U.S. Department of
Homeland Security

United States
Coast Guard

Coast Guard Operational Requirements Generation Manual

COMDTINST M5000.4A
01 MAY 2019

U.S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

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COMMANDANT INSTRUCTION M5000.4A

Subj: COAST GUARD OPERATIONAL REQUIREMENTS GENERATION MANUAL

Ref:
(a) Joint Requirements Integration and Management System, DHS Directive 107-01 (series)
(b) Department of Homeland Security Manual for the Operations of the Joint Requirements Integration and Management System, DHS Instruction Manual 107-01-001-01 (series)
(c) Acquisition Management Instruction, DHS Instruction 102-01-001 (series)
(d) Major Systems Acquisition Manual (MSAM), COMDTINST M5000.10 (series)
(e) Level 3 Non-Major Acquisition Program (NMAP) Manual, COMDTINST M5000.11 (series)
(f) Coast Guard Acquisition Management Roles & Responsibilities, COMDTINST 5000.12 (series)
(g) Ship Designer Manager (SDM) Program, COMDTINST 4700.7 (series)
(h) Deputy Commandant for Mission Support (DCMS) Engineering Technical Authority (ETA) Policy, COMDTINST 5402.4 (series)
(i) Major Systems Acquisition Manual (MSAM) Handbook, Feb 2016

1. PURPOSE. This Manual provides guidance on the Coast Guard operational requirements generation process and ensures alignment with Department of Homeland Security (DHS) policy References (a), (b), and (c).

2. ACTION. All 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 Manual. Internet release is authorized.

3. DIRECTIVES AFFECTED. Coast Guard Operational Requirements Generation Manual, COMDTINST M5000.4 is cancelled.

DISTRIBUTION – SDL No.169

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NON-STANDARD DISTRIBUTION:

4. DISCUSSION.

   a. References (a) and (b) establish a standardized operational requirements generation process that ensures traceability between the Department's strategic objectives and capability investments (both non-materiel and materiel).

   b. This Manual integrates established Coast Guard procedures into a standardized, comprehensive operational requirements generation process that aligns the development of Coast Guard requirements with References (a) and (b) and establishes guidance necessary for the development of Major Systems Acquisition and Non-Major Acquisition processes as described in References (d) and (e).

   c. This Manual supports Coast Guard efforts to mitigate mission capability gaps while informing the DHS Joint Requirements Council (JRC) of Coast Guard capability investments.

5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. 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. Major changes to this Manual include additional information regarding operational requirements documents for Level 3 acquisitions and the removal of guidance material now available in other locations.

   a. Specifically, for single component Level 3 acquisitions, changes provide guidance on tailoring documents to shorten the process in order to develop operational requirements documents while still ensuring sufficient information is provided to the Acquisition Program Manager. The changes provide flexibility to the acquisition process while ensuring the delivery of a solution that addresses the capability gaps identified in the Mission Need Statement (MNS).

   b. Information previously provided in an Appendix have been removed as templates and examples are now available at Commandant (CG-771) portal and the DHS Knowledge Management Decision System (KMDS) tool. The locations enable the most recent templates and examples to be uploaded to support Sponsor's efforts to develop operational requirements documents.

   c. This update added information on the DHS Urgent Operational Need (UON) process to support the determination of appropriate use of the UON process detailed in Reference (b).

   d. Additionally, this update removed guidance provided in the previous version of the Manual that is now available in the DHS Joint Requirements Integration and Management System (JRIMS) User Guide and at the Commandant (CG-771) portal page https://cg.portal.uscg.mil/units/cg771/SitePages/Home.aspx.

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

   a. The development of this Manual and the general policies contained within it have been thoroughly reviewed by the originating office in conjunction with the Office of Environmental Management, Commandant (CG-47). This Manual is categorically excluded under current Department of Homeland Security (DHS) categorical exclusion (CATEX) A3

from further environmental analyses in accordance with "Implementation of the National Environmental Policy Act (NEPA)", DHS Instruction Manual 023-01-001-01 (series).

b. This Manual 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 policy in this Manual must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), Department of Homeland Security (DHS) and Coast Guard NEPA policy, and compliance with all other applicable environmental mandates.

8. DISTRIBUTION. No paper distribution will be made of this Manual. An electronic version will be located on the following Commandant (CG-612) web sites. Internet: https://www.dcms.uscg.mil/directives/, and CG Portal: https://cgportal2.uscg.mil/library/directives/SitePages/Home.aspx.

9. RECORDS MANAGEMENT CONSIDERATIONS. This Manual has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records scheduling requirements, in accordance with Federal Records Act, 44 U.S.C. 3101 et seq., National Archives and Records Administration (NARA) requirements, and Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not create significant or substantial change to existing records management requirements.

10. FORMS/REPORTS. Forms referenced in this Manual can be found at https://dcms.uscg.afpims.mil/Our-Organization/Assistant-Commandant-for-C4IT-CG-6/The-Office-of-Information-Management-CG-61/Forms-Management/, and, at CGPortal: https://cg.portal.uscg.mil/library/forms/SitePages/Home.aspx.

11. REQUEST FOR CHANGES. Commandant (CG-771) (HQS-DG-lst-CG-771@uscg.mil) will coordinate changes to this Manual. This Manual 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 Manual via the chain of command.

MICHAEL P. RYAN /s/
Rear Admiral, U.S. Coast Guard
Assistant Commandant for Capability

RECORD OF CHANGES			
CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	BY WHOM ENTERED

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CHAPTER 1. **Introduction**

A. Overview.

1. This Manual provides guidance and information regarding the Coast Guard operational requirements generation process and the development of operational requirements documents in accordance with the DHS JRIMS process. Operational requirements documents include the Capability Analysis Study Plan (CASP), Capability Analysis Report (CAR), Non-Materiel Change Recommendation (NMCR), Mission Need Statement (MNS), Concept of Operations (CONOPS), and Operational Requirements Document (ORD). Figure 1-1 below depicts the operational requirements generation process and its relationship to the Coast Guard Acquisition Lifecycle Framework (CG-ALF).

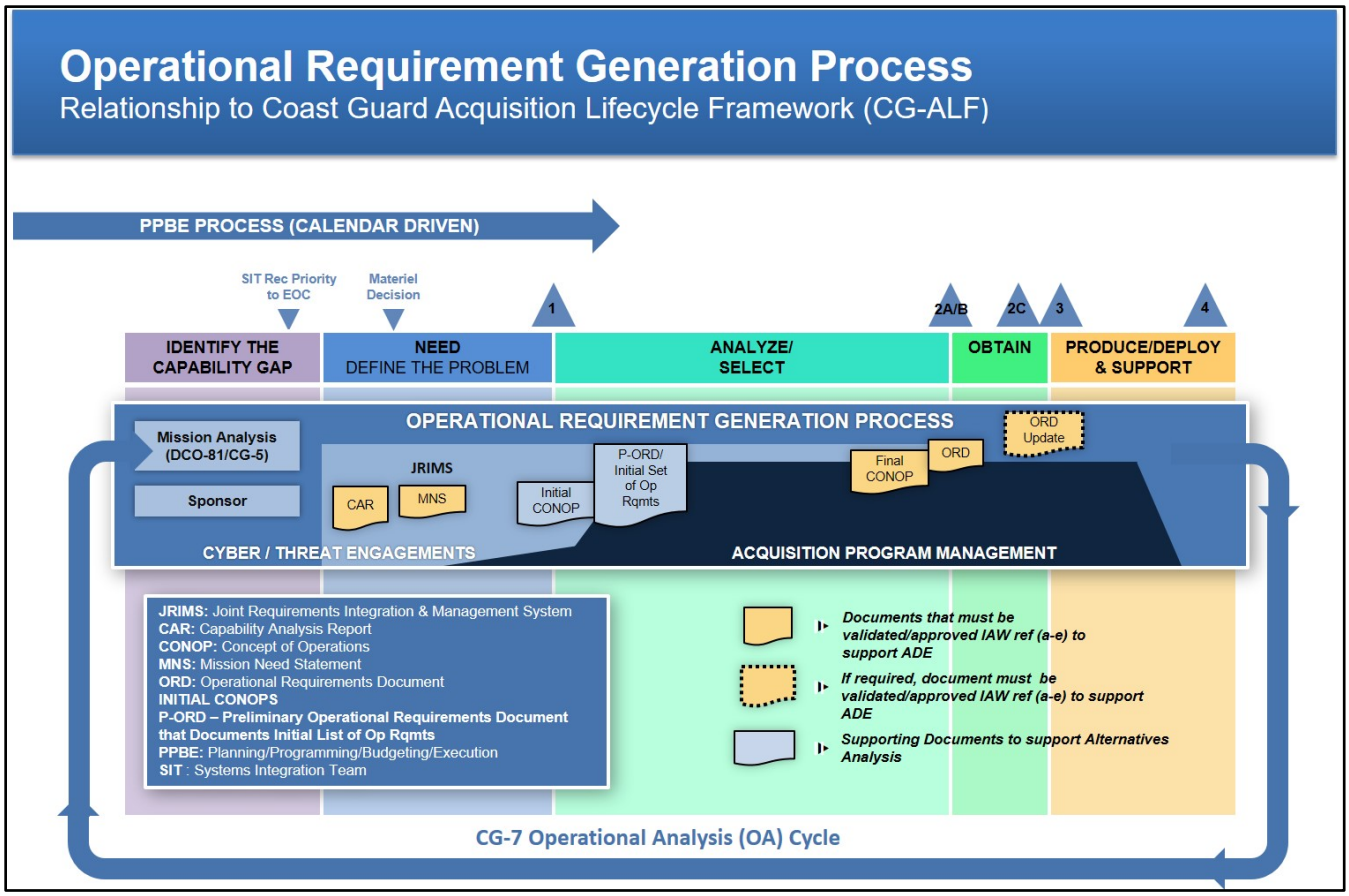

Figure 1-1 Operational Requirements Generation Process Relationship

2. Chapter 8 of this Manual provides information on the Department of Homeland Security Urgent Operational Need (UON) process, which is available when needed to mitigate a materiel capability gap caused by a watershed shift in the threat or hazard environment. If the materiel capability gap is not addressed in an expedited manner (e.g., fielded capability in less than one year), this could result in loss of life or imminent failure to a mission, function, or objective. Specific details on the UON process are provided in Reference (b).

3. Reference (b) defines a requirement as an attribute of a solution necessary to produce an

outcome(s) that satisfies a mission need. Operational requirements are defined at the user and operational/business levels and are used to derive solution-specific functional requirements and technical specifications. Department of Homeland Security Developing Operational Requirements Instruction, version 2.0, dated November 2008, groups requirements into two broad categories Operational, and Technical, which provide traceability to strategic goals. Figure 1-2 depicts the requirements hierarchy.

4. This Manual is focused on the process to develop operational requirements using the CAR, MNS, and CONOPS which result in the Operational Requirements Document (ORD). The operational requirements generation process yields requirements that are measurable, achievable, and testable. The ORD documents the operational requirements and identifies the essential capabilities, associated requirements, performance measures, and the process or series of actions that are required to address mission needs.

   a. Operational requirements provide a bridge between operational goals and needs to carry out disparate Coast Guard missions, and clearly defined technical engineering requirements to achieve a particular function or design specification.

   b. Operational requirements documents provide valuable information to Coast Guard and DHS leadership in support of Acquisition Decision Events (ADE) that provide the Coast Guard and DHS with robust requirements validation and portfolio management, and a timely and cost-effective process to:

      (1) Inform or initiate Research and Development activities and identify opportunities for innovation.

      (2) Acquire capabilities necessary to execute Coast Guard missions in support of DHS.

