Logistics Director provides any necessary assistance to the ILA team. The Logistics Director will collect all Capstone Documentation and provide access to this documentation, and any other planning information deemed necessary by the ILA team for review and comment. The Logistics Director needs to plan on hosting the ILA approximately three months prior to the exit from Analyze/Select, in preparation for the ADE-2A review.

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17.3 Independent Logistics Assessment Template

INDEPENDENT LOGISTICS ASSESSMENT (ILA)

for the

{PROJECT TITLE}

Submitted by:	_____ ILA Team Lead	_____ Date
Reviewed by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Assessment Lead (CG-1)	_____ Date
Endorsed by:	_____ Assessment Lead (CG-4)	_____ Date
Endorsed by:	_____ Assessment Lead (CG-6)	_____ Date
Approved by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date

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INDEPENDENT LOGISTICS ASSESSMENT (ILA) REVIEW

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief one or two page discussion of the Independent Logistics Assessment (ILA), highlighting the salient points of each section.

SECTION 1: INTRODUCTION

The introduction provides a project summary and should include a brief discussion to each of the following points:

1.1 Purpose

Define the purpose of the ILA. Include in this section: "An independent logistics assessment has been accomplished on the logistics support planning of this project including a review of the Capstone Documentation (Integrated Logistics Support Plans, Risk Management Plans, Configuration Management Plans, Class Maintenance Plans, etc)."

1.2 Background

Provide a brief discussion of the reviewed logistics support planning and concept for this project. Briefly describe the system in general terms, without describing specific requirements. Briefly describe the current status of the project including the acquisition phase of the project.

1.3 Review Process Overview

Briefly describe how the review was conducted. Give an overview of the types of data collected and how they were analyzed. Specify how/when the report was developed, how consensus was reached and who was interviewed on findings and recommendations.

SECTION 2: AREAS OF ASSESSMENT

2.1 Capstone Documentation Goals

Describe whether the specific Capstone Documents are achieving defined goals. Include instances of exceeding goals as well as failures to meet them. Describe the causes and impacts of positive or negative results.

2.2 Customer Assessment

Identify the primary customers of the specific Capstone Document. State if the document is meeting needs/requirements, if the requirements have changed and/or if any gap exists. Identify any needs for additional documentation. Include in this section results of customer feedback.

2.3 Risk Assessment

Summarize the significant risks and mitigations currently being tracked and monitored for this project in the logistics support areas. Include their impacts and probabilities, and how they were managed or mitigated.

3. CONCLUSIONS/ RECOMMENDATIONS

Identify any action that should be taken to optimize the effectiveness and efficiency of the specific logistics support planning for this project. Summarize any gaps with a recommended action plan to mitigate gaps. State whether current cost, schedule, and performance results justify additional efforts in a particular area of logistics support planning.

4. LESSONS LEARNED

Address lessons learned (what worked well and what went wrong). Include acquisition policies or processes that proved helpful in the implementation of this project or that could be made more efficient or effective. Insert Lessons Learned in the Commandant (CG-9) database: http://www.project-test.net/test-site/GLiblld/home/index.asp

18.0 LOGISTICS READINESS REVIEW

18.1 Logistics Readiness Review (LRR) Purpose

The purpose of the Logistics Readiness Review, scheduled to be conducted prior to the delivery of an asset in either LRIP or the Produce/Deploy/Support phase, is to focus on the planning, management, control, and execution of the traditional logistics elements systems which support an asset, to identify gaps and recommend gap remediation, and to identify interim solutions as needed, until permanent solutions are identified. The LRR will also consider financial, budget and life cycle cost estimates, interim support planning, long range support planning to meet FOC, OEM and support contract vehicles, and concept of operations for the system or systems of systems. Prior to ADE- 4 and in conjunction with the Project Transition Review, the LRR findings will be reassessed to ensure the asset can meet its established program metrics, and is fully supportable prior to Project Transition.

18.2 LRR Review Preparation

To prepare for an LRR, Commandant (CG-4) identifies a team of cross-functional experts skilled in the traditional elements of logistics that includes representatives from the operational and maintenance communities. The team identifies areas of concern and defines a cohesive process to identify gaps in support, assess potential impacts on mission performance, and recommend remediation for identified gaps. Generally, the following areas are focused on during an LRR: (1) Configuration Management (CM), (2) Supply Support, (3) Manpower Personnel and Training (MPT), (4) Technical Documentation, (5) Support Equipment, (6) Facilities, (7) Maintenance Planning.

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18.3 Logistics Readiness Review (LRR) Template

Logistics Readiness Review (LRR)

for the

{PROJECT TITLE}

Submitted by:	_____ LRR Team Lead	_____ Date
Reviewed by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Review Lead (CG-1)	_____ Date
Endorsed by:	_____ Review Lead (CG-4)	_____ Date
Endorsed by:	_____ Review Lead (CG-6)	_____ Date
Approved by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date

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LOGISTICS READINESS REVIEW

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief one or two page discussion of the Logistics Readiness Review (LRR), highlighting the salient points of each section.

SECTION 1: INTRODUCTION

The introduction provides a project summary and should include a brief discussion to each of the following points:

1.1 Purpose

Define the purpose of the LRR. Include in this section: “An LRR is accomplished on the logistics support capability that has been put into place for the asset. The review will assess project planning documentation updates, but will focus primarily on the progress and sufficiency of the logistics support structure as it is evolving for the asset."

1.2 Background

Provide a brief discussion of the reviewed logistics support capability. Briefly describe the asset in general terms, without describing specific requirements. Briefly describe the current status of the project including the acquisition phase of the project.

1.3 Review Process Overview

Briefly describe how the review was conducted. Give an overview of the types of data collected and how they were analyzed. Specify how/when the report was developed, how consensus was reached and who was interviewed on findings and recommendations.

SECTION 2: AREAS OF ASSESSMENT

2.1 Strategic & Mission Goals

Show how this LRR is aligned to the assets goals. Describe whether the LRR is achieving mission goals. Include instances of exceeding mission goals as well as failures to meet them. Describe if this LRR is meeting mission requirements and if it can be combined with others processes or reviews to better meet strategic and mission goals. Describe the causes and impacts of positive or negative results.

2.2 Customer, User, and Stakeholders Assessment Results

Identify the primary customers, users, and stakeholders of this LRR. State if the LRR is meeting needs/ requirements/ if the requirements have changed and/or if any capability gap exists. Identify any needs for additional functions/ performance enhancements or if an

innovative/ alternative solution would result in increased efficiency and/or cost savings. Include in this section results of customer, user & stakeholder surveys, interviews & feedback.

2.3 Operations and Support Results

Summarize in this section projected Measures of Effectiveness and Measures of Suitability results of the asset. Include in this section any operational and engineering metrics (charts/ tables/ graphs) showing projected performance and maintainability of the asset (i.e., average operational hours vs. target, maintenance metrics). Address the following support indicators and any others as appropriate.

- Reliability
- Maintainability
- Availability

2.4 Risk Assessment

Summarize the significant logistics support risks and mitigations currently being tracked and monitored by the project. Include their impacts and probabilities, and how they were managed or mitigated.

2.5 Performance Results

Summarize if the asset is meeting mission performance. Use any test results as necessary. Include Key Performance Parameters from the APB, which should be linked to specific missions and organizational goals of the Coast Guard and DHS. Include a table such as the following to list Key Performance Parameters (include all baseline changes), actual results and variances.

Key Performance	APB Baseline		Actual	Variance
Parameter	Original (Date)	Rev 1 (Date)	(Date)	
Operational Availability	97.0%	95.0%	93.6%	-1.4%

2.6 Cost Results

Explain whether the LRR process is meeting its cost goals. Discuss actual cost to date relative to baseline cost values and any expected changes. Include total LRR costs, and projected corrective action costs to reach and sustain logistics supportability. Explain the reasons for any cost variance, including cost drivers. Identify whether the acquisition project

is within its cost baseline. Include a table such as the following to list key costs (include all baseline changes), planned/actual results to date, and variances.

Cost	APB Baseline		Planned	Actual	Variance
Type	Original (Date)	Rev 1 (Date)	To Date	To Date	
On Board Repair Parts (LM 2500 Engine)	200K	250K	190K	195K	-5K
Engineering Operational Sequencing System	750K	500K	750K	500K	+250K

2.7 Schedule Results

Briefly describe any impact of the schedule variance on this and other acquisition projects. Use a table such as the following to identify key project events, (include all baseline changes), actual event dates, and variances.

Key	APB Baseline		Actual	Variance
Event	Original (Date)	Rev 1 (Date)	(Date)	
Technical Documentation Review	15 August 2008	30 October 2008	1 November 2008	10 weeks
Provisioning Conference – C4I	1 November 2008	15 November 2008	15 November 2008	None

3. CONCLUSIONS/ RECOMMENDATIONS

Identify any action that should be taken to optimize the effectiveness & efficiency of the logistics support structure for the asset. Summarize any gaps with a recommended action plan to mitigate gaps. State whether current cost, schedule, and performance results justify changes to the logistics support structure. Provide recommendation on ADE approval.

4. LESSONS LEARNED

Address lessons learned (what worked well and what went wrong). Include acquisition policies or processes that proved helpful in the implementation of this project or that could be made more efficient or effective. Insert Lessons Learned in the Commandant (CG-9) database: http://www.project-test.net/test-site/GLiblld/home/index.asp

19.0 CONFIGURATION MANAGEMENT PLAN

19.1 CMP Purpose

The purpose of Configuration Management (CM) is to enable the orderly development of a system, subsystem, or configuration item. The CMP identifies the tailored (CM) program that is to be implemented by the PM. It identifies the configuration items (CIs) for which CM shall be effected; the CM organization applicable to the project; how the configuration of the system/equipment will be identified in terms of configuration baselines; how the configuration and any configuration changes will be controlled by a Configuration Control Board (CCB); how the configuration and changes will be documented in a Configuration Status Accounting System; and how the configuration of the system/equipment will be verified against the configuration documentation through configuration audits. The CMP also includes schedule information for CM activities, and applicable metrics that will be used to assess the effectiveness of the CM program.

19.2 CMP and CCB Charter Preparation

Prior to DHS ADE-2A, the PM shall prepare a comprehensive CMP, tailored appropriately for the individual acquisition. The CMP shall be prepared following the guidance for the Government CM Plan contained in MIL-HDBK-61 (series).

The CCB Charter must be prepared prior to the CMP to enable a reference inclusion in the CMP. A template for the CCB Charter is provided in Section 19.4.

The PM should prepare both the CMP and CCB Charter in consultation with all Program and Support Managers involved in the project to ensure the project CM program addresses all concerns and CCB members are appropriately designated.

The CCB Charter, once prepared and approved, requires no updating unless external changes are made which must be reflected. The CMP, on the other hand, is a dynamic document that requires updating for each ADE subsequent to ADE-2A. The CMP may be provided to the CGARC, CAE, and ADA as a supporting document for each ADE decision. In addition, the CMP shall be updated any time significant changes are made to the project CM program or scheduled CM events.

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19.3 CMP Template

CONFIGURATION MANAGEMENT PLAN (CMP)

for the

[PROJECT TITLE]

Submitted by:	_____	_____
	Project Manager (CG-9YYY)	Date
Endorsed by:	_____	_____
	Program Manager (CG-93Y)	Date
Approved by:	_____	_____
	Director of Acquisition Programs (CG-93)	Date

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CONFIGURATION MANAGEMENT PLAN

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The executive summary should be a brief (one or two pages) discussion of the plan, highlighting the purpose, scope, and any CM constraints/issues. Also discuss salient points of each section in the plan to include the applicable CM concepts and acquisition strategy. Briefly discuss the CM organization and the roles and responsibilities of key participants, and discuss the processes to be followed for Configuration Identification, Configuration Control, Configuration Status Accounting, and Configuration Audits.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: INTRODUCTION

1.1 Purpose.

Identify the purpose of the CMP.

