



COMDTINST 5280.1A
18 AUG 2020

COMMANDANT INSTRUCTION 5280.1A

Subj: MISSION ANALYSIS POLICY

Ref: (a) DHS Manual for the Operations of the Joint Requirements Integration and Management System, (DHS Instruction Manual 107-01-001-01)
(b) Coast Guard Operational Requirements Generation Manual, COMDTINST M5000.4 (series)

1. PURPOSE. This Instruction provides the policy and process for the conduct and documentation of Coast Guard Mission Analysis Reports (MARs).
2. ACTION. Coast Guard unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, and chiefs of headquarters staff elements must comply with the provisions of this Instruction. Internet release is authorized.
3. DIRECTIVES AFFECTED. The following Directives are cancelled:
 - a. Mission Analysis Reports, HQINST 16050.1.
 - b. Mission Analysis Policy, COMDTINST 5280.1
4. DISCUSSION.
 - a. A MAR examines how well the Coast Guard is organized, trained, and equipped to perform an assigned duty supporting Coast Guard and Department of Homeland Security (DHS) agency goals, strategies, and policies, while at the same time meeting future Service requirements (performance targets, availability, employment standards, training levels, etc.). For a MAR, a duty is defined as a mission such as Search and Rescue, specific operation(s) or support effort(s), operations in a geographic area, or any subset or combination thereof.

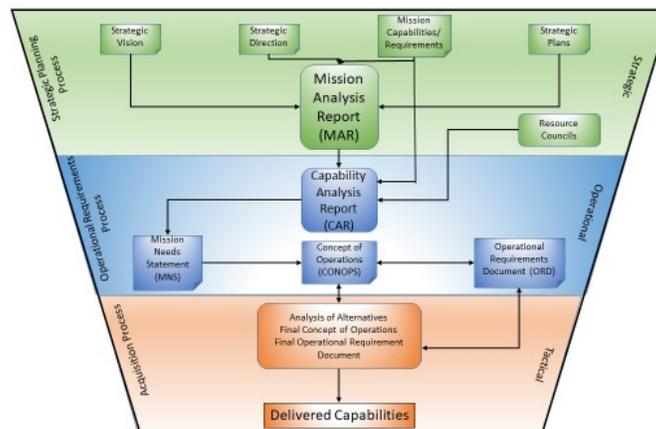
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- b. MARs identify significant gaps that may prevent the Coast Guard from efficiently and effectively meeting a duty's current and future requirements. There are two types of requirements: functional and performance. Functional requirements state what a system of Coast Guard capabilities must do, while performance requirements state how well the system of capabilities must perform. Utilizing current capabilities and their requirements as a baseline, a MAR provides an in-depth assessment of how the combination of ongoing and forecasted environmental, economic, operational trends, and internal Service factors, will impact future Coast Guard actions. For these reasons, MARs are a valuable tool for Mission Managers and Coast Guard leadership to link and inform strategic visions and plans for Coast Guard budget, acquisition, program management, operations, personnel, equipment and training processes.
- c. MARs play a critical role in the success of the Coast Guard's Major System's Acquisitions process. They provide significant information supporting the Service's Operational Requirements Generation process by identifying the performance impacts of major gaps in how the Coast Guard carries out a future duty.
- d. MARs can also inform the development of high-level goals, objectives, requirements, and operational concepts necessary to develop required Major Systems Acquisition documents described in references (a) and (b). Of note are Capability Analysis Reports (CAR), Mission Needs Statements (MNS), and Concept of Operations (CONOP).
- e. Figure 1 represents the relationships between MARs and the Major System Acquisitions process. MARs serve as a link between the Coast Guard's Strategic Planning and the Operational Requirements Generation Processes. They examine the Service's ability to achieve future strategic goals and objectives and assess the impacts current and future gaps will have on future performance of a particular duty or set of duties. In turn, Coast Guard leadership determines which of these gaps will be further evaluated for material and non-material solutions in the Operational Requirements Generation Process. For example, multiple CARs may be generated using a MAR as the strategic framework to take action. Conversely, a single CAR may utilize several MARs to support multi-mission capabilities being analyzed.