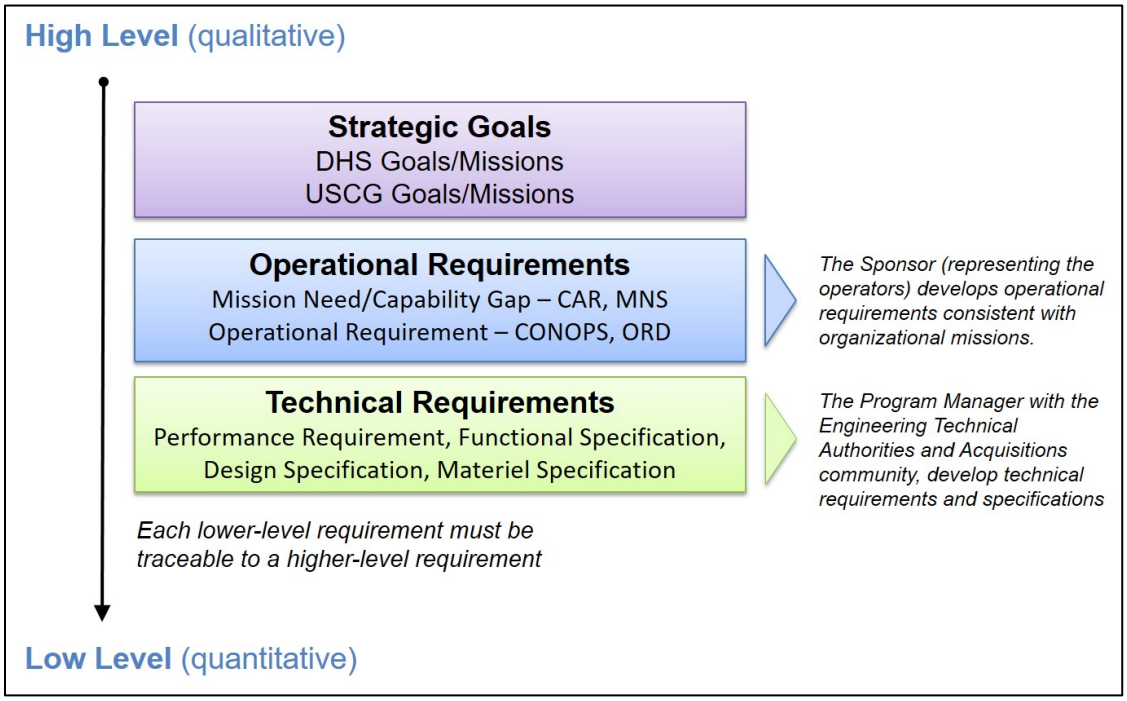

Figure 1-2 Requirements Hierarchy

B. Applicability. The operational requirements generation process addressed in this Manual is applicable to all capability gaps that are expected to result in a solution that cannot be implemented within a single directorate (i.e. simple procurement or policy change) or has joint component applicability, Deputy's Management Action Group (DMAG) interest, or has Coast Guard wide implications.

1. Coast Guard Directorates who identify capability gaps, including future gaps, which are expected to result in a Level 1, 2 or 3 acquisition, in accordance with References (c-e), must use the operational requirements generation process described in Reference (b) and this Manual, unless a variance is approved by the JRC and documented in a JRC decision memo. Figure 1-3 provides a graphical representation of applicability of the operational requirements generation process.

> **Note**: Sponsors of single component Level 3 acquisitions (capabilities acquired solely for the Coast Guard) may modify the operational requirements documents, based on the size, complexity, and risk of the acquisition, as coordinated with Commandant (CG-771) and the Non-Major Acquisitions Oversight Council (NMAOC). For example, it may be appropriate to combine the information normally contained in the CONOPS and ORD into a single document.

2. Additionally, Coast Guard Directorates that identify capability gaps whose solutions are expected to result in non-materiel solutions that have joint applicability or DMAG interest must utilize the operational requirements generation process described in this Manual.

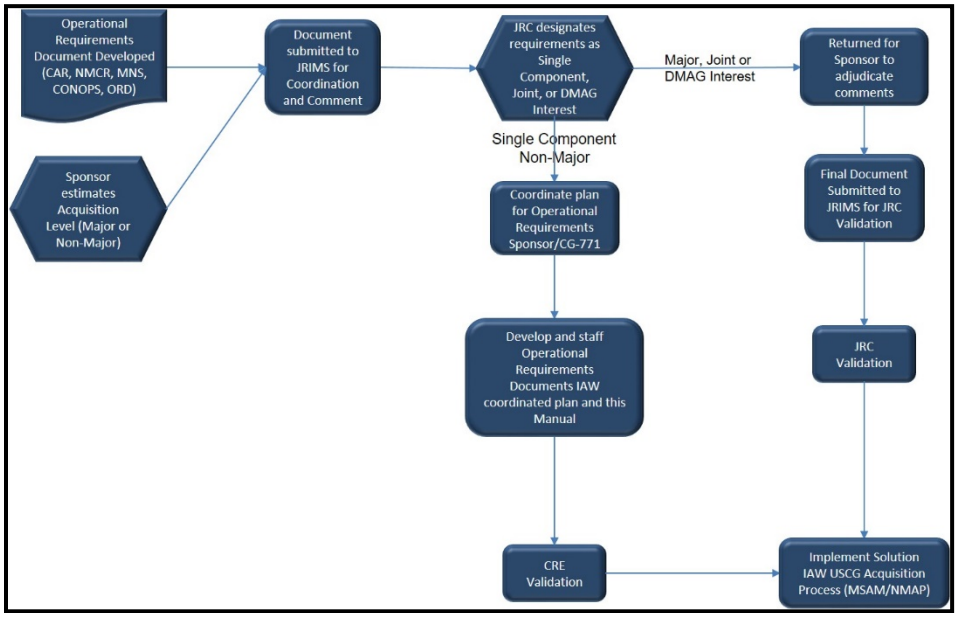

Figure 1-3 Operational Requirements Generation Manual Applicability

C. Policy. This Manual establishes policies, procedures, and standards for Coast Guard operational requirements generation necessary to mitigate Coast Guard mission capability gaps.

1. Operational requirements must be developed in a collaborative environment. Several factors affect the complexity and scale of the steps within the operational requirements generation process. Normative use of Integrated Product Teams (IPT) is preferred to ensure a robust collaborative analysis is conducted to support the development of operational requirements documents described in this Manual and Reference (b).

2. In accordance with Reference (d), Commandant (CG-5P) and Commandant (CG-5R) Program Offices may sponsor a Mission Analysis Report (MAR) to analyze overall Coast Guard mission specific gaps. A designated Commandant (CG-5P) or Commandant (CG-5R) office serves as the lead organization to identify mission gaps and define potential alternatives to address them. The Deputy Commandant for Operations, Office of Performance Management and Assessment (CG-DCO-81) supports the MAR sponsor by facilitating the development of mission area analyses and Mission Analysis Reports. The timely development of mission area analyses and MARs supports the operational requirements generation process.

   a. A MAR is a programmatic review of a mission, operation, or function that results in the identification of current and anticipated gaps and redundancies in how the Coast Guard is organized, trained, and equipped. MARs analyze the impact of identified gaps in contrast to a variety of performance goals (outcomes, operational requirements and standards, cost, safety, etc.). MARs provide a list of potential alternatives to address identified gaps but do not assess their effectiveness. A MAR often supports the development of more narrowly focused CAR(s) that provide an assessment of alternatives and recommendations for identified capability gaps.

   b. When available, MARs should be used as a primary reference document in the development of CARs.

3. The Assistant Commandant for Capability (CG-7) serves as the Coast Guard's Chief Requirements Executive and, provides oversight and management of the operational requirements generation process. Commandant (CG-7) will:

   a. Assign a Requirements Officer (RO) to guide IPTs and study teams through the operational requirements generation process in accordance with this Manual and Reference (b);

   b. When necessary, coordinate funding of pre-acquisition requirements analyses;

   c. Charter required IPTs; and,

   d. Verify conformity with the applicable JRIMS validation checklist prior to internal staffing and submission into the DHS JRIMS KMDS tool as required by Reference (b). KMDS is the DHS workflow management tool designed to route, manage, and track operational requirement documents (i.e., CASP, CAR, NMCR, MNS, CONOPS, and ORD) in accordance with Reference (b).

4. The Sponsor is the designated organization that has the lead for documenting the capability gap or redundancy, translating functional requirements into capabilities, and ensuring the capability provided is acceptable to meet the prescribed mission. Reference (f) provides additional information and responsibilities for the sponsor. The Sponsor designates a Sponsor's Representative, normally an Office Chief, who is responsible for the development of operational requirements documents. The Sponsor's Representative then assigns a Sponsor Project Officer (SPO) for all projects. The SPO acts as a co-chair, with the requirements officer (RO), for requirements generation IPTs (i.e. CAR IPT, MNS IPT, CONOPS IPT, and ORD IPT).

5. Commandant (CG-5R) and Commandant (CG-5P) support the operational requirements generation process by the assignment of mission area subject matter experts, as required.

6. Commandant (CG-9) supports the operational requirements generation process by the assignment of qualified acquisition SMEs to IPTs.

7. Engineering Technical Authorities (ETA) are assigned by the Deputy Commandant for Mission Support (DCMS), in accordance with Reference (h), and Commandant (CG-8) as subject matter experts to participate and provide guidance to requirements generation IPTs.

D. Roles and Responsibilities.

1. Component Requirements Executive (CRE). The senior U.S. Coast Guard official designated as CRE is Commandant (CG-7). The CRE will exercise overall management, administration, and oversight of the Coast Guard requirements policies and processes, in accordance with Reference (a) and (b). The CRE responsibilities include, but are not limited to:

   a. Developing Coast Guard policies and processes, in accordance with Reference (b), for the generation, analysis, and submission of operational requirements documentation;

   b. Managing the development and review of requirements documentation (CASP, CAR, NMCR, MNS, CONOPS, ORD);

      (1) The CRE will oversee Coast Guard quantitative analysis efforts to ensure sound management, review, support, and analytical rigor in support of all operational requirements development.

      (2) The CRE will have signature authority for release of operational requirements documentation to the JRC and into JRIMS.

   c. Designating Coast Guard representation for JRC Portfolio Teams;

   d. Developing and maintaining operational requirements capacity and expertise within the Coast Guard; and

   e. Representing the Coast Guard as the JRC Principal or designating an executive to act as the JRC Principal on behalf of the CRE.

2. Requirements Documentation Validation Authority. References (a) and (b) require validation of operational requirements documents (CAR, MNS, CONOPS and ORD) by either the JRC or the CRE prior to routing for DHS approval (if required) in accordance with References (c), (d), and (e). Figure 1-4 provides a quick reference for the validation authority for each operational requirements document. In accordance with Reference (b), the validation authority for requirement documents will be the:

   a. Joint Resource Council (JRC). For Level 1 or 2 acquisitions or those Level 3 acquisitions designated of "Special Interest" in accordance with Reference (c) or of "DMAG Interest" in accordance with Reference (b), the JRC is the validation authority.

   b. Component Requirements Executive (CRE). For single component Level 3 acquisitions, the CRE is the validation authority. The SPO, supported by the RO, is responsible for routing operational requirement documents for validation in accordance with Reference (b) and this Manual.

	Program Level		CASP	CAR	MNS	CONOPS	ORD
Major	Level 1 & 2	Validation	Approved by Sponsor	JRC	JRC	JRC	JRC
		ADE Approval		Not Required	*	Not Required	*
Non-Major	Level 3**	Validation		CRE	CRE	CRE	CRE
		ADE Approval		Not Required	***	Not Required	***

* - In accordance with References (c) and (d)
** - Operational Requirements Documents of programs that meet the Level 3 cost thresholds but designated as "Special Interest" iaw Reference (c) shall be validated by the JRC. Additionally, Single Component Level 3 programs designated as "DMAG Interest" iaw Reference (b) shall be validated by the JRC.
*** - In accordance with Reference (e)

Figure 1-4 Validation Authority

3. Integrated Product Teams. Operational requirements generation must be a collaborative effort to provide an effective transition from capability gap identification to the fielding of a solution that adequately mitigates the gap in mission performance. The Sponsor, with support from Commandant (CG-771), will establish cross-functional IPTs for development of the CAR, MNS, CONOPS, and ORD documents. The composition of the IPT may vary depending on the size and complexity of the mission gap solution or projected acquisition, however Engineering Technical Authorities should be included as members in accordance with Reference (h). IPT members are empowered to represent their respective organizations and speak on their behalf. When developing IPTs the Sponsor should ensure SME representation to ensure both operations and sustainment issues are adequately addressed. Representatives are expected to keep the chain-of-command informed, advise on additional function(s) that should be added to the team, and coordinate all actions within their respective organizations. IPT members are identified in the charter as core members or adjunct members.

   a. Core Members. Members that regularly participate in team meetings for operational requirements development.

b. Adjunct Members. Members who may be called upon, as needed, to address specific areas of concern or topics requiring special attention.