1.2 Scope.

Identify the scope of the CMP and the acquisition phase to which it applies.

1.3 System Description.

Provide a brief description of the system or top-level configuration items.

SECTION 2: CM CONCEPT OF OPERATIONS AND ACQUISITION STRATEGY

2.1 CM Concept of Operations

Provide a description of the CM objectives to include the rationale for each objective, the relationship to project objectives, risks associated with not meeting the CM objectives, and the measurement/criteria for assessing accomplishment of the CM objectives. Include the information needed to support the achievement of objectives in the current and future acquisition phases.

2.2 CM Acquisition Strategy

Discuss the acquisition strategy for the system/configuration items (CIs). Identify whether the CIs are identified by the Government or the contractor(s). How will CIs proposed by the contractor(s) be approved? Will the system/CIs be supported organically or by the contractor(s)? How will CM baselines be established and how will configuration control be exercised? What life cycle operational and maintenance needs must be satisfied by the CM approach?

To what level of indenture are performance specifications required? Are the specifications

prepared by the Government or contractor(s)? Are the specifications approved by the Government or contractor(s)?

To what level of indenture is configuration identification required by the Government? To what level is it required by the contractor(s)?

To what level of indenture is Government configuration control necessary in the current acquisition phase?

What configuration baselines will be established? What documentation needs to be included in each baseline? What activity/organization will control each baseline?

What configuration status accounting tasks are required? Will the Government or contractor(s) perform the configuration status accounting tasks? What type of digital data format will be used for the configuration status accounting data? How will the information be accessible by the Government and the contractor(s)?

SECTION 3: CM ORGANIZATION

Provide a description and graphic portraying the project CM organization. Include information identifying:

Relationships of the project CM organization, IPT/matrix structure, other functional organizations, contractor(s).

The PM's responsibilities concerning CM as outlined in the PM Charter. Provide a specific reference to the CCB Charter establishing the PM as the Chair of the CCB and the organizational structure of the CCB. Include identification of the project Configuration Manager.

Any applicable relationships with organizations outside the Coast Guard, and how these relationships are established and defined.

Responsibility and authority for CM of all participating organizations including their roles in configuration control board activities; the integration of CM functions with other activities; and, the interface with the project Configuration Manager.

SECTION 4: DATA MANAGEMENT

Provide a discussion of the technical data concept of operation including such elements as:

Applicable data transfer and format standards and protocols being implemented.

Specific information needs.

Access requirements.

Formats supported.

Network interface parameters applicable.

Data base model that is being employed.

> Note: This is not a discussion of how data deliverables provided by the contractor in response to contract data requirements list (CDRL) requirements in the contract will be managed.

SECTION 5: CM PROCESS

5.1 CM Management and Planning

Provide a description of the project's CM process for accomplishment of the Configuration Management activities to include:

Applicable Government and Government/Contractor CM actions.

Selected decision criteria, and evaluation factors, where applicable.

Metrics, if any, and their relation to CM objectives identified in Section 2.

Additionally, provide a description and graphics portraying CM phasing and milestones, i.e., milestones for implementation of the Government CM process in phase with major project ADEs, and include the following, as a minimum:

CM activities for the current phase

CM activities and selected actions for future phases

Establishment of interface agreements and MOUs, if applicable

Establishment of the Project CCB (append a copy of the approved CCB Charter)

Approval of configuration documentation establishing the Functional, Allocated, and (when applicable) Product Baselines

Implementing the Coast Guard CM Automated Information System

Conducting major configuration audits

Upon update of the CM plan, record completion of actions and document lessons learned.

5.2 Configuration Identification

The purpose of configuration identification is to incrementally establish and maintain a definitive basis, i.e., configuration baseline(s) and the supporting documented technical descriptions that collectively define a Configuration Item (CI). Provide a description of the project's CM process to effectively establish and manage the configuration baselines. Include discussions of government versus contractor actions (including when each has configuration control of the item or system); processes used to document decisions; and metrics to be used.

5.3 Configuration Control

Configuration control is the systematic proposal, justification, evaluation, coordination, and approval or disapproval of changes in configuration after configuration baseline establishment; and the implementation of all approved changes. Discuss the process that will be used to manage configuration control, including configuration change management (i.e., Engineering Change Proposals (ECPs), Request for Deviation (RFD), Specification Change Notice (SCN), and Notice of Revision (NOR). Include discussions of government versus contractor actions (including when each has configuration control of the item or system); processes used to document decisions; and metrics to be used.

5.4 Configuration Status Accounting

Configuration Status Accounting (CSA) systems record and report the information needed to manage configuration items effectively. Describe how CSA will be made available to all organizations in the project matrix/IPT to ensure all project personnel are working from a common reference point. Include discussions of government versus contractor actions; processes used to document decisions; and metrics to be used.

5.5 Configuration Audits

Configuration audits validate and verify that system design and development requirements are achieved and that CIs and their identification are accurate, complete, and satisfy the approved requirements. Describe the plan for conducting the Functional Configuration Audit and Physical Configuration Audit. Include discussions of government versus contractor actions; processes used to document decisions; and metrics to be used.

Appendices:

(A) Acronyms and Definitions

Include a glossary of acronyms and definitions that are used in the CMP.

(B) Reference Documents

List any specifications, standards, manuals and other documents referenced in the CM Plan by title, document number, issuing authority, revision, and any change notice or amendment and issue date.

19.4 CCB Charter Template

U.S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W
Washington, DC 20593-0001
Staff Symbol**: (CG-YYY)**
Phone: **(202) 475-**
Fax: **(202) 475-**
Email: **(address)**

4130

MEMORANDUM

From **(Name and grade of Director of Acquisition Programs)** Reply to: **(Code)**
CG-93 Attn of: **(Name)**

To: Distribution

Subj: **(PROJECT NAME)** CONFIGURATION CONTROL BOARD CHARTER

Ref: (a) U.S. Coast Guard Configuration Control Boards, COMDTINST M4130.10
(b) Major Systems Acquisition Manual, COMDTINST M5000.10
(c) (PM Charter, CG-01 Memorandum dated XX XXX XXXX)

1. Purpose. To publish the charter by which the Configuration Control Board (CCB) for the **(Project Name)** will function as required by references (a) and (b). This designation is effective immediately and shall remain in effect until modified or canceled.

2. Background. The **(Project Name)** CCB shall provide technical and administrative direction and oversight to control the functional and physical configuration characteristics of **(the asset/system name)**, control changes to those characteristics, and report/record change processing and implementation.

3. Charter.

a. Scope. The **(Project Name)** CCB is the decision making authority for configuration baseline approval, and final review and disposition of all Class I (affecting safety, form, fit, function, or logistics support structure) Engineering Change Proposals (except changes affecting Mission Need Statement or Operational Requirements Document) and all critical and major deviations. The **(Project Name)** CCB applies only to the **(Project Name)** Project. The **(Project Name)** PM shall establish and conduct a CM program in accordance with the requirements outlined in reference (a) and (b), tailored appropriately for the acquisition project.

b. Background. A CCB is critical to the **(Project Name)** acquisition to provide an orderly process for the review of potential changes which can have a significant impact to the **(Project Name)** in terms of cost, schedule, and performance. The CCB serves as the capstone to the configuration control process, and ensures that only necessary changes are instituted.

c. Authority. The **(Project Name)** PM is designated as the CCB Chairperson and granted the authority to approve/disapprove configuration changes in accordance with reference (c). Since the **(Project Name)** is a Coast Guard major acquisition, the CCB Chairperson shall refer any proposed configuration changes affecting the **(Project Name)** Operational Requirements Document (ORD) or Mission Need Statement (MNS) to higher authority per reference (b). Configuration changes to any system/equipment under configuration management/control by another activity shall not be approved without first obtaining approval of the applicable configuration management/controlling activity. The Deputy PM shall be appropriately designated by the PM as the alternate CCB Chairperson.

d. CCB Membership. The CCB shall consist of **(but not limited to)**:

FUNCTIONAL AREA	CODE	RESPONSIBILITY
Project Manager	CG-9YY	Chairperson
Deputy PM	CG-9YY	Permanent Member
Technical Manager	CG-9YY	Permanent Member
Logistics Manager	CG-9YY	Permanent Member
Human Systems Integration (Technical Authority)	CG-1B3	Permanent Member
Sponsor Representative	as applicable	Permanent Member
Engineering (HM&E, Elex Aviation, other)	all applicable	Permanent Member
Platform/Support Manager	as applicable	Permanent Member
Contracting Officer	CG-912	Permanent Member
Program Management	CG-441	Permanent Member
Configuration Management	CG-444	Permanent Member
Configuration Manager	CG-9YY	Recorder
Safety, Security, and Environmental Health	CG-113	Ad Hoc Member
Legal	CG-094	Ad Hoc Member
Training and Performance	CG-132	Ad Hoc Member
Acquisition Support	CG-924	Ad Hoc Member
Other areas, as appropriate	as applicable	Ad Hoc Member

4. Duties and Responsibilities. The CCB shall carry out the duties and responsibilities identified in references (a) and (b). The main CCB function is to ensure the **(Project Name)** addresses, as appropriate, all aspects of configuration management in accordance with reference (a).

5. Action. Offices represented on the **(Project Name)** CCB shall designate one primary and

one alternate representative. The designations shall be provided in writing to the **(Project Name)** PM **(Code)** no later than 30 days after this charter's effective date. All designated **(Project Name)** CCB members shall comply with this charter.

#

Distribution: **(to include all offices/activities identified for CCB membership)**

Dist:											
Copy:											

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20.0 Project Systems Engineering Life Cycle (SELC) Tailoring Plan (PSTP)

20.1 PSTP Purpose

The purpose of the PSTP is to define the specific life cycle stages and artifacts that the project will complete .Tailoring promotes flexibility in the process to address unique project variations based on programmatic requirements, application domains, solution approaches, and tradeoffs in cost, schedule, and quality. However, the flexibility must be balanced by a need to support standards, objectives, and strategies so that process lessons learned can be used by all projects to improve productivity and quality by improving the process.

20.2 PSTP Preparation

The PSTP shall be prepared in accordance with the template provided in section 20.3. It should be applied in a manner relative to project size, scope, complexity, risk, and security categorization. Tailoring is a technique that facilitates the flexibility in the design and application of an appropriate development life cycle to fit project characteristics, while ensuring compliance with requirements of the DHS SELC Guide. Specific SELC requirements may be waived as part of an approved SELC Tailoring Plan.

The DHS System Engineering Life Cycle (SELC) Guide (DHS Acquisition Instruction 102-01-001 Appendix B) specifies the DHS System Engineering process to be used. The Guide recognizes that there are multiple ways to approach and accomplish the required work. Project managers should tailor the DHS SELC to guide the project to successful implementation of sound System Engineering Principles.

The Coast Guard currently has instructions for implementing a Systems Development Life Cycle (SDLC) to manage C4IT projects and non-IT projects with major IT systems. Until the Coast Guard is fully transitioned from the SDLC to the SELC, PMs need to be cognizant of both. Chapter 7 provides information on the SDLC.