Figure 1. Mission Analysis, Capability Analysis, and Alternatives Relationship



5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements. It is intended to provide guidance for Coast Guard personnel and is not intended to nor does it impose legally binding requirements on any party outside the Coast Guard.
6. MAJOR CHANGES. This COMDTINST revision brings the Coast Guard Mission Analysis policy into alignment with DHS and the Service's Major System Acquisition Program Management, and Performance Management policies. It provides Coast Guard personnel with more detailed guidance on how to complete a customer-relevant MAR.
7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.
 - a. The development of this Instruction and the general policies contained within it have been thoroughly reviewed by the originating office and are categorically excluded under current U.S. Coast Guard categorical exclusion (CE) # 33 from further environmental analysis, in accordance with Section 2.B.2 and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1 (series).
 - b. This Instruction will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws; or administrative determinations relating to the environment. All future specific actions resulting from the general policies in this Instruction must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), DHS and Coast Guard NEPA policy, and all other environmental mandates.
8. DISTRIBUTION. No paper distribution will be made of this Instruction. An electronic version will be located on the following Commandant (CG-612) web sites. Internet: <http://www.dcms.uscg.mil/directives>, and CGPortal: <https://cg.portal.uscg.mil/library/directives/SitePages/Home.aspx>.
9. PROCEDURE.
 - a. MAR Identification. The Deputy Commandant for Operations (DCO) will designate an office with the responsibility for facilitating the completion of MARs. The office designated with MAR oversight identifies potential MAR candidates. Selection of potential MAR studies will be done on an annual basis utilizing a number of inputs including, but not limited to Stakeholder requests, Evergreen scenarios, DHS and Coast Guard Strategic Plans and Vision, Quadrennial Homeland Security Review (QHSR), future threat environment, other strategic and operational plans; and evolving issues impacting Coast Guard duties. The designated MAR office must coordinate with Coast Guard Headquarters directorates, to identify and select MARs for completion. MARs must be completed on a schedule that best supports other Coast Guard processes.
 - b. Sponsor Identification and Roles. The Assistant Commandant charged with the program management responsibilities for the duty under analysis will serve as a MAR's sponsor and customer. The Sponsor may designate a representative, normally an Office Chief, to oversee the MAR's development from its initial scoping, identification and assessment of

gaps, to its final signature. Upon completion, the Sponsor must review, sign, and forward the MAR to mission stakeholders, to include the appropriate capability managers and resource councils. Once received, these entities will work with the Sponsor to determine how identified gaps may be addressed, including providing support to the Coast Guard's Operational Requirements Generation Process.

- c. Customer-Relevant, Requirements Driven, Performance Focused. DHS and Coast Guard policies and guidance require MARs to be customer-relevant, requirements driven, and performance focused. Each MAR must provide the context, facts, analyses, and operational insights necessary to show the future implications if identified MAR gaps are not addressed. The Coast Guard will develop more effective developing potential solutions for identified MAR gaps if it has a broad understanding of their future performance implications. Enclosure 1 provides additional guidance on how to identify customer-relevant gaps.
- d. Gaps Identification. Gaps identified in a MAR must be described in terms of the functional and related performance requirements not being met. This practice is critical to the integrity of the Coast Guard's Operational Requirements Generation Process. It promotes transparent, repeatable, and thorough follow-on analyses that do not presuppose how the Service will address identified gaps.
- e. Decision Support. MARs are conducted to inform senior leadership of significant gaps in how the Coast Guard is organized, trained, and equipped to meet current and future requirements for the duty being analyzed. Gaps identified through the MAR process are informational and do not require the Service to address them in a particular manner. Gaps identify specific limitations in the interdependent Coast Guard capabilities performing a duty. As such, MAR identified gaps are not indicative of the performance of individual Coast Guard units or commands. MARs seek to identify all significant gaps ensuring the Service has information necessary to make decisions in response.
- f. Collaboration, Scoping, and Flexibility. MARs often identify and assess the implications of gaps spanning multiple organizational levels. Therefore, sustained collaboration between multiple stakeholders is critical to ensure a MAR's analyses and findings are customer-relevant, requirements driven, and tailored to analyze the Sponsor's key concerns or issues. To achieve these desired outcomes, the DCO office designated with MAR oversight in conjunction with the MAR Sponsor/Representative Sponsor may establish and lead an Integrated Project Team (IPT) as one method to conduct a MAR. Regardless of format, to ensure a MAR is customer-relevant, the team responsible for the MAR must obtain the approval of senior leadership (Assistant Commandant or their designated representative) for the following before commencing research:
 - (1) Key Performance Issues. Identify senior leadership's current and anticipated functional and related performance concerns for the specific Coast Guard duty under analysis. Key performance concerns are significant challenges, problems, concerns, or opportunities that senior Coast Guard leadership is currently addressing or anticipate doing so in the future. Identifying senior leadership's key functional and related performance concerns will help determine which duty elements to analyze.