4. Commandant (CG-771).

a. Requirements Officer (RO). The RO is a core member of the IPT and provides oversight and guidance on the operational requirements generation and management process. The RO normally co-chairs the IPT with the SPO. The RO possesses specific knowledge of:

(1) The operational requirements generation process, including application of procedures, on-site meeting guidance, and conduct of process assessments.

(2) Organizational interfaces, including the relationships between the Sponsor, Commandant (CG-5P) or Commandant (CG-5R), Commandant (CG-7), and the Engineering Technical Authorities.

(3) Writing requirements, including the drafting of required documents as well as writing the individual requirements.

(4) Requirements management tools.

(5) Systems Engineering fundamentals.

b. Operations Research (OR) Analyst. The OR analyst is the quantitative analysis coordinator for the RO and the SPO throughout the operational requirements generation process. The OR analyst may conduct analyses, coordinate analyses, or evaluate other quantitative studies pertaining to the IPT's role.

c. Gatekeeper. Commandant (CG-771) performs an independent quality review of operational requirements documents (CAR, NCMR, MNS, CONOPS, and ORD) prior to routing for review and approval. Additionally, as the designated Coast Guard JRIMS Gatekeeper, Commandant (CG-771) is responsible for the submission of operational requirements documents into the DHS KMDS tool for DHS JRC review and validation, in accordance with Reference (b).

d. Commandant (CG-771) will maintain a library of templates and examples of various operational requirements documents (CAR, NCMR, MNS, CONOPS, ORD, etc...) to support the Sponsor's efforts.

5. Sponsor Offices.

a. Sponsor Project Officer (SPO). The SPO is a core member and co-chair of the IPTs. They lead the project from start to finish, which includes leading all IPTs and document development within the operational requirements process and the DHS JRC validation timelines working with and keeping the RO involved and informed.

b. Sponsor Supporting Offices. Other offices are likely to be called upon to advise the CONOPS and ORD IPTs on systems interrelations and interoperability.

6. Acquisition Offices.

   a. Acquisition Program Manager (PM). If assigned by the responsible Assistant Program Executive Officer (APEO), the PM is a core member of the MNS, CONOPS, and ORD IPTs. If a Program has not yet officially formed, or is not yet staffed, the APEO will be the default PM in accordance with Reference (d).

   b. Business Manager. Assigned by Commandant (CG-928), for Commandant (CG-9) managed programs, to primarily provide cost estimation expertise for the ORD IPT. Other components of Commandant (CG-92) may be required to provide additional support.

   c. Research and Development (R&D) Representative. Assigned by Commandant (CG-926), to provide R&D and Innovation Program support as required by the PM.

7. Mission Manager. The appropriate Assistant Commandant assigns a Mission Manager. Normally the mission manager is assigned from Commandant (CG-5R) or Commandant (CG-5P); however, other directorates may be the appropriate Mission Manager (i.e. Commandant (CG-2) for acquisitions focused on Intelligence related acquisitions or Commandant (CG-6) for IT related acquisitions). Mission managers are core members of the CAR, MNS, CONOPS, and ORD IPTs and provide subject matter expertise on mission objectives, execution, and capabilities.

8. Field Representative. Upon establishment of an IPT, the Sponsor will coordinate with Operational Commanders to identify the level of involvement by field representatives in the IPT to ensure adequate user input to the development of operational requirements documents.

9. Operational Test Representative. The Operational Test Representative is an adjunct member of the CONOPS IPT and a core member of the ORD IPT and advises on the operational testability and measurability of the Key Performance Parameters (KPPs) and other parameters. Commandant (CG-926) will provide support to coordinate activities between operational test organizations as required.

10. Budget Analyst. The Budget Analyst, assigned by Commandant (CG-8), assists the MNS IPT primarily by providing budget expertise to ensure alignment with Coast Guard budget efforts including the Capital Investment Plan (CIP).

11. Logistician. The Logistician, assigned by Commandant (CG-4), assists the ORD IPT in determining support, sustainment, and infrastructure impacts for the new acquisition.

12. C4ISR Representative. The C4ISR Representative, assigned by Commandant (CG-6), assists with coordinating system architecture issues.

13. Human Systems Integration Representative. The Human Systems Integration Representative, assigned by Commandant (CG-1), assists with analyses in the manpower, personnel, human performance support and training, systems safety/occupational health, human factors engineering, habitability, and personnel survivability domains.

14. Intelligence Representative. The Intelligence Representative, assigned by Commandant (CG-2), advises the IPTs on intelligence, surveillance, and reconnaissance systems interrelations and interoperability.

15. Acquisition Program System Engineer (SE). The Chartered Acquisition Program Manager designates the acquisition program System Engineer. The Acquisition Program System Engineer promotes and coordinates all of the acquisition program's technical functions in accordance with references (d) and (e).

16. Platform/System Design Manager. A Platform/System Design Manager may be designated by Commandant (CG-4) or Commandant (CG-6) in accordance with References (d), (e), (g) and (h). The Platform/System or Ship Design Manager aligns the numerous ETA technical warrant holder efforts in order to ensure program design compliance to required ETA technical standards.

CHAPTER 2. **Operational Requirements Generation Process**

A. Process. Operational requirements are critical, indispensable drivers of the performance and capability of a Coast Guard system or asset over its service life. Requirements are traced throughout design, development, and testing to ensure Coast Guard users receive the desired capabilities. Commandant (CG-7) is the designated owner of the Coast Guard operational requirements process. The Sponsor uses the process to identify shortcomings in Coast Guard capabilities and develop courses of action to address capability gaps to improve Coast Guard mission performance.

1. The operational requirements generation process is a vehicle for collaboration among the Sponsor, Acquisition Program Manager, Engineering Technical Authorities. and other stakeholders to identify the capability gap and appropriate materiel and non-materiel solutions. Figure 2-1 displays the operational requirements generation process in relationship to Acquisition Decision Events. Non-Materiel solutions are normally the most cost effective means to address capability gaps. For solutions involving materiel solution acquisitions, operational requirements increase in detail and fidelity over time, as they are refined during the operational requirements generation process. In its most fundamental terms, the final ORD is the formal agreement between the Sponsor, as the spokesperson for the user, and the Acquisition Program Manager, who acquires a system to address the user needs within the constraints of cost, schedule, and performance.

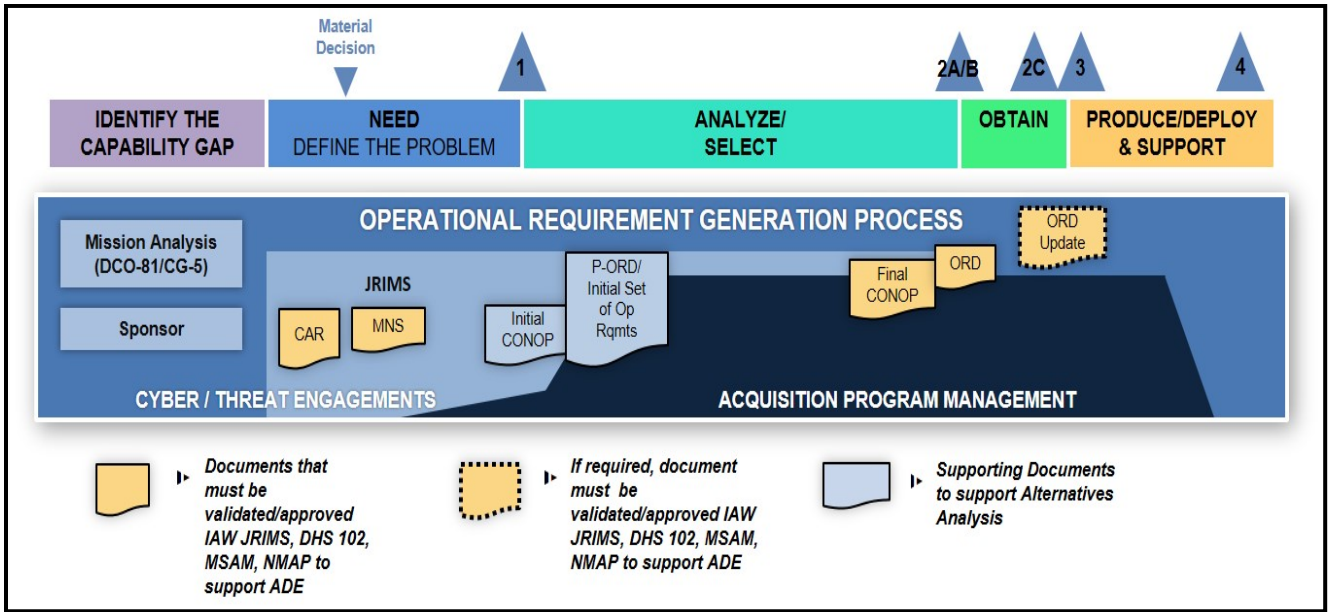

Figure 2-1 - Operational Requirements Process

2. Required Considerations. When the Sponsor undertakes an analytic approach, the areas to be considered and addressed in operational requirements documents are listed below. Reference (b) and Chapters 3 - 6 of this Manual provide additional guidance on analytical efforts within operational requirements documents.

Commandant (CG-771) maintains a library of templates to support development of operational requirements documents.

a. Describe the mission/function/capability and the problem being assessed.

b. Identify and assess previous studies and other analytic products applicable to the topic.

c. Identify capabilities and tasks required to meet mission objectives.

d. Identify measurement of successful accomplishment of the mission, function, or objective (i.e., metrics and required levels).

e. Identify gaps between the necessary capabilities identified and current or programmed capabilities across the Coast Guard and Department, where applicable.

f. Identify key stakeholders that are currently, or could/should be included in the execution of the mission or would be impacted by the mission.

g. Assess the risks of each of the gaps.

h. Evaluate potential non-materiel and materiel approaches as solutions that mitigate part or all of the gaps and/or satisfy the necessary capabilities.

i. Recommend current or research and development efforts, which could result in a solution.

j. Recommend the most appropriate approach to be taken to mitigate the gaps and reduce risk.

k. Ensure Enterprise Architecture (EA) alignment and Threat Analyses are addressed and included as foundational components of Program Protection/Cybersecurity.

3. Tailoring. Operational requirements documents should be tailored to each program based on the unique planning and execution characteristics of a program (e.g., size, scope, complexity, and risk). The objective of the tailoring is to provide the Acquisition Program Manager with sufficient details to support the delivery of required capabilities in accordance with the program schedule and budget. The Sponsor's Representative of a program will work with the Coast Guard JRIMS Gatekeeper, Commandant (CG-771), to determine whether tailoring the standard operational requirements generation process described in Reference (b) and this Manual appears appropriate based on the size, scope, and risk of the proposed acquisition. If tailoring appears appropriate, the Sponsor of a program will submit a tailoring plan memorandum to the Director, JRC via Commandant (CG-771) requesting a variance for Level 1, Level 2, and Level 3 programs designated as DMAG interest. The memorandum will provide details of the variance requested,

including the program actions to develop and document requirements necessary to meet the intent of Reference (b) and this Manual. Commandant (CG-771) maintains a document library of templates to support the development of operational requirements documents.

a. For Level 1 and Level 2 acquisition programs, the approval authority for tailoring plans is the Director, JRC.

b. For single component Level 3 acquisition programs, tailoring of operational requirements documents will be a coordinated effort between the Sponsor's Representative and Commandant (CG-771). The Sponsor's Representative will inform the Non-Major Acquisition Oversight Council (NMAOC) of the coordinated tailoring plan.

c. The use of a tailoring plan does not remove the Sponsor from the responsibility to provide sufficient detailed information to support the Acquisition Program Manager's efforts to deliver a solution that addresses the identified capability gap within program schedule and budget.