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20.3 Project SELC Tailoring Plan (PSTP) Template

SYSTEMS ENGINEERING LIFE CYCLE (SELC) TAILORING PLAN(PSTP)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Assistant Commandant for Human Resources (CG-1)	_____ Date
Endorsed by:	_____ Assistant Commandant for Engineering and Logistics (CG-4)	_____ Date
Endorsed by:	_____ Assistant Commandant for C4&IT (CG-6)	_____ Date
CG Approval by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
DHS approval:	_____	_____ Date

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1.0 Project Overview

This section describes the key characteristics of the project that influence the project tailoring. The following should be addressed.

a. Project summary
b. Project scope
c. Project size
d. Expected project duration
e. Project complexity
f. Proposed technology and its maturity
g. Project Systems Engineering organization
h. Technical Baseline Management
i. Organizational impact
j. Project Delivery Methodology (e.g., spiral, waterfall) description (e.g., number of spirals, segments)

2.0 Project Tailoring Detail

Projects are to assess the SELC stages and determine the stages that it intends to complete. This is part of the tailoring process. Use the DHS SELC Guide (DHS Acquisition Instruction 102-01-001, Appendix B) in developing the PSTP strategy.

Projects that have multiple segments should tailor paragraphs 2.1 and 2.2 as separate enclosures to this tailoring plan.

2.1 Project Stages and Reviews

Table 6. Project Stages and SELC Reviews is to be used to identify the stages the project intends to complete (by segment, if the project consists of segments). Identify the first (or current) SELC stage the project is in with the label of "first" or "current" in the second column (Project Stage Tailoring). Then list the subsequent stages the project intends to use with the word "yes". If stages are combined, also annotate such in the same column.

Document the planned SELC reviews with fiscal year and quarter each is to occur in the fourth column (Date of SELC Review).

The Program/Project Manager is responsible for arranging, coordinating, and leading stage reviews while the Approval Authority is responsible for sign-off that the project has satisfied all the exit criteria and is ready to proceed to the next stage. A signed stage review approval letter must be provided to DHS (through CG-924) following conclusion of each stage review.

NOTE: **Table 7. Project Stages and SELC Reviews** may be adjusted depending on the work pattern. For

example, if a spiral approach is used, the table should depict the spirals and the stage reviews for each spiral.

Table 1: Project Stages and SELC Reviews

SELC Stage	Project Stage Tailoring	SELC Reviews	Date of SELC Review (QFY)
Solution Engineering		Study Plan Review	
		Solution Engineering Review	
Planning		Project Planning Review	
Requirements Definition		System Definition Review	
Design		Preliminary Design Review	
		Critical Design Review	
Development		Test Readiness Review	
Integration & Test		Production Readiness Review	
Implementation		Operational Readiness Review	
Operations & Maintenance		Post Implementation Review	
Disposition		TBD	

2.2 Project Deliverables and Work Products

Tables 2-10 detail SELC Deliverables and Work Products for the project (or each segment of the project) that will be developed in a specific stage. Modify the tables below to reflect the tailoring of the stages from paragraph 2.1.

The tables below do not include documents already required in Chapter 2 of the MSAM.

MSAM Chapter 7 contains specific instruction related to Major C4&IT Systems Acquisitions. The Coast Guard currently has instructions for implementing a USCG System Development Life Cycle (SDLC) to manage C4IT projects that are roughly equivalent to the DHS SELC. USCG SDLC deliverables and products contain a majority of the deliverables and work products of the DHS SELC. In the justification column of the tables below, the applicable USCG SDLC Key Product, that contains the required DHS SELC work product, is shown in parentheses.

Table 2: SELC Solution Engineering Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Service Reuse Plan	No	(*Part of USCG Enterprise Architecture Document)*
HLS EA Program Alignment Decision Request	No	*(Part of USCG Enterprise Architecture Document)*
Program Alignment Documentation Matrix	No	
Map to Business Architecture	No	*(Part of USCG Enterprise Architecture Document*
Map OCIO Portfolios	No	*(Part of USCG Enterprise Architecture Document*
Section 508 National Security Exception Determination	No	
FIPS 199 Security Categorization	No	*(Part of USCG Information Assurance Plan provided in the Requirements Definition Stage)*
Preliminary Security Risk Assessment	No	
Solution Engineering Review (SER) Approval Letter	No	

Table 3: SELC Planning Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Quality Assurance Plan	No	*(Part of USCG C4IT Development and Support Plan)*
Training Plan	No	*(Provided in the Development Stage)*
Privacy Threshold Analysis (PTA)	No	*(Part of USCG C4IT Business Case Analysis)*
Section 508 EIT Accessibility Plan	No	*(Part of USCG C4IT Functional Requirements Document)*
Data Management Plan	No	*(Part of USCG C4IT Development and Support Plan)*
Project Planning Review (PPR) Approval Letter	No	

Table 4: Requirements Definition Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Functional Requirements Document	No	
Requirements Traceability Matrix (RTM)	No	*(Part of USCG C4IT Development and Support Plan)*
Site Prep Plan	No	*(Part of USCG C4IT Development and Support Plan)*
Service Level Agreements	No	*(Part of USCG C4IT Funding Plan)*
Security Requirements Traceability Matrix (SRTM)	No	*(Part of USCG C4IT Information Assurance Plan)*
Plan of Action & Milestone (POA&M)	No	*(Part of USCG C4IT Program Management Plan)*
System Security Plan (SSP)	No	*(Part of USCG C4IT Information Assurance Plan)*
Contingency Plan	No	*(Part of USCG C4IT Information Assurance Plan provided in the Design Stage)*
Disaster Recovery Plan	No	*(Part of USCG C4IT Information Assurance Plan)*
Security Risk Assessment (SRA)	No	*(Part of USCG C4IT Information Assurance Plan)*
Security Test & Evaluation (ST&E) Plan	No	*(Part of USCG C4IT Information Assurance Plan and/or Implementation Plan provided in the Design Stage)*
Map to the Data Architecture	No	*(Part of USCG C4IT Enterprise Architecture Document provided in the Design Stage)*
Map to the Business Architecture	No	*(Part of USCG C4IT Enterprise Architecture Document provided in the Design Stage)*
Map to the Technology Standards and Products	No	*(Part of USCG C4IT Enterprise Architecture Document provided in the Design Stage)*
System Definition Review (SDR) Approval Letter.	No	

Table 5: Design Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
System Requirements Document	No	*(Part of USCG C4IT Functional Requirements Document)*
System Design Document	No	*(Part of USCG C4IT Development and Support Plan)*
Logical Design Document	No	*(Part of USCG C4IT Development and Support Plan)*
Interconnection Security Agreement (ISA)	No	*(Part of USCG C4IT Information Assurance Plan)*
Data Architecture Document	No	*(Part of USCG C4IT Enterprise Architecture Document)*
Technology Insertion Decision Request	No	*(Part of USCG C4IT Development and Support Plan)*
Preliminary Design Review (PDR) Approval Letter	No	
Critical Design Review (CDR) Approval Letter	No	

Table 6: Development Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Developmental Test Plan (DTP)	No	
Training Materials	No	
Test Case Specification	No	*(Part of USCG C4IT Implementation Plan)*
System Acceptance Test Procedures	No	*(Part of USCG C4IT Implementation Plan)*
Operators Manuals	No	*(Part of USCG C4IT System Documentation.)*
Maintenance Manuals	No	*(Part of USCG C4IT System Documentation.)*
User Manuals	No	*(Part of USCG C4IT System Documentation)*
Version Description Document	No	*(Part of USCG C4IT System Documentation)*
Test Readiness Review (TRR) Approval Letter	No	

Table 7: Integration & Test Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
System Test Report	No	*(Part of USCG C4IT Implementation Plan)*
Acceptance Test Report	No	*(Part of USCG C4IT Implementation Plan)*
Section 508 Assistive Technology Interoperability Test Report	No	*(Part of USCG C4IT Implementation Plan)*
Service Insertion Package (SIP)	No	*(Part of USCG C4IT Enterprise Architecture Document)*
System of Record Notice (SORN)	No	
Security Assessment Report (SAR)	No	*(Part of USCG C4IT Information Assurance Plan)*
Security Accreditation package	No	*(Part of USCG C4IT Information Assurance Plan)*
Privacy Impact Assessment (PIA)	No	*(Part of USCG C4IT Business Case provided in the Planning Stage)*
Production Readiness Review (PRR) Approval Letter	No	

Table 8: Implementation Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Pilot Results Report	No	*(Part of USCG C4IT Implementation Plan)*
Follow on Test Results	No	*(Part of USCG C4IT Implementation Plan)*
Critical Infrastructure Protection Report	No	*(Part of USCG C4IT Information Assurance Plan)*
Transition to Support Document	No	
Authority To Operate (ATO) Letter	No	
Operational Readiness Review (ORR) Approval Letter	No	

Table 9: Operations & Maintenance Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Post Implementation Review (PIR) Results	No	*(Part of USCG C4IT Systems Performance Reports)*
Operational Analyses	No	*(Part of USCG C4IT Systems Performance Reports)*
Lessons Learned	No	*(Part of USCG C4IT Systems Performance Reports)*
FISMA metrics reports	No	
Security Incident reports	No	
C&A Updates (every 3 years or when major change is made)	No	
Privacy Documentation (updated for systems decommissioned)	No	

Table 10: Disposition Stage Deliverables and Work Products

Deliverable/Work Product	Tailored Out	If yes, justification for tailoring out
Disposition Approval Request	No	
Disposition Plan	No	(Provided in the O&M Stage)
Archived Data	No	
Archived System	No	

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21.0 DEPLOYMENT PLAN

21.1 DP Purpose.

The purpose of a Deployment Plan (DP) is to identify how, when, and where new platforms/systems being acquired will be deployed for operational use. It identifies roles and responsibilities associated with the deployment process, and a deployment/installation schedule consistent with the scheduled delivery of the new assets. It also identifies any costs that will be incurred as part of asset deployment, new or modified facilities requirements and staffing issues to be incurred as part of the deployment process, and (if applicable) plans for disposal of the assets to be replaced.

Deployment planning considerations include the timing of deliveries, the order in which new products will be delivered, homeport or site selection (including environmental impact analysis), and the replacement and disposal of any legacy assets. The deployment planning process is designed to provide the new assets to users who are equipped and capable of operating and maintaining them. Thus, the earlier deployment planning can be accomplished, the better chance there will be of having the required capabilities in place when the assets are deployed. The need for deployment planning is especially critical for new vessels, aircraft, or other type systems where facilities may require upgrades, or new leasing or construction. It is also important to plan for the deployment of new Information Technology (IT) software and software products. (Deployment of IT assets is often referred to as migration; i.e., the process may be known as Migration Planning.)

21.2 DP Preparation.

As a major acquisition project approaches the mid-Obtain Phase, consideration must be given to the deployment of new assets to the users. The Sponsor is responsible for the preparation of a formal Deployment Plan. If Low Rate Initial Production (LRIP) units are to be fielded, planning must be accomplished early enough to cover the deployment of the LRIP assets. If LRIP assets are not included as part of the acquisition project, deployment planning must be completed prior to ADE-3 and entry into the Produce/Deploy/Support Phase. If applicable, the deployment or redeployment of assets used during Operational Test and Evaluation (OT&E) activities must also be considered.

The Sponsor has the overall responsibility to ensure the new assets are deployed appropriately to provide effective mission accomplishment. The Sponsor approves the DP after it is developed. The Sponsor's Representative is responsible for managing the deployment planning process and developing the DP for approval by the Sponsor. Existing acquisition project management team resources such as the Project Matrix/IPT Team, Test Management Oversight Team (TMOT), Integrated Logistics Support Management Team (ILSMT) and Configuration Control Board should be used to address, develop, review and maintain deployment planning and execution. The planned deployment of new assets must also be consistent with their scheduled delivery.

The PM is responsible for assisting the Sponsor's Representative in developing the DP. The PM must provide information concerning the asset delivery schedule and any issues regarding the establishment of user capability to operate and maintain the assets.