- (2) Objectives. Provide a brief description of what criteria and requirements must be met in order to successfully address senior leadership concerns. Determining these objectives will ensure a MAR that provides relevant information to identify and address current and future functional and related performance gaps.
- (3) Duty Definition. Coast Guard duties encompass multiple organizational levels and geographic regions making them difficult to analyze in their entirety. Thus, there must be explicit agreement among all parties responsible for the MAR as to which functional and performance requirements of a Coast Guard duty will be analyzed in the MAR, and which ones will not.
- (4) Problem Statement. Once formulated, the problem statement provides the context and rationale for why the MAR is being conducted. To achieve this outcome, the problem statement must state why the specific Coast Guard duty under analysis is important, what gaps are anticipated to exist in the future, and the performance implications of not addressing them.
- (5) Key MAR Research Questions. A primary question and supporting research questions must be developed to be answered by the MAR in order to address senior leadership's key concerns raised in the problem statement for the Coast Guard duty under analysis, and provide an analytical structure for the MAR. These MAR research questions should in some manner address the following major performance-related concerns:
- What are the significant changes or events that have already occurred or are anticipated to occur that raises senior leadership concern?
 - What national outcome(s) does the duty under analysis contribute to?
 - How will current or anticipated changes in the future operational environment impact?
 - How well the Coast Guard is organized, trained, and equipped to meet future requirements?
 - What are anticipated future impacts to the nation and Coast Guard if the identified gaps are not addressed?
- g. Combination of Analyses. A MAR identifies and assesses future functional and related performance gaps. Each Coast Guard duty encompasses a range of interdependent functions whose individual performance is distinctly different from other duty components. As a result, there is no one methodology or metric sufficient to identify and assess the implications of all identified gaps. Therefore, MARs should use a combination of existing metrics, and other quantitative analytical methods. Additionally, qualitative operational insights of Coast Guard personnel and other related parties related to the duty being analyzed should be considered. Enclosure (1) provides further guidance on how to use a variety of analyses to characterize the nature and implications of identified gaps.
- h. MAR Format and Writing Style. A MAR consists of a series of analyses which identify future gaps and assess the implications of not addressing them. MARs must be customer

focused, succinctly written, logically organized, and provide clearly explained and defensible analyses. MARs must be written in a manner in which a reader can understand its analyses and findings after only one reading. Enclosure (1) provides format and writing guidance on how achieve this desired outcome.

10. RECORDS MANAGEMENT CONSIDERATIONS. This Instruction has been thoroughly reviewed during the Directives clearance process, and it has been determined there are no further records scheduling requirements, in accordance with NARA Requirements, and Information and Life Cycle Management Manual, COMDTINST M5212.12, with the Federal Records Act, 44 U.S.C. 3101 et seq., and the National Archives and Records Administration. This policy does not create significant or substantial change to existing records management requirements.
11. FORMS/REPORTS. None.
12. REQUEST FOR CHANGES. The DCO designated office for the oversight of MARs will coordinate changes to this Instruction which is under continual review and will be updated as necessary. Time-sensitive amendments will be promulgated via message, pending their inclusion in the next change. All users will provide recommendations for improvement to this Instruction via the chain of command.

/PAT DEQUATTRO/
Rear Admiral, U. S. Coast Guard
Deputy for Operations Policy and Capabilities

Encl: (1) Mission Analysis Report (MAR) Template Guide

Mission Analysis Report (MAR) Template Guide

The Coast Guard has a wide range of overlapping capabilities employed to address the functions necessary to conduct each duty assigned. As a result, there can be significant variations in MAR topics, analyses, findings, and recommendations. This can make it extremely challenging to produce MARs that are relevant to Coast Guard senior leadership, sponsors, and other stakeholders.