> **Note**: Operational requirements documents of programs that meet the Level 3 cost thresholds but designated as "Special Interest" in accordance with Reference (c) shall be validated by the JRC. Additionally, Single Component Level 3 programs designated as "DMAG Interest" in accordance with Reference (b) shall be validated by the JRC.

4. Capability Analysis Study Plan (CASP). The purpose of the CASP is to provide senior leadership and stakeholders notice that a Sponsor is initiating a capability analysis. It articulates the approach used for the analysis.

5. Capability Analysis Report (CAR).

   a. A CAR is an assessment of the Coast Guard's ability to fulfill a mission, objective, or function. It provides traceability between strategic guidance, operational missions and objectives, threat and hazards, and necessary capabilities. The CAR identifies capability gaps, redundancies, and overlaps; and provides recommendations for either materiel or non-materiel approaches to mitigate those gaps/overlaps. The analysis documented in the CAR supports the development of Non-Materiel Change Recommendations (NMCR) and/or a materiel focused MNS. Additional guidance for CAR development is included in Chapter 3 of this Manual and Reference (b).

   b. When a perceived capability gap is identified, Commandant (CG-7) supports the Sponsor in the execution of the operational requirements generation process by establishing a CAR IPT co-chaired by the Sponsor Project Officer (SPO) and Requirements Officer (RO).

c. The IPT conducts a capability analysis and the output of the analysis is the CAR. Chapter 3 and Reference (b) provide detailed information on the development and validation of a CAR.

d. The CAR:

(1) Provides traceability between strategic guidance, operational missions and objectives, threats and hazards, and necessary capabilities.

(2) Identifies capability gaps, redundancies, and overlaps.

(3) Provides recommendations for materiel and non-materiel approaches to mitigate the identified gaps/overlaps.

6. Non-Materiel Change Recommandation (NMCR).

a. An NMCR is prepared after completion of the CAR if it partially or wholly mitigates one or more identified capability gaps. Non-materiel solutions are defined as changes to Doctrine, Organization, Training, materiel, Leadership and education, Personnel, Facilities, Regulations, Grants and Standards (DOTmLPF-R/G/S). Additional guidance on the development of a NMCR is included in Reference (b).

> **Note**: The "little m" in DOTmLPF-R/G/S refers to increased quantities of fielded materiel solutions not new materiel solutions.

b. If a recommended solution to a capability gap is non-materiel, the Sponsor, with support from Commandant (CG-771), will develop the NMCR and determine if the NMCR affects only the Coast Guard or multiple DHS Components.

c. NMCRs that affect only the Coast Guard are reviewed, validated, and implemented in accordance with Coast Guard policies and submitted into the DHS KMDS for JRC situational awareness, in accordance with Reference (b).

d. The Sponsor will be the validation and approval authority for NMCRs that only impact the Coast Guard.

e. If the Sponsor or JRC determine that an NMCR will impact multiple DHS Components, the NMCR must be submitted into the DHS KMDS for JRC review and validation.

7. Mission Need Statement (MNS).

a. A MNS provides a high-level description of the mission need, whether from a current or impending gap, based on business-case planning. The MNS outlines only the concept of the materiel solution to fill the gap and does not provide information on specific acquisitions/types of acquisition that could provide that capability. An approved MNS is required to support Acquisition Decision Event (ADE) 1, in accordance with References (c), (d), and (e), and marks the formal transition out of the pre-acquisition phase.

b. Commandant (CG-7) supports the Sponsor in establishing a MNS IPT co-chaired by the designated SPO and designated RO.

c. The IPT reviews the CAR and other supporting documents, and performs additional analyses if needed to establish an adequate foundation for development of the MNS.

d. The IPT develops the MNS, which is a more integrated statement of the required materiel solution capabilities than the CAR and provides clearer focus on the top-level capabilities of the proposed system. The MNS is developed to support ADE-1.

e. Chapter 4 and Reference (b) provide detailed information on the development, validation, and approval of the MNS.

8. Concept of Operations (CONOPS).

a. The CONOPS is both an analysis and a formal document that describes how an asset, system, or capability will be employed and supported. It identifies the capabilities needed to perform the missions and fill the gaps expressed in the MNS and to assist in identifying and selecting balanced solutions in the Analysis of Alternatives (AoA) or Alternatives Analysis (AA) process, as described in Reference (e). The CONOPS describes a proposed asset, system, or capability in terms of how it will fulfill the user requirements, its relationship to existing assets, systems, capabilities, or procedures and the ways it will be used in actual operations or business processes. It identifies the asset, system, or capability characteristics from the viewpoint of any individual or organizational entity that will use it, or who will operate or interact directly with it. A validated CONOPS is required at ADE-2A/B.

b. Commandant (CG-7) supports the Sponsor in establishing a CONOPS IPT co-chaired by the SPO and RO.

c. The CONOPS IPT will perform analysis of operational tasks and scenarios and draft the CONOPS.

d. The process for developing the CONOPS results in the:

(1) Initial CONOPS – A document approved by the Sponsor Representative that, in conjunction with the MNS, supports the development of an initial set of proposed operational requirements.

(2) Final CONOPS – The user approved CONOPS that is finalized after the Analysis of Alternatives (AoA) or Alternatives Analysis (AA) and supports the development of the ORD.

e. The IPT must initiate development of the CONOPS in a timely manner to ensure that the initial CONOPS supports the development of the initial set of proposed operational requirements necessary to support the AoA/AA. This may require that the Sponsor begins the development of the initial CONOPS late in the Need phase or very early in the Analyze/Select phase of the acquisition cycle.

f. Chapter 5 and Reference (b) provide detailed information on the development and validation of the CONOPS.

9. Operational Requirements Document (ORD).

a. The ORD, along with the CONOPS, provides a bridge between the top-level capability needs spelled out in the 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 operational requirements that complement the approved CONOPS, and contain Critical Operational Issues (COIs). An approved ORD is required at ADE-2A/B and updated or revalidated for ADE-2C and ADE-3 to support the production and deployment decisions by the Component Acquisition Executive (CAE) or Acquisition Decision Authority (ADA) in accordance with References (c), (d), and (e).

b. The Sponsor establishes an ORD IPT co-chaired by the SPO and RO. The SPO, in coordination with the PM, ensures the ORD IPT charter is signed and distributed no later than ADE-1 approval. Commandant (CG-771) maintains a library of templates, including an IPT Charter template to support the Sponsor's efforts.

c. The process for developing the ORD results in the development of a Preliminary Operational Requirements Document (P-ORD) and the final ORD.

> **Note**: The P-ORD documents the initial set of high-level requirements, required in Reference (b), that describe the mission related objectives and operational capabilities. The P-ORD provides adequate detail to support the development of the AoA/AA and other required Analyze/Select Phase activities. After the AoA/AA the P-ORD is refined and updated into the final ORD.

(1) The P-ORD is an early draft of the ORD, derived from the MNS and initial CONOPS, that describe the mission related objectives and operational capabilities that are desired in the capability and program solution. It serves as a key starting point for developing the cost constrained first version of the ORD. The P-ORD uses the ORD template, is approved by the Sponsor and reviewed by the Acquisition Program Manager for acceptance and used to support several required Analyze/Select Phase activities such as the AoA/AA and the Life Cycle Cost Estimate (LCCE). The P-ORD requirements parameters will be approved by the Sponsor and then briefed to the Executive Oversight Council (EOC). The brief should include the analysis supporting the expected level of performance documented in the P-ORD. In cases where Commandant (CG-7) is not the Sponsor, Commandant (CG-7) will endorse the P-ORD before the Sponsor approves the document.

> **Note**: Initiation of the AoA/AA and LCCE as soon as possible after ADE-1 can significantly reduce the acquisition timeline. To facilitate kickoff of the AoA/AA and LCCE shortly after ADE-1, the initial CONOP and P-ORD should be initiated during the Need Phase to provide time to complete/approve the initial CONOP and P-ORD at or immediately following ADE-1. Approval should align to the Capability Development Plan (CDP) Analyze/Select Phase schedule.

(2) The ORD IPT develops the final ORD by refining the P-ORD based on the information gathered during AoA/AA and other analyses.

d. Following ADE-2A/B, further analysis may be necessary to support the requirement to update or revalidate the ORD prior to ADE-2C and ADE-3.

e. Chapter 6 and Reference (b) provide detailed information on the development, validation, and approval of the ORD.

B. Relationship to the Acquisition Process. The objective for operational requirements documents is to inform the acquisition process by ensuring requirements are traceable to strategic objectives and that the recommended courses of action (to close a documented performance gap) are cost informed and assessed for feasibility. The operational requirements generation process results in an ORD that conveys the user's true needs. Information in an ORD varies based on concept/system complexity and the maturity of the program. Figure 2-1 displays the operational requirements process in relationship to the acquisition process.

C. Resources. Financial resources and information management infrastructure are also required for the development of requirements.

1. Financial Resources. Operating funds are typically used for general sponsor activities and analyses that occur prior to ADE-1. In addition to operating funds, acquisition and research and development funds may be used to support requirements analyses that are specific to the project and contribute to ORD development.

2. Information Management Infrastructure. The JRC has developed the JRIMS and a centralized requirements management database KMDS to ensure traceability of requirements back to the missions they support. Reference (b) requires the Coast Guard JRIMS Gatekeeper to submit all operational requirements documents into KMDS.

D. Security. Security requirements for the development of the CAR, NMCR, MNS, CONOPS, and ORD include classified material protection/markings, For Official Use Only (FOUO) and proprietary information protection/markings that may require Non-Disclosure Agreements (NDA). The IPT is responsible for following current Coast Guard policy in these matters. SMEs in Commandant (CG-2), Commandant (DCMS-34), and Commandant (CG-66) provide support as required to the IPT.

CHAPTER 3. **Capability Analysis Report**

A. Purpose. The purpose of the Capability Analysis Report (CAR) is to document the results of a Sponsor-conducted capability assessment of the Coast Guard's ability to accomplish a mission, objective, or function. The capability analysis provides traceability between:

1. Strategic guidance,
2. Operational missions, objectives, or functions,
3. Existing force structure,
4. Threat and hazards, and
5. Requirements.

The CAR identifies capability gaps, redundancies, and overlaps, as well as recommendations to pursue materiel and non-materiel solutions. Figure 3-1 provides a high-level view of the steps required for the development of the CAR. The analysis documented in the CAR will support the development of Non-Materiel Change Recommendations (NMCR) and/or an MNS.

Figure 3-1 Capability Analysis Report Process

> **Note**: Separate CARs may not be required for Level 3 acquisitions. A Level 3 acquisition may use the information in a previous validated CAR or include identified capability gaps and documentation in a combined CAR/MNS document. The Sponsors Representative will coordinate the development of a tailoring plan with Commandant (CG-771) when tailoring the operational requirements generation process is appropriate.

B. Capability Analysis Study Plan (CASP). The purpose of the CASP is to provide senior leadership and stakeholders notice that a Sponsor is initiating a capability analysis. It articulates the approach used for the analysis. CASPs provide greater visibility into ongoing studies and assessments, encourage collaboration, leverage existing efforts, and eliminate unnecessary duplication of efforts.

1. The CASP should be no more than 10 pages and should contain the following elements.
   a. Date
   b. Title of the study

c. Executive Summary

d. Study purpose and scope

e. Proposed methodology

f. Applicable portfolio

g. Participating organizations

h. Organizations potentially affected by the analysis

2. Commandant (CG-771) will assist the Sponsor in the development of the CASP. Reference (b) provides detailed information on the required elements and a template for the CASP.

3. The Coast Guard JRIMS Gatekeeper (Commandant (CG-771)) will assist the Sponsor with the submission of the CASP into DHS KMDS prior to the commencement of study for JRC review and situational awareness in accordance with Reference (b).

> **Note**: A CASP is not normally required for Level 3 acquisitions.