21.3 DP Template

DEPLOYMENT PLAN (DP)

for the

[PROJECT TITLE]

Submitted by:	_____	_____
	Sponsor's Representative (CG-7YY)	Date
Endorsed by:	_____	_____
	Project Manager (CG-93YY)	Date
Endorsed by:	_____	_____
	Program Manager (CG-93Y)	Date
Approved by:	_____	_____
	Project Sponsor (CG-7)	Date

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DEPLOYMENT PLAN

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

Provide a brief (one or two pages) Executive Summary of the Deployment Plan. Highlight the salient points of each section in the plan.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: BACKGROUND

Briefly describe any deployment planning activities that have already occurred. Provide an assessment of readiness for deployment of the new asset/capability and identify the upcoming events affecting deployment that must be completed prior to deployment of the asset/capability being initiated.

SECTION 2: ROLES AND RESPONSIBILITIES

Identify all organizations that will be participating, including their roles and responsibilities. Organizations that would normally be included are: the Project Sponsor and Sponsor's Representative, the PM, and operational units. Other organizations that could be included, depending on the specific asset/capability to be deployed, are: the Support Project Managers (including System Safety, Human Factors Engineering, Logistics, and Support Facilities), the Engineering Logistics Center (ELC), the Operations Systems Center (OSC), the Aviation Logistics Center, the Telecommunications and Information Systems Command (TISCOM), the Command and Control Engineering Center (C2CEN), the Project Resident Office (PRO), Asset Project Office (APO), and contractors.

SECTION 3: DEPLOYMENT/INSTALLATION SCHEDULE

Provide a schedule showing the priority order for delivery/installation to the operational command. Be as specific as possible with regard to dates and locations.

Identify whether the required environmental impact assessments have been completed and any significant environmental issues that remain.

SECTION 4: COSTS

Identify all costs associated with deployment identified by fiscal year, source, and type of funding (AC&I, OE, etc.). Typical costs would include construction of buildings, piers, or hangars; dredging of channels and harbors; installation costs, including travel costs for installation teams; and cabling costs for computer installations.

SECTION 5: FACILITIES

Identify all facilities that must be constructed, upgraded, or replaced in order for effective deployment to occur (ensure identified facilities are accounted for in the ILSP). Include piers, hangars, administrative/office buildings, storage and maintenance buildings, radio or radar towers, and associated utilities such as water, gas, and electrical connections. For cutter projects, a Primary Crew Assembly Facility and one or more Maintenance Augmentation Team or Shore Support Team facilities may be required.

SECTION 6: STAFFING ISSUES

Identify all additional staff positions required to accomplish deployment of the new assets/capability. For example, a "Tiger Team" may be required to perform installations at operating facilities. Address all tasks for which additional personnel are required. Identify the number and rank/grade of personnel required and when they must be available.

SECTION 7: DISPOSAL

If new assets are replacing existing ones, address the method of disposal for the old assets. For cutters that are being decommissioned, a decommissioning schedule should be provided. Include information pertaining to any applicable environmental issues.

Appendices: (as applicable)

22.0 POST IMPLEMENTATION REVIEW

22.1 Post Implementation Review (PIR) Purpose

The purpose of a Post Implementation Review (PIR) is to baseline the cost, performance, and operational outcomes of acquisitions that are transitioning to steady state. The need to effectively evaluate an asset's ability to meet the Coast Guard's mission needs, both functionally and economically, does not end at deployment. A PIR is typically conducted by the Sponsor on deployed programs to evaluate the actual results compared to predictions in terms of cost, schedule, performance, and mission outcomes; to determine the causes of major differences between planned and actual results; and to help improve future acquisition projects management practices. Per OMB A-11 and the DHS Capital Planning and Investment Control guide, a PIR is required to evaluate the impact of the acquisition deployment on customers, the mission and program, and technical and/or mission capabilities. The PIR also provides a baseline for subsequent comparison during follow-on Operational Analysis (consult the DHS Operational Analysis Guidance for format of an Operational Analysis).

22.2 Post Implementation Review (PIR) Preparation

The Sponsor, in consultation with the PM, prepares the draft PIR in accordance with the template provided in section 22.3, approximately 6-12 months after IOC or immediately following cancellation of the acquisition.

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22.3 Post Implementation Review Template

POST IMPLEMENTATION REVIEW (PIR)

for the

{PROJECT TITLE}

Submitted by:	_____ Sponsors Representative (CG-7YY)	_____ Date
Endorsed by:	_____ Project Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Director of Acquisition Programs (CG-93)	_____ Date
Endorsed by:	_____ Chief Acquisition Officer (CG-9)	_____ Date
Endorsed by:	_____ Applicable Support Program Manager (CG-YYY)	_____ Date
Approved by:	_____ Sponsor (CG-7)	_____ Date

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POST IMPLEMENTATION REVIEW (PIR)

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief one or two page discussion of the Post Implementation Review (PIR), highlighting the salient points of each section.

SECTION 1: INTRODUCTION

The introduction provides a project summary and should include a brief discussion to each of the following points:

1.1 Purpose

Define the purpose of the PIR. Include in this section: "A PIR is required by DHS and is accomplished on deployed assets to evaluate the actual results compared to predictions in terms of cost, schedule, performance, and mission outcomes; to determine the causes of major differences between planned and end results; and to help improve future acquisition project management practices. The PIR also provides a baseline for subsequent comparison during follow on Operational Analysis."

1.2 Background

Provide a brief discussion of the acquisition. Briefly describe the system in general terms, without describing specific requirements. Briefly describe project history (include a graphical narrative) and how it provided the intended capability. Include original deployment date, service life expectancy, and plans for future replacement. Briefly describe the current status of the project.

1.3 Review Process Overview

Briefly describe how the review was conducted. Give an overview of the types of data collected and how they were analyzed. Specify how/when the report was developed and how consensus was reached/ who was interviewed on findings and recommendations.

SECTION 2: AREAS OF ASSESSMENT

2.1 Strategic & Mission Results

Show how this acquisition project is aligned and contributes to DHS Strategic Goals and Objectives and USCG Mission Programs. Include instances of exceeding mission goals and missions as well as failures to meet them. Describe if the asset is meeting mission requirements and if this acquisition project has or could be combined with others to better meet goals and missions. Describe the causes and impacts of positive or negative results.

Use the below table to show (Project Name) Project alignment – place an * to show specific

alignments with DHS Strategic Goals and Objectives and USCG Mission-Programs.

USCG Mission-Programs

Maritime Safety		Maritime Mobility		Protection of Natural Resources		Maritime Security				National Defense
Search & Rescue	Marine Safety	AtoN	Ice Operations	MEP	LMR	Drugs	Migrants	Other LE	PWCS	Defense Readiness

DHS Strategic Goals and Objectives

Awareness		Prevention			Protection		Response			Recovery	Service	
1.1	1.4	2.1	2.4	2.5	3.1	3.6	4.1	4.2	4.3	5.2	6.3	6.4

2.2 Customer, User, and Stakeholders Assessment Results

Identify the primary customers, users, and stakeholders of this acquisition project. State if the asset is meeting needs/ requirements/ if the requirements have changed and/or if any capability gap exists. Synopsize the OT&E report results and findings. Identify any needs for additional functions/ performance enhancements or if an innovative/ alternative solution would result in increased efficiency and/or cost savings. For IT systems, describe how this project aligns with the Enterprise Architecture. Include in this section results of customer, user & stakeholder surveys, interviews & feedback.

2.3 Operations and Support Results

Summarize in this section Measures of Effectiveness and Measures of Suitability results of the asset. Include in this section any operational and engineering metrics (charts/ tables/ graphs) showing performance and maintainability of the asset (i.e.: average operational hours vs. target, maintenance metrics). Address the following support indicators and any others as appropriate.

- Reliability
- Maintainability
- Availability
- Staffing
- Training

2.4 Risk Assessment

Summarize the significant risks and mitigations currently being tracked and monitored for this acquisition. Include their impacts and probabilities, and how they were managed or mitigated.

2.5 Performance Results

Summarize if the asset is meeting mission performance. Include Key Performance

Parameters from the APB, which should be linked to specific missions and organizational goals of the Coast Guard and DHS. Include a table such as the following to list Key Performance Parameters (include all baseline changes), actual results and variances.

Key Performance	APB Baseline		Actual	Variance
Parameter	Original (Date)	Rev 1 (Date)	(Date)	
Operational Availability	97.0%	95.0%	93.6%	-1.4%

2.6 Cost Results

Explain whether this acquisition project is meeting its cost goals. Discuss actual cost to date relative to baseline cost values and any expected changes. Include total acquisition costs, lifecycle cost estimate and O&M cost estimate vs. actual annual O&M cost. Explain the reasons for any cost variance, including cost drivers. Identify whether the acquisition project is within its cost baseline. Include a table such as the following to list key costs (include all baseline changes), actual results to date, and variances.

Cost	APB Baseline		Actual	Variance
Type	Original (Date)	Rev 1 (Date)	(Date)	
Asset Quantities	12	14	14	0
Total Acquisition Cost	$350M	$375M	$360M	$-15M
Life Cycle Cost Estimate (30 Year Life)	$1350M			
O&M Cost	$1000M			

2.7 Schedule Results

Briefly describe any impact of the schedule variance on this and other acquisitions projects. Use a table such as the following to identify key project events, (include all baseline changes), actual event dates, and variances.

Key	APB Baseline		Actual	Variance
Event	Original (Date)	Rev 1 (Date)	(Date)	
DHS Alternative Selection (MS2)	3QFY07	2QFY08	6 Mar 08	-24 Days

3. CONCLUSIONS/ RECOMMENDATIONS

Identify any action that should be taken to optimize the effectiveness and efficiency of the acquisition project including requirements for redesign or modifications. Summarize any strategic and mission gaps with a recommended action plan to mitigate gaps. State whether

current cost, schedule, and performance results justify continuation of the project or whether it should be modified, enhanced, or terminated.

4. LESSONS LEARNED

Address lessons learned (what worked well and what went wrong). Include acquisition policies or processes that proved helpful in the implementation of this project or that could be made more efficient or effective. Insert Lessons Learned in the Commandant (CG-9) database: http://www.project-test.net/test-site/GLiblld/home/index.asp

23.0 PROJECT TRANSITION PLAN

23.1 PTP Purpose

The Project Transition Plan (PTP) sets the requirements and establishes procedures for handoff of the acquired capability to the sustainment community for operations and support. The PTP is considered the primary project-transitioning document and will tie in with the final ILSP/CMP documents. The PM and the operational and support organizations work together to identify remaining tasks and accomplish successful acquisition project closure. On the handoff date, the operational and support organizations will assume responsibility for the delivered products/capabilities throughout the Operations & Support Phase of the lifecycle. The PTP will identify the operational and support organizations that will assume management responsibility for controlling and maintaining the configuration of the products/capabilities.

The PTP is co-briefed to VCG, the Sponsor, and all Support Program Directors by the PM and the Sponsor's Representative at a Transition Briefing held to coincide with the handoff date occurring early in the Operations & Support Phase. This briefing will set the official handoff of responsibilities for the acquired capability to the sustainment community.

23.2 PTP Preparation

The PM should prepare the draft PTP, in accordance with the template provided in section 23.3, approximately 12 to 18 months prior to either the delivery of the last unit of the project's production or the planned project closeout date. The PTP will be updated as needed prior to the handoff of the capability to the sustainment community to reflect significant changes in transition activities, tasks and responsibilities, and the timing of events should reflect the latest schedule and indicate events that have been completed.