This enclosure provides a general template and guidance to help effectively and efficiently document MAR analyses, findings, and recommendations. The MAR template describes the purpose of each chapter and section and includes general guidance on how to meet associated requirements.

The MAR template and guidance should be followed if possible, in order to ensure customer-relevance, readability, and analytical consistency. However, departures from these general guidelines in consultation with the sponsor can be made to better address a MAR's unique purpose and circumstances.

Definition of a MAR Duty: A MAR examines how well the Coast Guard is organized, trained and equipped to perform an assigned duty supporting Coast Guard and Department of Homeland Security (DHS) agency goals, strategies, and policies while at the same time meeting future Service requirements (performance targets, availability, employment standards, training levels, etc.). For a MAR, a duty is defined as a mission, such as Search and Rescue; specific operation(s) or support effort(s); operations in a geographic area; or any subset or combination thereof.

MAR Writing Purpose and Guides: MARs can inform the policy, program management, budgetary, and major acquisition decisions of senior leaders in the Coast Guard, Department of Homeland Security, Executive Branch, and Congress. For this reason, it is imperative MARs be written to be understandable in one reading. MARs must provide concise, coherent, and organized written analyses allowing readers (senior government officials - Admirals, Senior Executives, etc.) to maximize the use of their limited time. This presents a challenge to MAR teams as traditional writing guides focus primarily on grammar and style without considering how to develop and present content to senior government officials. The following are representative sources that provide useful guidance on how to effectively and efficiently present analysis to Coast Guard leaders:

- Louis M. Kaiser and Randolph M. Pherson, *Analytical Writing Guide*, (Reston, VA: Pherson Associates LLC).
- Richard Lauchman, *Plain Language, A Handbook for Writers in the U.S. Federal Government* (Rockville, Maryland: Lauchman Group).
- James S. Major, *Communicating and Writing With Intelligence (Writing and Briefing for National Security)* (London, United Kingdom: Rowman & Littlefield Publishing Group).

- Katherine M. Pherson and Randolph H. Pherson, Critical Thinking for Strategic Intelligence (Thousand Oaks, California: SAGE Publications).
- U.S. Army, Writer's Handbook Reference Guide For USAICoE, Writing Standards, (Fort Huachuca: U.S. Army of Intelligence Center of Excellence).

MAR Sections: In general, each MAR should have an Executive Summary and Chapters defining the duty being analyzed; characterization of the future performance environment; a discussion of the future performance impact of identified gaps; and the identification of preliminary alternatives. Most MARs will also have appendices with supplemental information.

- a. **Executive Summary:** The Executive Summary provides a concise synopsis of the MAR's analyses, findings, and results. It must clearly describe the key issues and concerns leading to the MAR being conducted, and summarize the MAR's problem statement, objectives, and scope. It should also recap the MAR's major identified gaps along with their supporting chain of analyses and performance implications. This MAR Section may be completed after all chapters and analyses have been finished. The Executive Summary should be written so that it can be a standalone document that generally does not exceed seven pages.
- b. **Chapter One: Duty Definition:** This MAR Chapter provides a high-level description of the Coast Guard duty and its related functional and performance requirements that the MAR is examining. It should describe where the Coast Guard is executing the defined functions and explain the significant factors that shape how they are met. It should also discuss the capabilities the Coast Guard employs to meet them.

Section 1.0 Mission: This Section provides a high-level introduction and definition of the Coast Guard duty under analysis. It specifies which elements of the duty will be examined. It summarizes the strategic purposes of the duty and functional and related performance requirements that the MAR will examine.

Section 1.1 Summary of Existing Mission: This Section's purpose is to provide the reader with the context necessary to understand the importance of the duty's elements under analysis. It summarizes the Coast Guard duty being analyzed by providing an overview of why and where it is conducted, its associated goals and objectives, and, its operations.