C. Establish IPT.

1. The Sponsor assigns a Sponsor Project Officer (SPO), who will act as co-chairperson for the CAR development.

2. Commandant (CG-771) assigns a RO to act as the CAR IPT co-chairperson. Other supporting offices identify their CAR IPT members to the SPO.

3. Commandant (CG-7) will charter the CAR IPT. Table 3-1 provides a list of recommended IPT participants.

Core Members	
Requirements Officer (RO)	CG-771
Sponsor Project Officer (SPO)	CG-XXX
Mission Manager	CG-5RX or CG-5PX
Human Systems Integration Representative	CG-1B3
Platform/System Design Manager	CG-4X or CG-6X
C4IT	CG-6X
Adjunct Members (SME)	
Intelligence Systems	CG-2X
Logistician	CG-4X
R&D Representative	CG-926
Operations Research Analyst	CG-771

Table 3-1 CAR IPT Membership

4. The co-chairs provide the IPT with due dates and meeting schedules, and are responsible for tracking attendance at meetings.

5. The co-chairs ensure that required inputs for CAR development are obtained. Inputs include any relevant MARs, other analyses, and any prior budget or congressional language.

6. The RO ensures project establishment in the Requirements Management Platform and access for designated IPT members. The Requirements Management Platform is the designated Coast Guard tool that provides a functional, integrated requirements database that documents requirements and provides traceability through all phases of the acquisition lifecycle.

D. Conduct Capability Analysis (CA). The CA provides a robust assessment of a specific mission area, or similar bounded set of activities, in order to assess the capability and capacity of the Coast Guard to successfully complete a mission or activity. The analytical work conducted as part of a CA provides the traceability between strategic guidance, authorities, objectives, necessary capabilities, capabilities gaps, and solutions.

1. Required Considerations. When the Sponsor undertakes an analytic approach, the following areas should be considered and addressed:

   a. Describe the mission/function/capability and the problem being assessed.

   b. Identify and assess previous studies and other analytic produces applicable to the topic.

2. Level of Effort. The Sponsor determines the level of analytical effort needed in a CA. The level of effort is a function of:

   a. The complexity of the mission being assessed.

   b. The consequences of mission failure.

c. Previous assessments conducted.

d. The uncertainties of the products and other supporting data considered.

3. Types of CA. Reference (b) provides detailed information about the types of analyses listed below:

a. Capabilities-Based Assessment (CBA).

b. Business Case Analysis (BCA).

c. Lessons Learned.

d. Mission Analysis.

4. Assess Previous Analyses. The SPO and RO assemble existing analyses and information, including relevant MARs, other studies (i.e. Government Accountability Office (GAO) and Congressional Research Service (CRS) reports) and policy documents that identify Coast Guard priorities and their links to the DHS Quadrennial Homeland Security Review (QHSR) and Bottom Up Review (BUR). With the assistance of the CAR IPT, the adequacy of the existing analyses is assessed.

> **Note**: The IPT relies upon the participation of SMEs to assess the content, structure and applicability of the analysis.

a. Analyses to consider:

(1) Mission Analysis Report.

(2) Force Structure Analysis.

(3) Preliminary Cost Estimate.

(4) Other data and information sources, such as applicable issue papers.

b. Questions to consider when assessing the adequacy of an existing analysis:

(1) Does the analysis focus on capabilities and not a specific solution?

(2) Does the analysis cite the statutory and/or regulatory authority for the mission(s)?

(3) Does the analysis describe the difference between the current capability and the future needs?

(4) Does the analysis discuss why it is not possible to perform this mission with existing capabilities and resources?

(5) Does the analysis provide an estimate of required resources, including cost?

5. Develop Analysis Plan. Based upon the assessment of the available analyses, the CAR IPT develops a plan for additional analysis. It is possible that even if all the documents listed are available, the detail may be insufficient to develop the CAR and further analysis may be warranted. Additionally, cost analysis is frequently required in order to prioritize the analysis effort.

   a. Area Analysis. The focus of an area analysis is to identify the functional capabilities needed to meet an operational objective. Area analysis looks at top-level guidance and develops functional capabilities and tasks that are required to enable that mission or objective. This effort is often linked with the development of scenarios. Existing CONOPS may provide a source of this information. Key assumptions and applicable operational standards are identified in the area analysis. Based upon the assumptions and standards, measures of effectiveness may be developed.

   b. Needs Analysis. The focus of a needs analysis is to assess the ability of current and programmed functional capabilities to accomplish operational objectives. The needs analysis verifies and prioritizes required capabilities, perhaps across multiple mission areas. It compares this prioritized list to the current and programmed capabilities to identify gaps. It does not identify solutions.

   c. Preliminary Cost Estimates. From the DHS perspective, the CAR supports an investment decision. The cost estimate is based on concepts for a range of materiel or non-materiel solutions that satisfy the capability gaps. The cost estimate will be refined during the acquisition process, but a preliminary cost estimate is necessary to inform Coast Guard and DHS leadership.

6. Elements of the Capability Analysis. Reference (b) provides detailed guidance and information on each element of the Capability Analysis identified below.

   a. Scope and Basis. The CA should be relevant to the needs of the Coast Guard and the Department of Homeland Security, as articulated in Coast Guard and Departmental statutory authorities, strategic guidance, and goals.

   b. Necessary Capabilities. The CA explains the methodology for determining the necessary capabilities and associated capability gaps, and ensures the linkage between necessary capabilities and strategic guidance is clear.

   c. Threat Environment/Hazards. Commandant (CG-2) is the Technical Authority for Intelligence and under this authority conducts threat assessments and threat reviews for all Coast Guard mission systems and provide inputs for program physical and information security and protection processes. Sponsors must request the threat assessment from Commandant (CG-2). The threat assessment will result in a brief description of the threat environment for the proposed capability that addresses: operating environment threats, cyber threats, and foreign intelligence threats.

Note: At times, the removal of an asset from the Coast Guard inventory will result in a capability gap. When conducting the CA, capability gaps that currently exist and those gaps that will be created by the removal of an asset should both be incorporated and considered in the analysis.

d. Capability Gaps/Overlaps. Once the necessary capabilities are identified, any shortcomings in the current or programmed capabilities can be identified as capability gaps.

(1) Generally, capability gaps can be characterized as:

(a) Lack of proficiency.

(b) Lack of capacity.

(c) Lack of fielded capability.

(d) Need for replacement of a fielded capability due to aging (end of service life, technological obsolescence, etc.) of the system(s) providing the capability.

(e) Policy limitation (inability to use capabilities as needed due to policy constraints).

(2) While some overlaps/redundancies among planned or fielded capabilities are intentional for the purpose of providing resiliency, unnecessary overlaps/redundancies should be minimized.

Assess Risk. Capability gaps are assessed in terms of:

(1) Risk to mission

(2) Risk to Coast Guard and/or homeland or national security

(3) Other considerations (effects on allies, partner nations, other agencies/departments, etc.)

e. Assess Non-Materiel and Materiel Approaches.

(1) The CAR IPT recommends non-materiel approaches (DOTmLPF-R/G/S) when the approaches can wholly or partially mitigate any of the capability gaps. As defined in Reference (b) non-materiel solutions include changes to:

(a) Doctrine

(b) Organizational

(c) Training

(d) materiel (the "little m" refers to increased quantities of fielded materiel solutions not new materiel solutions.)

(e) Leadership and Education

(f) Personnel

(g) Facilities

(h) Regulations

(i) Grants

(j) Standards

(2) If unacceptable risk remains after considering the application of non-materiel approaches, the CAR IPT then assesses materiel solutions that can wholly or partially mitigate the capability gaps. The CAR IPT should consider high-level feasibility assessments (both technical and political) and a rough assessment of life-cycle costs for the solution including the assumptions that formed the basis of the estimate.

f. Documentation. The SPO, with support of the CAR IPT, drafts the CAR to document the results of the capability analysis in accordance with Reference (b). Commandant (CG-771) maintains a document library of templates to support CAR development.

E. Draft Capability Analysis Report.

1. The basic sections of a CAR, in accordance with Reference (b), include:

a. Cover Page

b. Executive Summary

c. Scope

d. Necessary Capabilities

e. Threat/Hazard Summary

f. Capability Gaps and Overlaps/Redundancies

g. Solution Approach

2. The RO will provide support to the SPO to ensure the content and format meet JRIMS requirements in accordance with Reference (b).

3. CAR IPT members will provide subject matter expertise support.

F. Review/Validation.

1. General Activity. The SPO coordinates the internal review of the draft CAR to include concurrent clearance. Table 3-2 provides the recommended minimum distribution list for concurrent clearance of the CAR. Detailed information on the review and validation process is provided in Chapter 7 of this Manual.

2. Commandant (CG-771) conducts the Gatekeeper review to ensure the CAR is in compliance with Reference (b) and is ready for Sponsor signature and submission into DHS KMDS.

3. Specifically the Gatekeeper review will ensure:

   a. Analysis is completed per guidance (rigor)

   b. CAR aligns with higher level guidance (traceability)

   c. Gaps reference supporting analysis (traceability)

Note - IPT members will provide additional clarity and specific offices to be included in the Concurrent Clearance process based on content of the document being staffed.

O= Originator
I= Information
C= Clear

Document	Sponsor	CG-0949	CG-1	CG-2	CG-4	CG-5P	CG-5R	CG-6	CG-7	CG-771	CG-8	CG-926	CG-93	FC	OTA
CASP															
NMCR	O	I	C	C	C	C	C	C	C	C	I			C	
CAR	O	I	C	C	C	C	C	C	C	C	I			C	
MNS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	
CONOPS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C
ORD	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 3-2 CAR Concurrent Clearance

CHAPTER 4. **Mission Need Statement**

A. Purpose. A Mission Need Statement (MNS) is the formal description of the strategic need for a capability and is a crucial part of the acquisition process. It is a high-level statement of the type of materiel solution required to close the mission capabilities gap. It links the gap in mission capability first documented in the CAR to the particular investment that will fill the gap. Figure 4-1 displays the MNS development process.

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

1. Approval of a MNS provides formal DHS executive level acknowledgment of a justified and supported need to resolve a mission capability gap with a materiel solution.

> **Note**: DHS normally limits MNS length to ten pages.

2. Following approval of the MNS in accordance with References (c), (d) and (e) the MNS is not normally updated unless a Coast Guard mission changes. The Sponsor is responsible for conducting a review of the MNS against the current mission analysis prior to each project milestone.

Figure 4-1 Mission Need Statement Process

> **Note**: Ongoing assessment is an integral part of the requirements generation and management process. It is the responsibility of the RO to coordinate and then record process assessments as described in Chapter 7 of this Manual. Equally important is recording process milestones as they occur.

B. Establish IPT.

1. General Activity. The SPO, RO and other members are assigned to the MNS IPT. The IPT conducts appropriate analysis and drafts the MNS.

2. Identify IPT Members. The Sponsor assigns the SPO and Commandant (CG-771) assigns the RO to act as the MNS IPT co-chairs. Other supporting offices identify their MNS IPT members to the co-chairs. Recommendations for IPT members are provided in Table 4-1.

The co-chairs provide the IPT with due dates and meeting schedules, and are responsible for tracking attendance at meetings.

Core Members	
Requirements Officer (RO)	CG-771
Sponsor Project Officer (SPO)	CG-XXX
Mission Manager	CG-5RX or CG-5PX
Acquisition Program Manager Representative (PMR)	CG-928
Human Systems Integration Representative	CG-1B3
Platform/System Design Manager	CG-4X or CG-6X
C4ISR Representative	CG-6X
Adjunct Members (SME)	
Field Representative	LANT/PAC
Intelligence Systems	CG-2X
Logistician	CG-4X
Operations Research Analyst	CG-771
Budget Analyst	CG-DCO-82 (or CG-82)
R&D Representative	CG-926
Acquisition Support	CG-924

Table 4-1 MNS IPT Membership

3. Assess Budget Alignment. The SPO coordinates with Commandant (DCO-82), Commandant (DCMS-8), or Commandant (CG-82) to assess the status of the project in the budget cycle to ensure that the operational requirements documents are aligned with the timing of funds in the budget. The SPO is responsible for making recommendations to the PM and Sponsor if the development of the MNS is not properly aligned to support the budget cycle.