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23.3 PTP Template

PROJECT TRANSITION PLAN (PTP)

for the

[PROJECT TITLE]

Submitted by:	_____ Project Manager (CG-93YY)	_____ Date
Endorsed by:	_____ Program Manager (CG-93Y)	_____ Date
Endorsed by:	_____ Project Sponsor (CG-Y)	_____ Date
Endorsed by:	_____ Supporting Organization (CG-Y)	_____ Date
Approved by:	_____ Director of Acquisition Programs (CG-93)	_____ Date

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PROJECT TRANSITION PLAN (PTP)

CONTENT REQUIREMENTS

EXECUTIVE SUMMARY

The Executive Summary should be a brief one to two page discussion of the PTP, highlighting the salient points of each section. Include a brief description of the goals and objectives of the plan and briefly discuss the roles and responsibilities of key participants.

REVISION SUMMARY (IF APPLICABLE)

The Revision Summary should provide a bulletized high-level description of major changes followed by a Table of Changes that describes specific changes, including references to the changed section/paragraph.

SECTION 1: PROJECT SUMMARY

1.1 Project Status

Describe the current status of the Project, e.g., the number of units delivered, the number remaining to be delivered, coordination responsibility for remaining deliveries, problems, etc.

1.2 Assumptions

Describe any assumptions that have been made in preparing the PTP and in preparing to closeout the project. For example, interim support for maintenance activities or operational support that will be provided subsequent to the project closeout.

1.3 Risks

Describe remaining risks associated with the successful completion of the acquisition development cycle of the project and the effective and efficient transition to sustainment.

1.4 Schedule

Provide a schedule for the events required for completing the project. The schedule will identify remaining tasks, current status, completion/ projected completion dates, assigned responsibility, and any other remaining major project milestones.

1.5 Financial Status

State the financial status of the project, including the adequacy of current funding, and the disposition of any remaining funds. Address funds existing/ required for follow on sustainment operations and maintenance.

SECTION 2: DOCUMENTATION

2.1 Integrated Logistics Support

Describe the ILSP or other ILS documents that will be provided to the responsible operational and support organizations prior to the handoff of the first operational system or product. State the date of the handoff, provide additional guidance, and identify any remaining logistics and support issues. Summarize status of supply support, technical data,

support equipment, facilities, training and maintenance. Any supportability requirements that will not be satisfied prior to project transition must be identified along with the interim support provisions implemented or expected to be implemented. Coordinate with Coast Guard sustainment organizations to develop a plan for funding and completing any necessary asset retrofit work prior to project termination.

2.2 Configuration Management

The responsibility for CM transfers to the responsible operational or support organization no later than the project termination date. This handoff date should be negotiated between the PM and the applicable operational and support organization and should occur at the point when production and deployment are complete and the project transitions. When this handoff occurs, all CCB records and the status of any pending or in-process changes should be transferred. State the planned handoff date; provide any additional guidance; and identify any remaining configuration control issues.

2.3 Project Manager's Charter

Address the timing of the memorandum that will cancel the PM's Charter and list potential remaining problems relevant to its cancellation and their likely resolution. The PM will advise the CGARC Executive Secretary when the Chief of Staff's memorandum canceling the PM's charter is required. Commandant (CG-924) will prepare this memorandum for approval by the Chief of Staff. The memorandum will summarize remaining project tasks and reassign the responsibility for the completion of these tasks, as appropriate. It will be coordinated with all affected operational and support organizations prior to being forwarded for approval.

2.4 Operating Facility Change Orders

In accordance with Operating Facility Change Orders (OFCO) Procedures, COMDTINST M5440.3 (series) the PM will prepare the appropriate Operating Facility Change Orders (OFCO)(s) for disestablishment of the Project Resident Office (PRO)(s) and/or contract administration organization. State the project's plans for executing any required OFCO(s); provide any additional guidance; and identify any remaining operating facility issues.

SECTION 3: CONTRACTING STATUS

3.1 Outstanding Claims or Requests for Equitable Adjustment

List any Outstanding Claims or Requests for Equitable Adjustment and summarize any open issues.

3.2 Records Management

Explain what records management need to be done and by whom.

3.3 Warranty

Discuss any outstanding warranty issues and describe oversight and management of any remaining warranties.

3.4 Outstanding Contracts

Provide status of any outstanding contracts and their expected schedule, cost and closure. Include status of any applicable follow on sustainment contracts.

3.5 Closeout Procedures

Address the procedures for closing the project's contract administration organization and any remaining contracting responsibilities.

SECTION 4: PROJECT PERSONNEL PHASEDOWN PLANNING

4.1 Project Staff

Describe changes in staff assignments and physical space allocations after the project has transitioned to the Operations and Support stage of the Produce/Deploy/Support Phase. The PM will state when dedicated staff, dedicated operational and support staff, and any other dedicated staff can be made available for reprogramming. Additionally, the PM will coordinate personnel transfer and reassignment issues with assistance from Commandant (CG-928) and the Coast Guard Personnel Command.

4.2 Project Resident Office

The PM will describe the planned assignment of PRO and contract administration organization staff responsibilities, recommend organizations to assume these responsibilities, and indicate when the current individuals are scheduled to transfer. The PM will provide anticipated dates for the availability of the project's physical space at the PRO and any other project site. If necessary, the PM will address the reassignment of any pending personnel tasks for project completion.

SECTION 5: REPORTS AND REVIEWS

5.1 Post Implementation Review

Address requirements for the Post Implementation Review including when was/will the PIR be conducted and by whom.

5.2 Operational Analysis Report

Address requirements for the Operational Analysis (OA) including when the first OA was/will be conducted and history of any OA Reports.

Appendices.

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24.0 TASK COMMITMENT MEMORANDA

24.1 Task Commitment Memoranda Purpose

The Task Commitment Memoranda are used to document the level of required support for personnel who are not directly assigned to the Project Manager's staff. Task Commitment Memoranda are to be used for all AC&I billets supporting the project but that are not directly assigned under the Project Manager's supervision.

24.2 Task Commitment Memoranda Preparation.

Section 24.3 provides the basic template for the Task Commitment Memoranda. The content of the memoranda may be adjusted as needed to meet the unique requirements associated with each project. A useable form for the Task Commitment Memorandum can be found on the Commandant (CG-924) CG Central site.

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24.3 Task Commitment Memorandum Template

Task Commitment Memorandum			
Task Name:	Project:	Category:	PWBS:
Task Definition:			
Action:	ESWBS:		
Schedule Need Date: _____ Est. Start Date_____ Est. Comp Date:_____ Task Milestones:			
Reporting Requirements:			
Priority:			
Funding by FY:			
Resource Estimate: Manpower:	Other:		
Key Individuals: Task Group Leader_____ Task Leader_____			
Attachments:			
Approvals: Project Manager: _____ _____ Date	Support/Matrix Div. Chief: _____ _____ Date		

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PART II. BRIEFINGS

Briefings are an integral part of the Project Manager's (PM) life and provide a key opportunity for the PM to communicate project issues effectively. The guidance provided in the following section is to be followed to the maximum extent practicable. Deviations are authorized when in the PM's judgment, a deviation is needed to better explain and present key issues.

Slide Labeling Requirements: (for all "acquisition/business sensitive" briefs)

- Cover Page: "This brief contains Acquisition Sensitive material and should not be disclosed or released except as stipulated in FAR 3.104-4."
- Subsequent Pages: "ACQUISITION SENSITIVE MATERIAL -- SEE FAR 3.104-4"

1.0 Annual Reviews

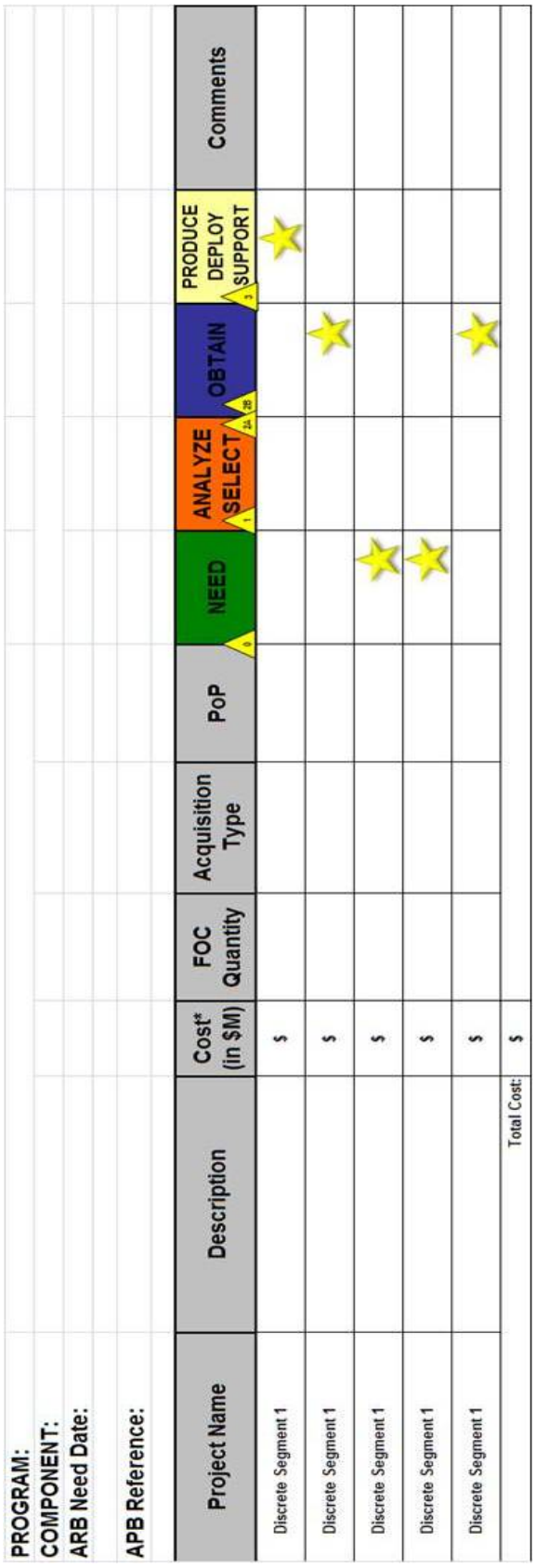
Each project is required to brief senior Coast Guard acquisition leadership at least annually to provide a status of the project. The following areas should be presented at the annual review:

- Title Slide. Use the Commandant (CG-9) "brand" slide (as discussed in paragraph 6.0 below).
- Agenda. A list of the topics presented.
- Overview. The mission of the project should be clearly described. The PM, KO and the Sponsor should be identified. PM & KO certifications should be identified. The system assets and capabilities being acquired should be described. The acquisition level and current phase of the acquisition project should be shown, and the status of all discrete segments defined via a Program Structure Chart (see Figure A-5). The Program Structure Chart (also known as a Star Chart) identifies all of the project's constituent discrete segments and the current status of each discrete segment in the acquisition process. The Program Structure Chart must correspond to the project's APB.

  Note: Include a picture or graphic that reflects the project.

- Achievements Since Last Briefing. Highlight significant progress since the last Annual Review Briefing and identify the status of any action items at that time. Indicate date of last briefing and elapsed time between briefings. Achievements should include progress against approved Exit Criteria.
- Project Status. Compare the actual cost, schedule and performance parameters versus the currently approved APB and address how the project is performing towards achieving the cost, schedule and performance parameters contained in the APB. Any anticipated revisions to the baseline should be discussed. Indicate the current Quarterly Project Report (QPR) for each area.

Figure A-5. Program Structure Chart



logistics, testing, technical status, and staffing. Indicate the current QPR for each area.