1.1.1 Theater of Operations Purpose: This Section describes where the Coast Guard performs the duty. The roles and responsibilities for Coast Guard duties and related functions vary with the Service's operational levels (Sectors, Districts, Areas, etc.) and operating regions. Therefore, this Section's requirements can be met by providing a description of responsibilities and activities for each organizational level analyzed in the MAR. The length of this Section will be based on which organizational levels and geographic regions in the MAR's scope. Mission specific material necessary for this MAR Section can be found by reviewing a variety of high-level documents, such as Coast Guard strategies, publications, manuals (Maritime Law Enforcement Manual, Marine Safety Manual, etc.), Program Plans, and other relevant documents.

1.1.2 Operational Context: This Section describes the operational context for the duty under analysis. It summarizes the duty's key characteristics or considerations that shape when and how the Coast Guard operates. It should describe the events or factors that initiate duty activities, trigger additional operational activities, and conclude operations. Mission manuals and subject matter expertise provide the necessary material and insights needed to develop documentation meeting this Section's requirements.

1.1.3 Current Functional Requirements and Capabilities Purpose: This Section describes and assesses how well current Coast Guard capabilities meets functional and related performance requirements. MAR functional requirements are those functions that all elements must collectively perform for the duty to succeed. Functional capabilities are the system of Coast Guard elements that meet a functional requirement. Performance requirements are the standards or metrics that define how functional requirement must be met.

1.1.3.1. Current Mission Functional Requirements Purpose: This Section describes the full range of mission-level functional requirements necessary for successful Coast Guard mission performance within the identified duty. These functional requirements should focus on "what" needs to be done and not on "how" to perform these mission functions. Functional statements should be decomposed from high level mission goals and objectives. They should state only what needs to be done and not describe specific operations or non-technical requirements (such as logistics, maintenance, and human factors). The set of functional requirements should be kept to a minimum of usually no more than eight requirements, but encompass the full range of functions necessary for successful duty performance. Mission manuals and subject matter expertise provide the necessary material and insights needed to develop documentation meeting this Section's requirements.

1.3.3.2. Current Duty Functional Capabilities Purpose: This Section describes the current system of Coast Guard capabilities (i.e., personnel, assets, teams, etc.) currently performing the duty under analysis. In this Section, the system of Coast Guard capabilities directly performing the duty should be related back to the established Functional Requirements (Section 1.3.1), otherwise the MAR will not be compliant with DHS and Coast Guard guidance.

- c. **Chapter Two: Projected Future Performance Environment:** The MAR must identify and assess how significant foreseeable changes in the operational environment (technology, industry trends, regulatory regime, policies, weather, etc.) may create, exacerbate, or mitigate future gaps. It must also identify if anticipated changes creates significant performance opportunities for the system of Coast Guard functional capabilities performing the duty under analysis. It must also develop a clear chain of analysis using a variety of sources that characterizes how the future demand and nature of a Coast Guard duty and/or related function may change. The following are some key material that should be reviewed to assess how the scale, scope, and nature of Coast Guard performance may change in the future:

- National Strategies, Policy, and Plans,
- DHS Strategies, Policy, and Plans,
- Intelligence Products,
- Coast Guard Strategies, Policy, and Plans, and
- Industry and Academic Literature.

Providing a description of the future operating environment will help identify and assess the performance impacts of current and anticipated gaps.

- d. **Chapter Three: Mission Performance Measure and Gaps Analysis.** This Section's purpose is to comprehensively identify the salient gaps in the Coast Guard's ability to meet duty functional and related performance requirements. It must identify and assess the impacts of existing and anticipated limitations on future performance using the projected future performance environment, duty related metrics, and related qualitative data. ***Gaps should not be expressed in terms of asset and personnel needs, but rather gaps in functional performance related to the duty being analyzed.*** No one methodology or data set will be sufficient to fully characterize the performance implications of current and future gaps. Therefore, a combination of quantitative and qualitative gap analysis of duty performance may be necessary to fully meet this Section's requirements. The following guidance is provided to facilitate gap identification and characterization.

Types of Gaps: The Coast Guard employs systems of interdependent capabilities (aircraft, boats, cutters, personnel, and regulations) to perform its functions. At any given time, despite these systems there may well be gaps in the desired end state of performance. Identifying and characterizing the nature of these gaps and assessing their strategic impact can be challenging due to the diversity of individual capabilities and how they interrelate in addressing performance. Examples of gaps are provided below to help more effectively and efficiently identify gaps and determine their performance impacts:

- (1) Effectiveness. Specified Coast Guard operations are not achieving the desired outcomes and results.