4. Obtain Inputs. The co-chairs ensure that required inputs for MNS development have been obtained or requested. Inputs include any MARs, CARs, or other mission analyses as well as any prior budget or congressional language.

> **Note**: Early review by the IPT of the available documentation helps to ensure that all appropriate information has been gathered. This reduces the risk that gaps are overlooked or needed capabilities are missing from the MNS.

5. Coordination Tool.

   a. The RO ensures program establishment in the Requirements Management Platform and access for designated IPT members.

   b. The SPO ensures all requirements listed are entered into the Requirements Management Platform.

6. Ascertain Security Requirements. The IPT members are responsible for following current Coast Guard policy in these matters including but not limited to:

   a. Developing any classified sections for the MNS;

   b. Ensuring the protection and handling of For Official Use Only (FOUO) material;

   c. Ensuring the protection and handling of proprietary information, including the use of Non-Disclosure Agreements (NDA).

   Note: Additional information on security requirements can be provided by Commandant (CG-DCMS-34) and the Commandant (CG-DCMS-34) portal page https://cg.portal.uscg.mil/units/dcms34/SitePages/Home.aspx .

7. Determine Support Requirements. With knowledge of schedule imperatives, team member and input availability, tools, and security requirements, the co-chairs should determine the need for additional support and the means to obtain it. If contracting is needed to provide IPT support, early coordination is important in order to meet the contracting lead times.

8. Funding. The co-chairs confirm that funding is available for sponsor directed analysis and IPT support, and confirms the source of the funding.

9. Develop Plan of Action (POA). The MNS IPT outlines its approach for developing the MNS. The SPO, with support of the RO, promulgates the project due dates and other schedule guidance. Using this information the IPT agrees upon a meeting schedule. The IPT discusses the methodology to identify the mission capability gaps, collect, assess and consolidate existing analyses, assign tasks to the team members to support follow-on meetings, and determine the required asset or capability.

C. Summarize Capabilities and Gaps.

1. General Activity. The SPO provides the CAR and any other available analyses to the MNS IPT for review to ensure the MNS synopsizes the specific functional capabilities required to accomplish the Coast Guard and DHS mission and objectives.

2. Summarize Analyses. Using the assembled analyses and consulting with other members of the IPT as appropriate, the SPO develops an initial summary of the capabilities and gaps to be included in the MNS. The SPO then coordinates MNS IPT meetings to finalize the summary of the capabilities and gaps.

D. Draft Mission Need Statement.

1. General Activity. The SPO develops the initial draft of the MNS, which captures capability gaps, often framed in broad operational terms to give a conceptual view of the type of asset and desired operational capability. The mission area authorities are cited. The suggested length of the MNS is 10 pages or less, per Reference (b).

2. Prepare Initial Draft. Based upon the POA developed by the IPT, the SPO prepares the first draft of the MNS ensuring the content and format is in accordance with Reference (b). Commandant (CG-771) maintains a document library of templates to support MNS development.

3. Generate Final Draft. The MNS IPT reviews and generates a final draft. Generally, a series of meetings is required to accomplish this. More than just reviewing the draft, the IPT objective is to come to consensus on the MNS. Guidance for developing sections of the MNS is available in the JRIMS User Guide that is available on the Commandant (CG-771) portal page https://cg.portal.uscg.mil/units/cg771/SitePages/Home.aspx.

E. Review/Validation.

1. General Activity. The SPO coordinates the internal review of the draft MNS to include concurrent clearance. Table 4-2 provides the recommended minimum distribution list for concurrent clearance of the MNS. Detailed information on the review/validation process is provided in Chapter 7 of this Manual.

2. Commandant (CG-771) conducts the Gatekeeper review to ensure the MNS is in compliance with Reference (b) and is ready for Sponsor signature and submission into DHS KMDS.

> **Note**: The MNS, or combined CAR/MNS, for a Level 3 acquisition will be submitted into DHS KMDS and staffed through the JRIMS Pre Coordination (5 days) and Comment (15 days) periods and then returned to the component for validation by the CRE as a single component acquisition. The validated MNS and follow-on operational requirements documents (validated by the CRE) will be submitted into DHS KMDS as the DHS repository for validated operational requirements documents.

3. Specifically the review will ensure:

   a. Analysis is completed per guidance (rigor);

   b. MNS aligns with higher level guidance (traceability);

   c. Gaps are referenced to supporting analysis (traceability); and

   d. Capabilities are feasible within cost constraints (affordability).

O= Originator

I= Information

C= Clear

Note - IPT members will provide additional clarity and specific offices to be included in the Concurrent Clearance process based on content of the document being staffed.

Document	Sponsor	CG-0949	CG-1	CG-2	CG-4	CG-5P	CG-5R	CG-6	CG-7	CG-771	CG-8	CG-926	CG-93	FC	OTA
CASP															
NMCR	O	I	C	C	C	C	C	C	C	C	I			C	
CAR	O	I	C	C	C	C	C	C	C	C	I			C	
MNS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	
CONOPS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C
ORD	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 4-2 MNS Concurrent Clearance

F. Approve MNS.

1. The validation of the MNS signifies the requirements are traceable to strategic objectives and that recommended courses of action are cost informed and assessed for feasibility. The MNS is then routed through sequential clearance, in accordance with References (c) and (d), for Coast Guard approval and, if required, to the DHS ADA for approval.

2. Chapter 7 of this Manual and References (c) and (d) provide more details on the approval process for documents in support of the Coast Guard and DHS acquisition process.

CHAPTER 5. **Concept of Operations**

A. Purpose. The Concept of Operations (CONOPS) describes the asset or system proposed by the MNS in terms of the ways it will be used, its relationship to existing assets, systems, or procedures, and user needs it will fulfill. 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 and support concept of a proposed system. Figure 5-1 displays the steps for the CONOPS development process.

> **Note**: When appropriate and in accordance with a tailoring plan (approved by the JRC for Level 1 and Level 2 acquisitions and coordinated by the SR and Commandant (CG-771) for Level 3 acquisitions) the CONOPS may be combined with the ORD into a single operational requirements document. A tailoring plan does not remove the Sponsor of the responsibility to provide sufficient detailed information to support the Acquisition Program Manager's efforts to deliver a solution that addresses the identified capability gap within program schedule and budget.

1. Relationship to Requirements. The CONOPS is not a specification or a statement of requirements. It is an expression of how the proposed system will (or may) be used, and factors that affect that use. As such, it is not obliged to follow the 'rules' of specification writing and can be relatively free in its language and format. Generally, it does not contain "shall' statements.

2. Prerequisite Documents. A validated CAR and approved MNS are required to finalize the CONOPS.

3. Foundational Document. A well-developed CONOPS provides a useful foundation at the beginning of the project for later development of the asset or system and serves as a useful reference document throughout the duration of the project. By demanding user involvement, early analysis, and collaboration, the CONOPS process creates consensus, encourages organizational decision-making, and sets the stage for writing solid requirements.

4. Other Uses. The CONOPS also supports projected operational benefits through modeling and simulation. This data informs business case decisions and budget development. At delivery of a prototype or first system-level test article, the CONOPS may be revisited. The CONOPS provides helpful data for building operational testing scenarios. During follow-on production, the CONOPS supports the operational commander's efforts in the development of doctrine and Tactics, Techniques, and Procedures.

Figure 5-1 CONOPS Development Process

Note: Ongoing assessment is an integral part of the requirements generation and management process. It is the responsibility of the RO to coordinate and record process assessments as described in Chapter 7. It is equally important to record process milestones as they occur.

B. Establish IPT.

1. General Activity. The Sponsor assigns an SPO and Commandant (CG-771) assigns an RO. Together, they develop a list of proposed IPT members, by office, based upon the projected users and stakeholders of the project. The work to develop the CONOPS may begin as early as the Need Phase (prior to ADE-1) of the acquisition but must be completed during the Analyze/Select Phase prior to ADE-2A/B in accordance with Reference (c).

2. Identify IPT Members. Upon establishment of a CONOPS IPT, the RO and SPO work with appropriate supporting offices to identify their CONOPS IPT members. Recommended IPT member participation is provided in Table 5-1.

Core Members	
Requirements Officer (RO)	CG-771
Sponsor Project Officer (SPO)	CG-XXX
Mission Manager	CG-5RX or CG-5PX
Acquisition Program Manager Representative (PMR)	CG-928
Human Systems Integration Representative	CG-1B3
Platform/System Design Manager	CG-4X or CG-6X
C4ISR Representative	CG-6X
Adjunct Members (SME)	
Field Representative	LANT/PAC
Intelligence Systems	CG-2X
Logistician	CG-4X
Supporting Capability Offices	CG-7X1
Operations Research Analyst	CG-771
Operational Test Representative	CG-926
Acquisition Support	CG-924
Training/TTP (tactics, techniques & procedures)	FORCECOM

Table 5-1 CONOPS IPT Membership

3. Assess Budget Alignment. The SPO coordinates with Commandant (DCO-82) (or Commandant (CG-82)) to assess the status of the project in the budget cycle to ensure that the requirement documents are aligned with the timing of funds in the budget. The SPO is responsible for making recommendations to the PM and Sponsor if the development of the CONOPS is not properly aligned to support the budget cycle.

4. Obtain Inputs. The SPO ensures that required inputs for CONOPS development have been obtained or requested. Inputs include MARs, CARs, MNS, or any other mission analyses as well as any prior budget or congressional language.

> **Note**: Early review by the IPT of the available documentation helps to ensure that all appropriate information has been gathered. This reduces the risk that missions are overlooked or needed capabilities are missing from the CONOPS.

5. Coordinate Tools. The RO ensures project establishment in the Requirements Management Platform and access for designated IPT members.

6. Ascertain Security Requirements. The IPT members are responsible for following current Coast Guard policy in these matters including but not limited to:

   a. Developing any classified sections to the CONOPS;

   b. Ensuring the protection and handling of FOUO material;

c. Ensuring the protection and handling of proprietary information, including the use of NDA.

> **Note**: Additional information on security requirements can be provided by Commandant (CG-DCMS-34) and the Commandant (CG-DCMS-34) portal page https://cg.portal.uscg.mil/units/dcms34/SitePages/Home.aspx .

7. Determine Support Requirements. With knowledge of schedule imperatives, team member and input availability, tools, and security requirements, the RO and SPO should determine the need for added support and the means to obtain it. If contracting is needed to provide IPT support, early coordination is important in order to meet the contracting lead times.

8. Confirm Funding. The co-chairs confirm that funding is available for sponsor directed analysis and IPT support, and confirms the source of the funding.

9. Develop Plan of Action (POA). The CONOPS IPT outlines their approach for developing the CONOPS. The RO promulgates the project due dates and other schedule guidance. Using this information the IPT agrees upon a meeting schedule. The IPT discusses the methodology, collection and consolidation of existing analyses, and the assignment of tasks to the team members to support follow-on meetings.

C. Perform Analyses.

1. General Activity. Analyses are typically conducted by the appropriate sponsor organizations. The analyses support document development and are based on five main drivers: Human Resources, Operations, Support, Budget, and Marketplace. The objective is to answer as many questions as possible before commencing the drafting phase.

2. Plan Analysis. The SPO and RO, in concert with the CONOPS IPT, identify necessary analysis activity by examining the project and determining the needed inputs to the CONOPS. Once the inputs have been specified and grouped into the analysis activities, the IPT plans the individual analysis and identifies appropriate participants. Additionally, cost analysis is frequently required in order to prioritize the analysis effort.