- Budget and Funding Status. Provide the funding history and future projections for the project including acquisition, construction, and improvement (AC&I) and operating expense (OE) funds. Provide a comparison of the budgeted amounts to the current estimate; identify actual or anticipated funding surplus or shortfall for each fiscal year and its impact on the project. A current status of budgeted funds, obligations, and expenditures should be provided. Funding data needs to reference and be consistent with the Capital Investment Plan (CIP) and approved Future Years Homeland Security Program (FYHSP).
- Schedule. Provide the planned and actual project schedule with all ADEs and key project events identified. Highlight important events in the next twelve months. Note: Include a graphic showing the schedule.
- Documentation Status. Provide the approval dates and current status for all required documents. Indicate documents under development and focus comments on new documentation being developed as part of current acquisition phase.
- Risk Assessment. Provide a summary assessment of overall programmatic risks for technical, schedule, and cost. Individual risk assessments should focus on the Risk Watchlist and include an explanation of each assessment and ongoing risk mitigation actions. Include a graphic showing the probability and consequence of risk and where on the graph the project stands for performance risk, cost risk and schedule risk. Use the standard set in the Project Annual Review template.
- Contract Status. Identify all funding information for each active contract. Include a status of all undefinitized contract actions, requests for equitable adjustments, claims, and include key contract options dates and amounts. Performance metrics should be shown for major contracts using earned value (EV). Earned value metrics should include cumulative PV, AC, EV, CV, SV, BAC, EAC, CPI, and SPI. Use the standard set in the Project Annual Review template.
- Concerns. Identify and describe each important technical, cost, schedule, or project concern that has surfaced in the project and remains unresolved. Discuss the impact each concern has, or might have, on project execution and future funding.
- Project Summary. Provide a top level project summary, highlighting any key issues that may require senior management attention. Address the status of any ongoing external reviews/audits.
- Q**uarterly Project Report (QPR).** The QPR is included as part of the Project Annual Review briefing package. The QPR will be printed and provided to attendees at the Project Annual Review. The PM can provide a QPR that comprises the latest historical record.

2.0 Acquisition Decision Event Reviews

ADE reviews are intended to provide the Acquisition Decision Authority (ADA) with an appropriate level of information from which a decision can be reached concerning

project identification approval and subsequent entry into the following acquisition phases. As described in Table 2-1 DHS Acquisition Thresholds and Decision Authorities, the Coast Guard CAE is the decision authority for ADE-0 and ADE-4, the DHS S2 serves as the ADA for ADE-1 and the USM serving as the ADA for ADE-2A, 2B and 3. The following paragraphs provide standard formats for the briefs to the ADA. While the formats are 'standard', the PM can deviate where needed in order to adequately present the information needed to support an ADE decision.

2.1 Project Identification – ADE-0

The intent of ADE-0 is to initiate a new major system acquisition project. The Coast Guard CAE is the ADA for Project Identification ADE-0 because of the resource implications of initiating a new project.

- Decision Requested. The normal decision would be direction to use the project entry process and develop the MNS, the Exhibit 300, and a Resource Proposal.
- Background. Provide background information, if pertinent.
- Mission Analysis Results. Synopsize the analysis. Include the capability gap shortfall with timeframe and the material solution needed to fill the gap.
- Initial Cost Estimate. Provide an initial cost estimate (Acquisition Cost). Identify the basis for estimate.
- Affordability Assessment. Coordinate with Commandant (CG-82) to address the CIP and how the cost will impact the CIP. Provide a recommended funding profile by Fiscal Year.
- Pre-Acquisition Phase Activities. Identify activities that are planned that are above and beyond developing a Mission Need Statement, Exhibit 300, a Resource Proposal, and submitting an Acquisition Review Request. Examples include: analyses that are planned (e.g., operational scenarios, CONOPS, manning studies), improving the cost estimate, outreach plan, etc. Include funding/resources required to accomplish the activities.

2.2 Validate the Need – ADE-1

This brief is given to formally initiate the project with DHS and to gain entry into the Analyze/Select Phase. Sponsor's Representatives should use this format when developing a presentation for approval at ADE-1. The brief will be provided to the CGARC and DHS ARB. The Deputy Secretary (S2) is the DHS ADA.

- Decision Requested. State the decision(s) requested such as: designation as a DHS Level 1 acquisition, approval of the Project's Strategic Direction and/or Mission Need Statement (MNS), authorization to proceed to the next logical acquisition phase (one slide).
- Mission Need. Provide a short Program/Project description. Identify the legislative mandates or operational goals. Address mission deficiency in broad functional terms (one slide).
- Current Capability. Explain how current capability is not meeting the mission need.

Address mission deficiency in broad functional terms.

- Planned Capability. Discuss planned capability in functional (not programmatic) terms.
- Funding Profile. High level view of project funding received, current funding requirements, and out-year requirements, by fiscal year. Show total acquisition cost estimate and life cycle cost estimate. Identify sources and types of funds (a one slide chart is the preferred layout).
- Milestone Chart. High level timeline of major project milestones (with greater detail in this year and next year). Show dates of major milestones (e.g., Initial Operating Capability (IOC) and decision points (major contract award decision). (One slide).
- Capability Development Plan. Provide an overview of the CDP with specific focus on the POA&M for the Alternatives Analysis (AA) that will be performed to identify the preferred alternative.
- Acquisition Strategy Objectives. Describe the acquisition strategy.
- Key Issues. Describe the projects key areas of concern (one page).
- Recommended Project Level. Recommend the Acquisition Level for the project (Level 1 or 2).
- Proposed Exit Criteria. Provide the proposed exit criteria for the next acquisition Phase (see Section 3.0 for instructions on Exit Criteria).

2.3 ADE-2A/2B Approve the Acquisition and ADE-3 Approve Production

These briefs are given to gain entry into each succeeding phase. Documentation submitted for approval at each of these Decision Milestones is as described in Chapter 2. Required slides are as shown below. Project Staffs should use this format when developing presentations for ADE-2A and ADE-3

- Decision Requested. State the decision(s) requested such as: approval to enter the next acquisition phase; request reassessment of program designation (one slide). For ADE-2A: Identify the number of LRIP articles to be approved (if applicable).
- Mission Need. Review program/project description, legislative mandates, or operational goals. Revalidate MNS or explain changes requested (one slide).
- Project MSAM Compliance. Provide a summary of documentation required for the milestone and the status of each.
- Current Project Status. Discuss where the project stands relative to the Exit Criteria established at the previous CGARC and ARB review. Describe the status of all project discrete segments via a Program Structure Chart (see Figure A-5).
- Results of Previous Phase Activities. Discuss the results of the previous phase activities including: achievement of exit criteria established at the previous ARB, technical capabilities, technical risk, schedule, life cycle cost estimates, cost benefit analyses, testing, etc. Include the results of the ILA at ADE-2A and LRR at ADE-3.

- The primary function of the Independent Logistics Assessment (ILA) is to assess all aspects of logistics support planning including the budget, contract and planning documents to ensure that the program has laid the groundwork to ensure the system will be adequately supported from the day it is delivered to the operators. The ILA will be conducted by a cross-functional team headed by Commandant (CG-4), and a successful outcome is required prior to ADE-2A approval.
- The purpose of the Logistics Readiness Review (LRR), scheduled to be conducted prior to the delivery of the asset (either LRIP or Produce/Deploy/Support phase), is to review and assess the maturity and adequacy of the logistics support infrastructure that has been put into place by the project for both near-term and long-term logistics support. The LRR will identify any gaps, recommend remediation, and identify interim solutions as needed, until permanent solutions are identified. At the conclusion of Produce/Deploy/Support, the LRR findings will be reassessed to ensure the asset can perform assigned mission areas, meet established program metrics and is fully supportable prior to Project Transition. The Commandant (CG-4) sponsored LRR shall be executed by an independent team of individuals who have expertise in the acquisition and execution of the logistics elements.

- Acquisition Strategy Goals and Objectives. Address logistics support, configuration management, training, and test and evaluation. Address Acquisition Strategy for the next phase.
- Acquisition Plan (AP) Approval. Address proposed contracting strategy; competition, contract type, and contractor performance measurement.
- Acquisition Program Baseline (APB). Identify the key parameters to be included in the baseline for cost, schedule, and performance (if applicable).
- Milestone Chart. High level time line of major project milestones, with greater detail on current and next year. Show dates of major milestones (i.e., IOC) and decision points, such as future ADEs and major contract award decisions (one slide).
- Project Risk. Explain what the project risks are (cost, schedule and technical) and how they are being addressed.
- Funding Profile. High level view of project funding received, current funding requirements, and out-year requirements, by fiscal year. Show total acquisition cost estimate and life cycle cost estimate. Identify sources and types of funds (a one slide chart is the preferred layout).
- Resource Requirements. Explain the relationship to alternatives and the Future Years Homeland Security Plan (FYHSP), and what is included in the estimate.
- Affordability. Discuss supportability, cost drivers, and major trade-offs.
- Next Acquisition Decision Event. Discuss where the project is going and what events, including testing activities, will occur prior to the next ADE.
- Proposed Exit Criteria. Provide the proposed exit criteria for the next acquisition

phase.

- Key Issues. Describe the project's key areas of concern.

  Note. If a project contains discrete segments of capability, following ADE-2A for the overall project, each segment will then typically have separate and specific ADE reviews for subsequent ADEs (e.g. an ADE-2B, ADE-3 and ADE-4 review for each individual discrete segment). When briefing a segment, include an introductory slide(s) to describe the entire project and its status, and where that particular segment is within the total project.

2.4 ADE-2B Approval of LRIP

- Decision Requested. CAE approval to execute (or award) LRIP quantities previously approved at ADE-2A and, if applicable, approval of the specific performance, schedule and cost APB parameters for each of the project's discrete segments.
- Critical Design Review Results. Provide the results of the CDR. Include Technical Authorities assessments of the CDR.
- Project Schedule. Highlight the remaining key activities and events (e.g., TRR, PRR, ADE- 3, deliveries). Include IOC and how it is defined.
- Test &Evaluation Overview. Provide an overview and schedule of the planned T&E.
- Programmatic Changes. Highlight any changes that have occurred to the project since Milestone 2 (if applicable). Examples would include changes in Total Acquisition Cost, life-cycle cost, schedule, etc.
- Project Risk. Explain what the project risks are (cost, schedule and technical) and how they are being addressed.
- Key Issues. Describe the project's key areas of concern.

2.5 ADE-4 Project Transition

ADE-4 is a Coast Guard unique decision event and intended to provide a clear turn-over between the acquisition project and the sustainment program manager before senior Coast Guard acquisition management (VCG /CG-01). The transition brief is the last briefing to be presented by the acquisition project prior to transfer of responsibility for sustained operation and support and termination of the project, as outlined in the approved Project Transition Plan.

- Agenda. A list of the slides (by topic) contained in the briefing presentation.
- Achievements Since Last Annual Briefing. Highlight significant progress since the last Annual Review Briefing and identify the status of any action items from the previous briefing. Indicate date of last briefing and elapsed time since it was presented. Achievements should include progress against approved Exit Criteria (if applicable).
- Funding. Identify the expenditure/obligation status of project funding and for what any remaining funds will be used. Identify whether OE funding is in place or

projected to be in place to provide a sustained support capability for the assets/systems that are delivered. Provide effective dates (FY budget) for OE funding. Identify any payments being withheld (amount, reason, and actions in progress), if applicable.