Example: In 2016, the Coast Guard's annual performance goal for its Search and Rescue (SAR) operations was to save 100% of all mariners in distress in U.S. waters. The Coast Guard actually rescued 87% of mariners (4,118 of 4,806). This indicates the Coast Guard has an annual SAR performance gap of 13% or 688 persons who could have potentially been saved.

- (2) Performance Standards. The Coast Guard is not meeting the current functional requirements of the duty being analyzed due to issues with assets and/or personnel, which may contribute to a widening gap in performance.

Example: The Coast Guard fleet of MH-65 helicopters is required to maintain a 71% operational availability in order to meet all of its operational requirements, such as being on scene within two hours. An operational availability that is less than 71% suggests the Service may be experiencing significant challenges, such

as lack of spare parts, which make it more difficult in meeting anticipated demand.

- (3) Efficiency. Existing or anticipated factors (long-term trends, operational environment, policies, etc.) limit the Coast Guard's cost effectiveness in addressing functional requirements.

Example: As the Coast Guard's medium and high-endurance cutter fleet begins to age beyond planned extended serviceability, logistics support becomes more challenging; machinery repairs may be more expensive as replacement parts have to be custom ordered as the marine industry no longer utilizes produces these items. Further, the Coast Guard may not be able to achieve the cost-savings associated with standardization. This will affect the ability of these cutters to perform a duty in an effective and efficient manner.

- (4) Safety. There are unacceptable safety risks to the public and/or Coast Guard personnel.

Example: COMDTINST 3120.21(series), Cutter Safe-to-Sail (STS) Minimum Critical Equipment, lists the minimum amount of system's a cutter must have operational in order to get under way. Sustained Fleet and/or cutter class wide maintenance concerns with STS equipment are indicators of safety-related cutter gaps.

- (5) Adaptability. Factors constrain the Coast Guard's ability to employ new technology, processes, and policies that will improve its efficiency, effectiveness, or safety.

Example: Coast Guard Marine Inspectors document the results of their field inspections on paper and in MISLE. Mobile computing devices (i.e., smart phones and tablets), could reduce this double entry, providing the Coast Guard with the ability to conduct more inspections.

- (6) Compliance. The current Coast Guard mission system may not fully support anticipated federal statutes, strategies, policies, and objectives.

Example: It is anticipated that the level of maritime activities in the Polar Regions will increase due to global temperature increases. As a result, the Service may not have the capabilities necessary to support U.S. strategies and polices in the Polar Regions at the level expected.

Metrics-Based Gap Analysis: No single metric can adequately characterize the full extent and impacts of gaps in the Coast Guard's capability to meet functional and related performance requirements. Therefore, gaps to the extent feasible, should be assessed by analyzing a range of duty related measures. Differences between these metrics and their associated targets, standards, and performance levels will provide a better indication of the nature and extent of Coast Guard capability gaps to meet functional and related

performance requirements. The MAR, as appropriate, should evaluate the following metrics to help determine if a performance gap exists, its causes and implications:

(1) Government Performance and Results Act Measures (GPRA): The Coast Guard has performance measures that helps it assess how well a duty is fulfilling its intended purpose or final outcome. The MAR should, as appropriate, analyze GPRA performance metrics and historical trends to determine the extent to which it is meeting its GPRA targets related to the duty being analyzed. Care must be taken when evaluating the GPRA performance trend to take into account the relationship between GPRA results and actual Coast Guard performance. Examples of the Coast Guard's GPRA measures suite includes:

- Percent of people in imminent danger saved in the maritime environment,
- Average number of navigational accidents,
- Removal rate for cocaine from non-commercial vessels in maritime zone,
- Average number of oil spills in the maritime environment, and
- Number of days critical waterways are closed to commerce due to ice.