> **Note**: The IPT relies upon the participation of SMEs to assess the content, structure, and applicability of the analysis.

a. Human System Integration (HSI) Analysis. This analysis examines the CONOPS from the system end-user perspective. End users include operators, maintainers, trainers, and other system support personnel. HSI analysts will identify human-performance capability needs, identify human-performance operations and support requirements, provide HSI inputs to scenario development, and generally provide inputs for HSI content in the CONOPS. This analysis will also identify opportunities, characteristics, and constraints involving the classes of end users for the system in question. To illustrate, HSI analysis may identify skill sets that Coast Guard personnel lack, which may preclude certain functions from being performed. For example, if analysis revealed

that the Coast Guard lacks trained unmanned aircraft system operators, the CONOPS could prescribe that contract personnel operate the unmanned aircraft system.

b. Operational Analysis. This analysis serves to establish the prioritization of missions, and identify, at a high level, the tactics and procedures that the asset will use in order to achieve mission success. First, it explores higher-level documents, such as Coast Guard enterprise strategy documents, Area strategy documents, and the QHSR, in order to ensure that the asset or system operates as the Coast Guard envisions. If time allows, it injects modeling and simulation activities to either verify current policies and tactics, or develop new policies and tactics. If the acquisition is a replacement of a current asset or system, the analysis includes the elicitation of current users and stakeholders. This user input also serves to begin developing the operational scenarios. If the acquisition is for a new capability, the elicitation of the future users and stakeholders is appropriate. Once this analysis is performed, the operational component of the CONOPS can be drafted. Mission managers and capability platform managers conduct this analysis.

c. Threat Assessment. Commandant (CG-2) is the Technical Authority for Intelligence and under this authority conducts threat assessments and threat reviews for all Coast Guard mission systems and provide inputs for program physical and information security and protection processes. Sponsors must request the threat assessment from Commandant (CG-2). The threat assessment will result in a brief description of the threat environment for the proposed capability that addresses: operating environment threats, cyber threats, and foreign intelligence threats.

d. Support Analysis. This analysis examines whether the new system or asset will need to fit within the current support structure of the Coast Guard or if a new support model will be used. If a new support model is to be used, the analysis clearly explains the new model. This analysis includes elicitation of current users and stakeholders for a replacement acquisition, or of future users and stakeholders for a new acquisition. Once this analysis is performed, the support component of the CONOPS, including the scenarios, can be drafted. This analysis is conducted by the supporters of the system, Commandant (CG-1), Commandant (CG-4), Commandant (CG-6) and Commandant (CG-8).

e. Feasibility Analysis. This analysis verifies that the CONOPS can be executed by a feasible asset/system. The analysis examines a range of concepts based on technology currently available in the marketplace or in a research and development pipeline. The concepts are assessed against the proposed CONOPS activities, interfaces, and human resource requirements as well as the proposed budget constraints. This analysis may identify CONOPS activities that can be cost effectively expanded or that need to be reduced to satisfy budget constraints. This analysis is conducted by the Platform Design Manager in coordination with other members of the CONOPS IPT.

3. Conduct Analyses. The co-chairs track the progress and hold periodic meetings to ensure that analyses are being conducted according to the plan and objectives established by the IPT. Managing analysis activities can be difficult as it is a balance between schedule and quality to ensure that adequate analysis is conducted within reasonable timeframes.

a. Analysis Adequacy. Upon completion, the analysis members document their findings in a report of analysis. The CONOPS IPT then reviews and accepts or rejects the analysis based on whether it informs the IPT sufficiently to begin drafting the document. In many cases, these analyses and assessments provide the foundation for the basic design and use of an asset or system. It is imperative that the analyses reports are included as an appendix to the CONOPS.

b. Modeling and Simulation (M&S). M&S is a very valuable tool, especially when the project calls for the acquisition of new technologies or capabilities. M&S activities are employed to create and/or validate analysis activity. If M&S is used, however, it is important that Coast Guard recognized M&S tools and formats are used. Several Coast Guard organizations, including Commandant (CG-771) and the Coast Guard RDC, are capable of conducting M&S activities. Also, since M&S activities can be time consuming and costly, proper planning ensures adequate funding and time are allocated to meet desired deadlines.

4. Analyses Summary. Upon completion of the analyses, the SPO writes a summary of the analyses to provide a ready reference to support the IPT in drafting the CONOPS.

D. Draft CONOPS.

1. General Activity. The development of the CONOPS results in the creation of the Initial CONOPS and the Final CONOPS. The IPT is responsible for developing these documents.

2. Initial CONOPS. The SPO will determine responsibility for compiling the initial CONOPS, ensuring the content and format is in accordance with Reference (b). Commandant (CG-771) maintains a document library of templates to support the development of operational requirements documents. This initial draft of the CONOPS is both an analysis tool and a document that describes how an asset, system, or capability will be employed and supported in response to a gap identified in the MNS. While it can be specific where appropriate, the initial CONOPS is normally framed in broad operational terms to give a conceptual view of the operational capability needed in the new system in relation to the missions it will be required to perform. It is critical that the SPO ensures the initial CONOPS is developed in a timely manner to support the development of the initial set of proposed operational requirements (documented in the P-ORD) necessary for the AoA/AA. The initial CONOPS and P-ORD are necessary to initiate the Lifecycle Cost Estimate (LCCE) and the AoA/AA as soon as possible following ADE-1. To reduce acquisition timelines, the initial CONOPS and P-ORD should be initiated during the Need phase and aligned to the program's Capability Development Plan (CDP) schedule for the Analyze/Select Phase.

> **Note**: The SPO must ensure the development of the initial CONOPS in a timely manner to ensure the initial CONOPS, in conjunction with the MNS, provides the required information to support the development of the P-ORD which documents the initial set of proposed operational requirements to support the AoA/AA and LCCE.

3. Final CONOPS. Upon completion of the AoA/AA, the CONOPS IPT will refine the initial CONOPS to ensure the preferred solution is consistent and complementary with the final

operational requirements. The SPO will route the final draft CONOPS for review and validation. Technical guidance for drafting the CONOPS, including examples for specific sections of the CONOPS, is provided in the JRIMS User Guide that is available on the Commandant (CG-771) portal page https://cg.portal.uscg.mil/units/cg771/SitePages/Home.aspx.

Note: The JRIMS checklist provides the IPT with a ready reference for self-assessment of their CONOPS development. Commandant (CG-771) maintains a library of templates and checklists available at the Commandant (CG-771) Coast Guard Portal web page.

E. Review/Validation.

1. General Activity. The SPO coordinates the internal review of the draft CONOPS to include concurrent clearance. Detailed information on the review and validation process is provided in Chapter 7 of this Manual. Table 5-2 provides the recommended minimum distribution list for concurrent clearance of the CONOPS.

2. Commandant (CG-771) conducts the Gatekeeper review to ensure the CONOPS is in compliance with Reference (b) and is ready for Sponsor signature and submission into DHS KMDS.

3. Specifically the review will ensure:

   a. Analysis is completed per guidance (rigor); and

   b. CONOPS aligns with higher level guidance (traceability).

O= Originator

I= Information

C= Clear

Note - IPT members will provide additional clarity and specific offices to be included in the Concurrent Clearance process based on content of the document being staffed.

Document	Sponsor	CG-0949	CG-1	CG-2	CG-4	CG-5P	CG-5R	CG-6	CG-7	CG-771	CG-8	CG-926	CG-93	FC	OTA
CASP															
NMCR	O	I	C	C	C	C	C	C	C	C	I			C	
CAR	O	I	C	C	C	C	C	C	C	C	I			C	
MNS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	
CONOPS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C
ORD	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 5-2 CONOPS Concurrent Clearance

CHAPTER 6. **Operational Requirements Document**

A. Purpose. The ORD is the formal statement, developed by the Sponsor in collaboration with stakeholders, of the required performance and related operational parameters for a proposed executable and affordable concept or system. It describes an operational system in terms of a range of necessary 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 a critical, indispensable source document for a host of systems engineering activities, ongoing requirements analyses, and cost estimating to ensure the success of the project. The ultimate goal of the ORD is the delivery of useful and appropriate capabilities to the field providing users the tools for mission success. Once approved, the ORD serves as a formal agreement between the Sponsor and the Acquisition Program Manager. An approved ORD is required at ADE-2A/B and updated or revalidated for ADE-2C and ADE-3 to support the full rate production and deployment decision by the Acquisition Decision Authority (ADA).

> **Note**: When appropriate and in accordance with the tailoring plan (approved by the JRC for Level 1 and Level 2 acquisitions and coordinated by the SR and Commandant (CG-771) for Level 3 acquisitions) the ORD may be combined with the CONOPS into a single document. A tailoring plan does not remove the Sponsor of the responsibility to provide sufficient detailed information, to support the Acquisition Program Manager's efforts to deliver a solution that addresses the identified capability gaps within the program schedule and budget.

1. ORD Context. Requirements definition is part of the initial acquisition activities and includes shared responsibilities between the Sponsor (users) and the Acquisition Program Manager (acquisition community) to translate operational needs into specific requirements that can be met. The materiel acquisition process can be accelerated if the ORD is properly prepared and coordinated prior to approval. The ORD translates the approved MNS and the validated 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. The ORD documents the most promising capabilities resulting from the AoA/AA.

2. Elimination of Stove Pipe Development. An IPT-prepared ORD eliminates the "stove pipe" effect and is designed to:

   a. Support the maturation of requirements as a program progresses.

   b. Address operational effectiveness and suitability requirements.

   c. Strengthen the traceability to the MNS and CONOPS.

   d. Acknowledge cost as a constraint in both acquisition and support.

   e. Minimize review time within the Coast Guard by facilitating collaboration and consensus.

B. Relationship to Acquisition Process. A key point is to ensure that the ORD conveys the users' true needs to the acquisition directorate. Information in an ORD varies based on concept/system complexity and the maturity of the program. The ORD is required for an ADE-2A decision and an updated or revalidated ORD may be required to support subsequent ADE decisions. Figure 6-1 illustrates the relationship of operational requirements documents to the acquisition phases.

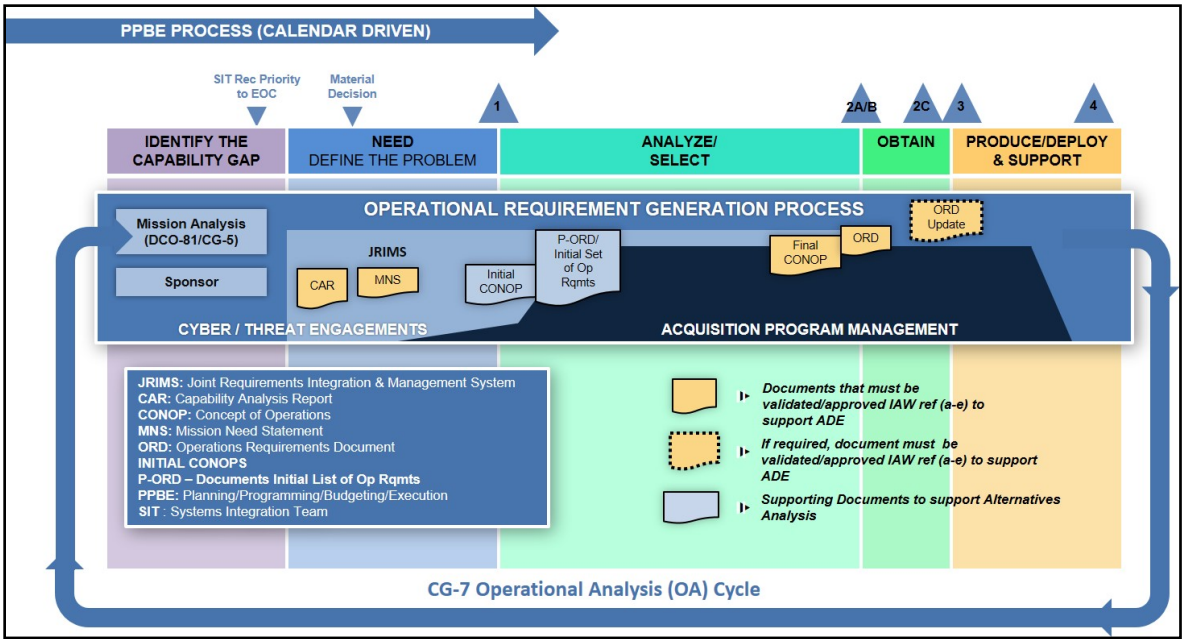

Figure 6-1 Acquisition Process - Overview

C. Customer Focus. While the Sponsor is responsible for ORD development, there are several key customers of the information contained in the document:

1. Acquisition Program Manager. The Commandant (CG-9) Acquisition Program Manager (PM) and the Alternatives Analysis Study Director use the P-ORD which documents the initial set of operational requirements early in the Analyze/Select Phase for a variety of crucial acquisition-oriented activities including those listed below. The initial set of operational requirements (documented in the P-ORD) establish a starting point for these activities, without cost constraints. The final approved ORD reflects affordability and executability considerations and defines what operational requirements the Coast Guard Sponsor is directing and what the materiel developer is acquiring with the goal of closing a mission performance gap.

   a. Initialize and refine the AoA/AA and LCCE.

   b. Implement the system engineering processes (which are coordinated by the PM's designated Systems Engineer) to develop, refine, and deliver the systems specification, Statement of Work and draft sections L&M needed for a contract to design, develop, and provide the materiel solution.

   c. Develop and refine programmatic and technical planning (examples: Acquisition Plan, SELC Tailoring Plan, etc.).

d. Create other necessary documentation such as the Acquisition Program Baseline (APB).