- Logistics Assessment. Address the logistics posture – current and final. (*The Operating Program Manager (Sponsor's Representative) and Support Program Manager(s) should be prepared to assist in briefing the logistics support assessment and answer any questions concerning readiness for logistics support responsibility transfer.*) As a minimum, the following should be addressed:
  - Significant actions accomplished to provide a full logistics support capability for sustained operational use. If a full support capability has not yet been fielded, identify what support capabilities remain to be fielded, status of actions in progress, and when each remaining capability will be provided. Identify what (if any) interim support provisions are in place pending complete support capability fielding, and how each interim capability is being funded. If contractor logistics support is to be used for sustained support, identify the status of each required OE funded contract and when each must be (or has been) in place to provide sustained support capability.
  - If another LRR has been done or updated during the Produce/Deploy/Support Phase, address the findings.
  - Identify key logistics dates (including Coast Guard Support Date (CGSD)). CGSD is that date when all planned support capabilities for sustained operation and support have been fielded and implemented.
  - Identify the Integrated Logistics Support Plan (ILSP) status. When was (or will) the ILSP update for transfer to the sustained logistics support manager completed. Identify when and to what activity responsibility for chairing the Integrated Logistics Support Management Team (ILSMT) was/will be transferred.
  - Identify funding required for sustained logistics support. Identify whether OE funding has been included within the Coast Guard budget, and any Resource Proposals that are needed or pending approval.
- Configuration Management. Identify what activity will have overall configuration management responsibility for the asset/system during the operation and support life cycle phase. Identify what activity will be responsible for chairing the Configuration Control Board (CCB), and status of the sustainment CCB Charter. Identify the activity that will be responsible for maintaining and updating the configuration baseline documentation. Identify when the configuration documentation was/will be transferred from the acquisition project to what activity, and the method of this transfer (i.e., electronic, paper, etc.).
- Contract Status. Identify any contractual actions still pending, outstanding warranty claims, request for equitable adjustment that has not been resolved, etc. Identify when the contract close out is anticipated.
- Future Action Items. Identify all actions that remain outstanding. Ensure

responsibilities are assigned for the actions and completion dates are identified. Include the Post Implementation Review (PIR) and the first OA requirements, when required to be accomplished, and the activity responsible for accomplishment.

3.0 Acquisition Phase Exit Criteria

Exit Criteria are project-specific accomplishments or performance parameters that must be satisfactorily demonstrated before a project can transition to the next acquisition phase. At each ADE, the PM will develop and propose Exit Criteria appropriate to the next acquisition phase. The ADA will normally approve Exit Criteria in the Acquisition Decision Memorandum.

Project-specific Exit Criteria normally track progress in important technical, schedule, or management risk areas. Exit Criteria must be substantially satisfied for the project to proceed into the next acquisition phase.

Exit Criteria typically include the below listed factors
Alignment with DHS Strategic Goals and the President's Management Agenda
Links with acquisition strategy objectives
Required test reports
Achievement of specific project risk reduction tasks or activities
Completion of specific studies
Completion of specific key events/activities

As shown in sample Exit Criteria table below, the Exit Criteria are normally related to and supplement the objectives, required accomplishments, and documents to be produced for the upcoming acquisition phase.

Sample Exit Criteria

Proposed at Project Authorization for Analyze/Select Phase Exit Criteria
Demonstrate initial project affordability
Document feasibility and tradeoff analyses (if applicable)
Demonstrate technology maturity
Proposed at Project Alternative Selection for Obtain Phase Exit Criteria
Satisfactory DT&E
Satisfactory Operational Test and Evaluation (OT&E)
Acceptable interoperability
Acceptable supportability
Validate production quantity
Demonstrate system is affordable throughout the lifecycle
Identify technology refresh strategy

4.0 Information Briefs

This type of briefing is used to give DHS a project overview (5-20 minutes) to help identify cross-programmatic issues and assess opportunity for consolidation/coordination of effort among acquisitions. This is an opportunity for the Sponsor to highlight the need and cause for action, raising DHS awareness of future Acquisition Review Board (ARB) action. DHS is interested in commonality and interoperability within portfolios and will normally specify a 5 or 20 minute format. The slides should be prepared in PowerPoint using the standard Commandant (CG-9) template and contain the following basic format and types of information.

Mission Need. Short project overview and/or graphic description that allows DHS reviewers to recognize the urgency of the need and understand the proposed solution. Identify any legislative mandates or operational goals (two slides max) driving the project.

Current Capability. Explain how current capability is not meeting the mission need. Address mission deficiency in broad functional terms (two slides max).

Planned Capability. Discuss planned capability in functional (not programmatic) terms (two slides max).

Current Program Status. Discuss results to date with emphasis on interoperability and commonality with other DHS projects. Discuss major program accomplishments, current phase, and recent successes.

Schedule. High level timeline of major project events/activities. Show dates of major events and planned ADE (one slide).

Funding. High level review of project funding received, current funding requirements and out-year requirements, by fiscal year. Slide should identify CIP and FYHSP level and identify sources and type of funds. Show the total acquisition cost estimate, and life cycle cost estimate, and useful life (two slides max).

Program Risk. Address any significant program risk concerns regarding cost, schedule and performance (one slide).

Key Issues.

5.0 Portfolio Reviews

This type of briefing is used to give DHS a short project overview as part of their annual review of DHS project portfolios.

Mission Need. Short project overview and/or graphic description that allows DHS reviewers to recognize the urgency of the need and understand the proposed solution. Identify any legislative mandates or operational goals (two slides max) driving the project.

Current Capability. Explain how current capability is not meeting the mission need. Address mission deficiency in broad functional terms (two slides max).

Planned Capability. Discuss planned capability in functional (not programmatic) terms (two slides max).

Current Program Status. Discuss results to date with emphasis on interoperability and commonality with other DHS projects. Discuss major program accomplishments, current phase, and recent successes.

Schedule. High level timeline of major project events/activities. Show dates of major events and planned Decision Milestones (one slide).

Funding. High level review of project funding received, current funding requirements and out-year requirements, by fiscal year. Slide should identify CIP and FYHSP level and identify sources and type of funds. Show the total acquisition cost estimate, and life cycle cost estimate, and useful life (two slides max).

Program Risk. Address any significant program risk concerns regarding cost, schedule and performance (one slide).

Key Issues.

Individual Coast Guard Projects may be part of several DHS annual portfolio reviews and are expected to tailor their presentations to address interoperability and commonality with other projects within the portfolio being reviewed.

PMs are expected to tailor the above format as needed to get their message across to the audience and any specific agenda.

6.0 Briefing Template

In order to maintain uniformity and standardization, the template to be used for all briefings are on the Commandant (CG-924) CG Central Site. Note that the “background” of the slides is to be white unless color is specifically needed for a given slide.

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Acronyms

AA	Affordability Assessment
AA	Alternatives Analysis
AA	Alternatives Assessment
AC	Actual Cost
AC&I	Acquisition Construction and Improvement
ACO	Assistant Commandant for Operations
ADA	Acquisition Decision Authority
ADM	Acquisition Decision Memorandum
AE	Acquisition Executive
AEL	Allowance Equipage List
AIS	Automated Information System
Ao	Operational Availability
AP	Acquisition Plan
APB	Acquisition Program Baseline
APL	Allowance Parts List
APMD	Acquisition Program Management Division (within DHS)
APO	Asset Project Office
APUC	Average Procurement Unit Cost
AR&SC	Aircraft Repair & Supply Center
ARB	Acquisition Review Board
ARP	Acquisition Review Process
ART	Acquisition Review Team (within DHS)
AS	Alternative Selection
AS	Acquisition Strategy
AS	Acquisition Support
AS IPT	Acquisition Strategy Integrated Product Team
ASMB	Asset and Services Management Board
AT	Acceptance Trial
AT&L	Acquisition Technology and Logistics
ATON	Aids to Navigation
AWCB	Acquisition Workforce Certification Board
BAC	Budget At Completion
BCA	Business Case Analysis
BCEFM	Business, Cost Estimating and Financial Management
BIT	Built In Test
BITE	Built In Test Equipment
C2CEN	Command and Control Engineering Center
C4I	Command, Control, Communications, Computers and Information Technology
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CA	Configuration Audit

CAE	Component Acquisition Executive
CALMS	Combined Allowance for Logistics and Maintenance Support
CAO	Chief Acquisition Officer
CAIV	Cost As an Independent Variable
CANDI	Commercially Available Non-Developmental Item
CBA	Cost-Benefit Analysis
CC	Configuration Control
CCA	Clinger Cohen Act
CCB	Configuration Control Board
CCMP	Cutter Class Maintenance Plan
CDR	Critical Design Review
CFR	Code of Federal Regulations
CFO	Chief Financial Officer
CFSR	Contract Funds Status Report
CGSD	Coast Guard Support Date
CGARC	Coast Guard Acquisition Review Council
CI	Commandant Instruction
CI	Configuration Item
CIM	Commandant Instruction Manual
CIO	Chief Information Officer
CIP	Capital Investment Plan
CM	Configuration Management
CMP	Configuration Management Plan
COE	Common Operating Environment
COI	Critical Operational Issue
COMDTINST	Commandant Instruction
CONOPS	Concept of Operations
COO	Chief Operating Officer
COSAL	Consolidated Shipboard Allowance List
COTS	Commercial Off-the-Shelf
CPI	Cost Performance Index
CPO	Chief Procurement Officer
CPR	Contract Performance Report
CSA	Configuration Status Accounting
CV	Cost Variance
D-Level	Depot-Level
DAA	Designated Approval Authority
DAG	Defense Acquisition Guidebook
DART	DHS Accessibility Requirements Tool
DAU	Defense Acquisition University
DCMA	Defense Contract Management Agency
DHS	Department of Homeland Security
DMI	Depot Maintenance Interservice
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DoD (AT&L)	Department of Defense, Acquisition Technology and Logistics
DoD	Department of Defense

DOTMLPF	Doctrine, Organization, Training and Education, Materiel, Leadership, Personnel, and Facilities
DP	Deployment Plan
DPM	Deputy Project Manager
DT	Developmental Test
DT&E	Developmental Test and Evaluation
EA	Enterprise Architecture
EAB	Enterprise Architecture Board
EAC	Estimate At Completion
ECP	Engineering Change Proposal
EIA	Environmental Impact Assessment
ELC	Engineering Logistics Center
EMI	Electromagnetic Interference
EOA	Early Operational Assessment
ERPAL	Electronics Repair Parts Allowance List
ES	Executive Summary
ESC	Executive Steering Committee
ESD	Electro-Static Discharge
EV	Earned Value
EVM	Earned Value Management
EVMS	Earned Value Management System
FAA	Frequency Assignment Authorization
FAR	Federal Acquisition Regulations
FASA	Federal Acquisition Streamlining Act
FAT	Factory Acceptance Test
FCA	Functional Configuration Audit
FE	Facilities Engineer
FEA	Federal Enterprise Architecture
FMECA	Failure Mode, Effects and Criticality Analysis
FOC	Full Operational Capability
FoS	Family of Systems
FOT&E	Follow-On Test and Evaluation
FY	Fiscal Year
FYHSP	Future Years Homeland Security Program
GPETE	General Purpose Electronic Test Equipment
GPRA	Government Performance and Results Act
GSA	General Services Administration
ADA	Acquisition Decision Authority
HCA	Head of Contracting Activity
HFE	Human Factors Engineering
HM&E	Hull Mechanical and Electrical
HMI	Human - Machine Interface
HQ	Headquarters
HSAM	Homeland Security Acquisition Manual
HIS	Human Systems Integration
I-Level	Intermediate-Level