(2) Intermediate/Short-Term Outcomes: The Coast Guard has intermediate or short-term performance indicators that measure how well it is progressing towards achieving a desired outcome. These intermediate/short-term metrics have associated standards or performance levels, which provide an indication of how well the Service is fulfilling the functional requirements for the duty being analyzed. These types of measures are generally readiness, response, and prevention output measures but can also include qualitative determinations of indicators and severity. The MAR should, as appropriate, analyze the extent to which the duty's intermediate/short-term outcomes and their historical trends are meeting the required standards or performance levels. Examples of the Coast Guard intermediate or short-term outcomes can be both internal and external:

Example: Capacity is the amount of time an asset class is potentially available for operations (i.e., not in a Charlie maintenance status). Coast Guard asset classes have established capacity standards, which can serve as indicators of the asset class's health and the ability to respond to anticipated levels of demand.

Example: A serious marine incident is one in which there is at least one of the following: one or more deaths, incapacitating injury to a crewmember or passenger, actual or constructive total loss of a vessel, or a major oil spill or hazardous substance release. Analyzing the number of serious marine incidents over time can provide insight on how well Coast Guard Marine Safety is performing.

(3) Output/Activity Measures: The Coast Guard has a set of output/activity measures which quantitatively or qualitatively tabulate, calculate, or record its activities

and level of effort (e.g., Employments Standards, Resource Hours, etc.).
Examples of the Coast Guard Output/Activity Measures are:

Employment Standards: All Coast Guard assets have employment standards that balance the level of Coast Guard operations, crew endurance, and maintenance considerations. These standards are designed to ensure Coast Guard assets are fully employed, achieve their planned service life, and maintain the crew's quality of life.

Resource Hours: The Coast Guard accounts for the time its assets (aircraft, boats, and cutters) spend performing different missions. The gap analysis should, as appropriate, analyze the amount the time the Coast Guard by asset class spent performing the Coast Guard duty being analyzed. This analysis provides an indicator of the operational demand for mission performance.

External Requirements: The Coast Guard, for some of its duties, has made commitments to external stakeholders to provide specific types of capabilities at specified resource levels and/or for specific contingencies. The gap analysis should, as appropriate, analyze how well the Coast Guard did in meeting these external requirements.

- (4) Input Measures: The Coast Guard has a set of inputs, budgetary resources, personnel, assets, and facilities, that impact duty performance. Examples of the Coast Guard input measures can include: number of assets with primary duty responsibility, number of personnel involved in the duty, and the budget associated with that duty. Instances where the Coast Guard does not meet established staffing standards, training requirements, and budgetary levels can serve as an indicator of the ability to address a duty performance gap and help characterize performance impacts.
- (5) Model-Based Gap Analysis: Modeling techniques from various disciplines (economics, operations research, statistics, etc.) can be used to identify and assess the extent of current performance gaps for the duty being analyzed. Due to their complexity and cost, they should only be used after careful consideration and planning. They must comply with the requirements and standards associated with their utilization (i.e. defensible from a practical and analytical perspective). They must be appropriate for the research question being analyzed (do not force fit a methodology to the research question). Finally, the advanced analytical techniques, findings, and conclusions should be presented in practical terms. Otherwise, the MAR runs the risk of being too difficult for a general reader to understand.
- (6) Qualitative Gap Analysis: Many important performance gaps are qualitative in nature and cannot be adequately identified or assessed by metrics alone. Therefore, interviews and/ or workshops should be conducted to gather performance insights from operational commanders, unit commanding officers, operational personnel, and other subject matter experts both internally and

externally to the Coast Guard. Interview and workshop questions should be based on open-source literature review, government furnished information, and MAR team expertise. Interviews and workshops should be well-structured and facilitated in order to maximize the usefulness of information obtained.

- e. **Chapter Four**: The purpose of this Chapter is to summarize the major identified gaps, prioritize them in terms of performance impacts, and provide preliminary alternatives to address them. The Section must provide problem statements for the most salient mission performance gaps. It must also include a list of preliminary alternatives which have been identified through interviews, analysis, and workshops that could be considered for further evaluation in closing the identified problem areas and gaps. No further analysis is expected of the alternatives.
- f. **Appendices**: No analysis performed should be discarded. Rather, all MAR analyses, methodological discussions, and other related information such as recommendations to close gaps, that are either too detailed or do not directly support the MAR's discussions and analytical findings, must be placed into appendices.