IBR	Initial Baseline Review
IDS	Integrated Deepwater System
ILS	Integrated Logistics Support
ILSM	Integrated Logistics Support Manager
ILSMT	Integrated Logistics Support Management Team
ILSP	Integrated Logistics Support Plan
IMS	Integrated Master Schedule
IOC	Initial Operational Capability
IOT&E	Initial Operational Test and Evaluation
IOTEA	Independent Operational Test and Evaluation Advisor
IPG	Integrated Planning Guidance
IPRT	Integrated Project Review Team
IPT	Integrated Product Team
IT	Information Technology
JAG	Judge Advocate General
JLC	Joint Logistics Commanders
JRC	Joint Requirements Council
KO	Contracting Officer
KPP	Key Performance Parameter
LA	Logistics Assessment
LCC	Life Cycle Cost
LCCE	Life Cycle Cost Estimate
LCL	Life Cycle Logistics
LORA	Level Of Repair Analysis
LRIP	Low Rate Initial Production
LSP	Logistics Support Plan
MA	Mission Analysis
MAA	Mission Area Analysis
MAR	Mission Analysis Report
MARSEC	Maritime Security
MAT	Maintenance Augmentation Team
MD	Management Directive
MLC	Maintenance and Logistics Command
MNS	Mission Need Statement
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPT	Manpower, Personnel and Training
M&S	Modeling and Simulation
MS1	Milestone Decision 1 (Project Authorization Milestone)
MS2	Milestone Decision 2 (Alternative Selection Milestone)
MS3	Milestone Decision 3 (Project Decision Milestone)
MSAM	Major Systems Acquisition Manual
MSG	Maintenance Support Guide
MSO	Maintenance Support Outline
MTBF	Mean Time Between Failure
MTBCF	Mean Time Between Critical Failure

MTBMA	Mean Time Between Maintenance Actions
MTTR	Mean Time to Repair
NEPA	National Environmental Policy Act
NDI	Non-Developmental Item
NOR	Notice of Revision
OA	Operational Analysis
O&S	Operations and Support
OATP	Objective Architecture & Transition Plan
OCIO	Office of the Chief Information Officer
OE	Operating Expense
OFCO	Operating Facility Change Order
OGA	Other Government Agency
OJT	On-the-Job Training
O-Level	Operational-Level
O&M	Operations and Maintenance
OMB	Office of Management and Budget
ORD	Operational Requirements Document
OSC	Operational Systems Center
OT	Operational Test
OT&E	Operational Test and Evaluation
OV	Operational View
P&D	Production and Deployment
PA&E	Program Analysis and Evaluation
PBL	Performance Based Logistics
PCA	Physical Configuration Audit
PDR	Preliminary Design Review
PEO	Program Executive Officer
PHS&T	Packaging, Handling, Storage, and Transportation
PI	Project Identification
PIR	Post Implementation Reviews
PM	Project Manager
PMA	President's Management Agenda
PMB	Performance Measurement Baseline
PMO	Program Management Office
PMP	Project Management Plan
PMS	Planned Maintenance System
POC	Point of Contact
POE	Projected Operational Environment
PORD	Preliminary Operational Requirements Document
PPBE	Planning Programming Budgeting and Execution
PQM	Production, Quality and Manufacturing
PRO	Project Resident Office
PRR	Production Readiness Review
PSE	Program Systems Engineer
PSSA	Preliminary Spectrum Supportability Assessment
PTP	Project Transition Plan

PV	Planned Value
PWBS	Project Work Breakdown Structure
Q	Quarter
QPR	Quarterly Program Review
QPR	Quarterly Project Report
R&D	Research and Development
RA	Risk Analysis
RAD	Resource Allocation Decision
RAP	Resource Allocation Plan
RCM	Reliability Centered Maintenance
RFD	Request For Deviation
RFP	Request For Proposal
RMA	Reliability, Maintainability and Availability
RMP	Risk Management Plan
ROC	Required Operational Capability
ROI	Return on Investment
RP	Resource Proposal
RS	Revision Summary
S&T	Science and Technology
SAR	Search and Rescue
SC	System Certification
SCN	Specification Change Notice
SCP	System Contingency Plan
SDLC	System Development Life Cycle
SE	Systems Engineering
SME	Subject Matter Expert
SOP	Standard Operating Procedures
SoS	System of Systems
SOW/PS	Statement of Work/Performance Specification
SPETE	Special Purpose Electronic Test Equipment
SPI	Schedule Performance Index
SPRD&E	System Planning Research Development and Engineering
SRR	System Requirements Review
SSP	System Security Plan
S&T	Science and Technology
SV	Schedule Variance
SV	System View
SW	Software
TA	Technical Authority
TAC	Total Acquisition Cost
TCM	Task Commitment Memorandum
T&E	Test and Evaluation
TEMP	Test and Evaluation Master Plan
TISCOM	Telecommunications & Information Systems Command
TM	Technical Manual
TMOT	Test Management Oversight Team

TRA	Technology Readiness Assessment
TRR	Test Readiness Review
TV	Technical View
US/M	Under Secretary for Management
VV&V	Verification Validation and Accreditation
WBS	Work Breakdown Structure

COMDTINST MANUAL 5000.10A MSAM v2.1 Changes

COMDTINST M5000.10A MSAM V2.1 CHANGES

Significant Changes	
Chapter/Section	**Description of Action**
Global	Search & replace to new DHS-102 acquisition terminology: • "Project Initiation Phase" to "Need Phase" • "CTD Phase" to "Analyze/Select Phase" • "CDD Phase" to "Obtain Phase" • "P&D" and "O&S" Phases to "Produce, Deploy and Support Phase" • "MDA" to "ADA" • "MD-1400" to "Acquisition Directive 102-01" • "investment" to "acquisition" • "Investment Review" to "Acquisition Review" • "DHS investment review process" to "DHS acquisition review process" • "HAE" to "ADA" • "IRB" to "ARB" • "Milestone/MS" to "Acquisition Decision Event/ADE"
CG-9 Memo	Revised/updated the Promulgation Memo
Chapter 1	Overall just minor changes for consistency with DHS-102 terminology
Section 5	Updated Table 1-1 with increased major acquisition $ thresholds
Section 9	Updated the description of Manual Organization with SELC in Chapter 3, C4&IT Projects in Chapter 7 (formerly Chapter 3), and new Chapter 8 Reports and Reviews (formerly Chapter 7)
Chapter 2	Considerable revision to new DHS acquisition phase terminology and new required activities and documentation.
Section 1b	Replaced Table 2-1 DHS Investment Thresholds (pg 2-2) with Guidebook Table 1 Acquisition Thresholds and Decision Authorities
Section 1c	Replace Major Systems Acquisition Process Figure 2 with new DHS acquisition phase graphic; revised overview of each acquisition phase; changed the description of Decision Milestones to describe the new ADE's
Section 2	Revised Project Identification Phase description of activities and documentation; this is no longer a CG unique acquisition phase but is a formal part of the DHS acquisition process
Section 3	Significant revisions to change from the prior Project Initiation Phase to the new Need

Significant Changes	
Chapter/Section	**Description of Action**
	Phase; added requirement for preparation of new Capability Development Plan (CDP) and the initial Acquisition Plan (if needed)
Section 4	Significant revisions to change from the prior Concept and Technology Development to the new Analyze/Select Phase; described end of phase decision reviews ADE-2A and ADE-2B and circumstances when these two reviews may be combined; described how CDP provides basis for phase activities; added new SELC reviews – Study Plan Review, Solution Engineering Review; described new Alternatives Analysis process and need for AA Study Plan and how the AA links to ORD development; added requirement for completion of a formal LCCE on the preferred solution resulting from the AA
Section 5	Significant revisions to change from the prior Concept Development and Demonstration to the new Obtain Phase; added description of mid-phase ADE-2B review; described how projects with multiple Discrete Segments may have separate future ADE-2B and ADE-3 events for the implementation of each Discrete Segment; described how LRIP quantities approved at ADE-2A and approval to commence LRIP given at ADE-2B; added new systems engineering activities based on SELC and the new SELC Tailoring Plan document
Section 6	Significant revisions to combine the prior Production & Deployment and Operations & Support phase to the new Produce/Deploy/Support Phase; described how ADE-4 Project Transition Review is a CG unique decision event; description of mid-phase ADE-2B review; described how projects with multiple Discrete Segments may have separate future ADE-2B
Chapter 3	Created new Chapter 3 Systems Engineering Life Cycle (SELC); relocated prior Chapter 3 C4 & IT Projects to be new Chapter 7; described new SELC process and graphic of how SELC activities align with the major acquisition process; added table describing required SELC reviews and the respective approval authority
Chapter 4	Overall just minor changes for consistency with DHS-102 terminology
Section 2	Added responsibility for preparation of the CDP
Section 3	Refined description of the MNS document and development process to align with DHS-102

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Significant Changes	
Chapter/Section	**Description of Action**
Section 4	Refined description of the CONOPS document and development process to align with DHS-102
Chapter 5	Considerable revision to Chapter 5; updated terminology for alignment with new DHS-102; reordered the Chapter 5 Sections to align with the sequence these documents appear in the major acquisition process
Section 1	Added a new CDP section describing the purpose, objectives and overall content of the CDP
Section 3	Revised AA section to describe how the ground rules and assumptions for the AA are documented in the CDP, the approach in the AA Study Plan, the need for a Study Plan Review per the SELC, and how the AA Report is approved by the CG CAE and serves as a key document for ADE-2A
Section 4	Minor revisions to the LCCE section to specify the use of the GAO Cost Guide (GAO-07-01134SP)
Section 5	Revised APB section to align with the DHS guidance
Section 9	Minor revisions to the TEMP section to align with DHS guidance
Section 10	Minor revisions to the ILSP section to align with DHS guidance
Section 12	Added new SELC Tailoring Plan section describing the purpose, objectives and overall content of the SELC Tailoring Plan
Chapter 6	Overall just minor changes for consistency with DHS-102 terminology
Chapter 7	Created new Chapter 7 C4&IT Projects; content largely unchanged from prior Chapter 3 C4&IT Projects contained in MSAM.10A
Chapter 8	Changed former Chapter 7 to be new Chapter 8;added overview description of the new DHS acquisition review process and acquisition review boards
Appendix A	Overall update of terminology to align with new DHS-102; reordered the sections in Part I of Appendix A to align with the sequence these documents appear in the major acquisition process
Part I, Section 1.2	Added CDP, SELC Tailoring Plan and LCCE to Table A-1 Acquisition Document Approval Authorities

Significant Changes	
Chapter/Section	**Description of Action**
Part I, Section 3	Refined description of the MNS process and document template to align with DHS-102
Part I, Section 4	Refined description of the CONOPS process and document template to align with DHS-102
Part I, Section 5	Drafted new CDP section describing approach, content and template
Part I, Section 6	Refined AP discussion and template to align with DHS-102
Part I, Section 7	Refined description of the PORD/ORD process and document template to align with DHS-102
Part I, Section 8	Considerable revision to the AA discussion and template; added basis in CDP and need to prepare AA Study Plan and conduct Study Plan Review
Part I, Section 9	Refined description of the LCCE process and document template to align with DHS-102
Part I, Section 11	Significant revision to the APB discussion and template to align with the DHS guidance
Part I, Section 12	Added need for definition of the project Work Breakdown Structure (WBS) to the PMP section to satisfy new DHS SELC requirements
Part I, Section 16	Significant revision to the ILSP discussion and template to align with the DHS guidance and added Figure A-4: Notional integrated Schedule
Part I, Section 20	Significant revision to the SELC Tailoring Plan discussion and template to align with the DHS guidance
Part I, Section 24	Moved Task Commitment Memorandum to end of Part I
Part II, Section 1	Added new Figure A-5 Program Structure Chart
Part II, Section 2	Revised section to describe Acquisition Decision Event (ADE) reviews
Part II, Section 3	Added new section on Acquisition Phase Exit Criteria based upon guidance in DHS-102
Part II, Section 7	Deleted former Section 7JRC/IRB Notional Timelines as this information is superseded by DHS-102

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Significant Changes	
Chapter/Section	**Description of Action**
Acronyms	Updated acronym list by removing former acquisition terminology (e.g. CDD, CTD) and adding new DHS-102 terminology (e.g. ADE, ADA, ARB, etc)