2. Platform Design Manager. The Platform Design Manager (Commandant (CG-459) Ship Design Manager or Aircraft Design Manager and CG-6XX C4ISR Design Manager) coordinate the efforts of the many Technical Authority's representatives (warrant holders) which are integral to the development of the system's specification, statement of work and sections of L and M of the contract.

3. Test and Evaluation. Test and Evaluation personnel use the P-ORD and final ORD to build the Test and Evaluation Master Plan (TEMP), which focuses on the Critical Operational Issues (COI), technical parameters and non-technical requirements that lead to an assessment of the effectiveness and suitability of the system.

4. Logistics and Support. Logistics and support personnel and personnel from the applicable Engineering Technical Authorities also provide SME support to the development of the P-ORD and final ORD. The ORD, and supporting analyses, contribute to the development of the Integrated Logistics Support Plan (ILSP) in accordance with Reference (d).

D. ORD Process Overview. The P-ORD is derived from the MNS, initial CONOPS, associated cost estimates, the historical baseline and other early analyses. The P-ORD 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 P-ORD documents the initial set of operational requirements, in accordance with Reference (b), which serves to establish the foundation for further analyses and captures the ideal solution capabilities desired by the sponsor. As the ORD matures, it captures the tradeoffs that reflect the impact of available technologies, market factors, and budget constraints. The final approved ORD describes the missions, operational capabilities, operating environment, and operating system constraints that competing system concepts must satisfy. The development process for an ORD is shown in Figure 6-2. The ORD development process is generally an iterative process that includes the development of a P-ORD that is revised with the resultant final ORD approved prior to ADE-2A/B, and then updated or revalidated, as required, to support ADE 2C and ADE-3.

Figure 6-2 ORD Development Process

E. Establish IPT.

1. Identify IPT Members.

a. Commandant (CG-771) assigns an RO and the Sponsor assigns an SPO as co-chairs for the ORD IPT. Maintaining continuity by assignment of available members from the CONOPS IPT to participate in ORD development, as well as tap their expertise with the

process and the product, should be a high priority. With this information, the co-chairs draft the ORD IPT charter and coordinate the assignment of other IPT members. Recommended IPT member participation is provided in Table 6-1.

b. Once the IPT begins meeting, the co-chairs are responsible for tracking attendance at meetings.

Core Members	
Requirements Officer (RO)	CG-771
Sponsor Project Officer (SPO)	CG-XXX
Acquisition Program Manager Representative (PMR)	CG-928
Operational Test Representative (OTR)	CG-926
Business Manager	CG-928
Operations Research Analyst	CG-771
Human Systems Integration Representative	CG-1B3
Platform/System Design Manager	CG-4X or CG-6X
C4ISR Representative	CG-6X
Adjunct Members (SME)	
Field Representative	LANT/PAC
Intelligence Systems	CG-2X
Logistician	CG-4X
Mission Manager	CG-5X
Supporting Capability Offices	CG-7X1
Acquisition Support	CG-924
Systems Engineer	CG-93X
Training/TTP (tactics, techniques & procedures)	FORCECOM

Table 6-1 ORD IPT Membership

Note: The Coast Guard employs a detachment at Commander Operational Test and Evaluation Force (COMOPTEVFOR) that may act as the OTR.

2. Assess Budget Alignment. The SPO coordinates with Commandant (DCO-82) (or Commandant (CG-82)) to assess the status of the project in the budget cycle to ensure that the requirement documents are aligned with the timing of funds in the budget. The SPO is responsible for making recommendations to the PM and Sponsor if the development of the ORD is not properly aligned to support the budget cycle.

3. Obtain Inputs. The SPO ensures that required inputs for this phase of the ORD development have been obtained or requested. This includes but is not limited to the CAR, MNS, and CONOPS.

> **Note**: Early review by the IPT of the available documentation helps to ensure that all appropriate information has been gathered. This reduces the risk that technical parameters and non-technical requirements are missing from the ORD.

4. Coordinate Tools. The RO ensures project establishment in the Requirements Management Platform (i.e. Dynamic Object Oriented Requirements System (DOORS) or other Coast Guard designated system) and access for designated IPT members. The Platform Design Manager ensures that the specifications will be established in the Requirements Management Platform and linked to the ORD and to requirements verification data (Inspection, Demonstration, Analysis and Test results).

5. Ascertain Security Requirements. The IPT members are responsible for following current Coast Guard policy in these matters including but not limited to:

   a. Developing any classified sections of the ORD;

   b. Ensuring for the protection and handling of FOUO materials; or

   c. Ensuring for the protection and handling of proprietary information, including the use of NDA.

> **Note**: Additional information on security requirements can be provided by Commandant (CG-DCMS-34) and the Commandant (CG-DCMS-34) portal page https://cg.portal.uscg.mil/units/dcms34/SitePages/Home.aspx .

6. Determine Support Requirements. With knowledge of schedule imperatives, team member and input availability, tools, and security requirements, the RO and SPO should determine the need for added support and the means to obtain it. If contracting is needed to provide IPT support, early coordination is important in order to meet the contracting lead times.

7. Confirm Funding. The SPO confirms that funding is available for sponsor directed analyses and IPT support, and confirms the source of the funding.

8. Develop Plan of Action (POA). The ORD IPT outlines their approach for developing the ORD. The SPO promulgates the project due dates and other schedule guidance. Using this information the IPT agrees upon a meeting schedule. The IPT discusses the methodology, collection, and consolidation of existing analyses, and the assignment of tasks to the team members to support follow-on meetings.

F. Initial Analysis.

1. General Activity. In order to develop the best ORD possible, various analyses need to be conducted and the results evaluated before drafting the ORD. These analyses assist the Sponsor, PM, and other decision makers in judging whether the proposed solutions and strategy offer sufficient operational or economic benefit while minimizing risk to warrant moving forward with the project. Early Operational Test Representative participation in the

analyses leads to ORD parameters that have better measurability and testability. It may be necessary to initiate, but not complete, several analyses to support the development of the P-ORD. The SPO, with support of IPT members, will determine the schedule and scope for analyses needed to support the development of the P-ORD.

2. Analysis Plan. An analysis plan will facilitate the development of the P-ORD and ORD by creating an agreement on the types of analyses along with their schedule and scope required to ensure timely support to the P-ORD development and refinement for the final ORD. Such an agreement enables tailoring of the analysis consistent with the size, complexity, and nature of the program, and facilitates the development of the timeline to ORD completion. Below are a list of recommended analyses that may be required to support the development of the P-ORD and ORD. The SPO is responsible with support from the RO, PM, and other IPT members to identify and schedule initiation of these analyses.

   Note: As a rule, analyses should focus on areas which have the greatest cost impact.

   Note: The IPT relies upon the participation of SMEs to assess the structure and applicability of the analysis.

3. Historical Baseline. Initial development of the ORD is guided by a historical baseline that lists requirements previously approved in similar projects, using the accepted levels of performance as categorized by ship type, aircraft type, and information systems. These previously approved requirements, as well as other military and commercial examples, form the foundation upon which the historical baseline is built. Within these categories are recommendations for technical parameters (TP), and non-technical requirements (NTR). The parameter values from the historical baseline may be modified based upon other ORD analysis or information gained from other existing studies and lessons learned in order to facilitate system advancement to higher performance levels. Commandant (CG-771) builds and maintains the historical baseline.

4. Evaluation of Affordability. The affordability assessment establishes the degree to which the life cycle cost of a capital asset acquisition project is consistent with the overall Coast Guard Capital Improvement Plan and DHS Future Years Homeland Security Program (FYHSP). Each major systems acquisition enters the acquisition process with a rough order of magnitude cost estimate and funding stream projection in the MNS. This cost estimate is successively honed during the acquisition process through cost and performance trade-off analyses and feasibility studies. Project cost estimates should be relatively firm when the ORD is finalized and approved. Reference (i) provides additional information on affordability assessments and it provides an affordability assessment template.

5. Mission Utility Analysis. A Mission Utility Analysis (MUA) is used to provide a systematic link between the Coast Guard mission area needs and the performance requirements of an asset. The MUA provides an evaluation of the sensitivity of key threshold/objective requirements to utility. This analysis is reduced to simple characterizations of what is achievable, at what cost. Typical performance areas with impacts on mission utility include

speed, endurance/range, C4ISR systems, manning, and offensive and defensive capabilities. MUA quantifies mission performance as a function of capability, cost, risk, and schedule. This information is used to make asset performance and trade-off decisions. MUAs are initiated by the IPT and typically led by the Technical Director or System Engineer from the PM staff.

6. Objective Requirements Analysis. The Objective Requirements Analysis, in conjunction with the various cost, alternatives, and mission utility analyses previously mentioned, is the process of determining any objective requirement values to pursue in the acquisition. Although most requirements are stated as single values, some capabilities can be expressed as both a minimum (threshold) value and an upper level (objective) value. The process of assigning both a threshold and objective value is a considered effort for areas where a substantial performance improvement can be achieved and documented through the higher capability. This analysis is initiated by the ORD IPT.

7. Market Readiness Assessment (MRA). Market Readiness is the ability to harness the manufacturing, production, quality assurance, and industrial functions to achieve an operational capability that satisfies mission need—in the quantity and quality needed. This assessment looks ahead at the current capabilities of the manufacturing industry to determine whether the capability can be built according to Coast Guard needs.

   a. The goals of the Market Readiness Assessment are to:

      (1) Determine the extent to which the National Technology and Industrial Base can support the intended system;

      (2) Influence the design for suitability for production;

      (3) Execute the manufacturing plan; and

      (4) Deliver a consistently uniform and defect-free product.

   b. The Acquisition Program Manager is responsible for conducting the Market Readiness Assessment, which:

      (1) Evaluates the capability of a product(s) to meet all elements of the Coast Guard's description of needs;

      (2) Evaluates as an alternative, that a product's capability to compensate for failing to meet all stated needs by offering other advantageous features or performance;

      (3) Evaluates as another alternative, that the feasibility and potential cost, at a high level, of modifying the product to meet the Coast Guard's needs;

      (4) Gathers information regarding the product's design stability, prospects for future design enhancements, and their impact on the product to be delivered during the term of any resulting contract;

(5) Identifies production processes, facilities, depth of personnel and their experience, and capacities; and

(6) Evaluates distribution and logistics support capabilities plus access to qualified personnel.

c. When this assessment indicates that market readiness is below what is needed in order to produce the desired capability, the risk is identified and entered into a risk management framework.

8. Technology Readiness Assessment (TRA). A Technology Readiness Assessment (TRA) is a risk management tool similar to the Market Readiness Assessment conducted as part of the program's technology-related risk identification and reduction activities. The purpose of the TRA and MRA is to inform the Acquisition Program Manager as to the maturity of a given technology and associated manufacturing capabilities that is under consideration for procurement. The TRA and associated MRA equips the Acquisition Program Manager with information to advise the Sponsor regarding candidate technologies and their ability to satisfy ORD criteria. The Acquisition Program Manager is responsible for conducting the TRA and MRA, and the results of those are assessed by DHA Office of Systems Engineering as part of their program Technical Assessment in preparation for ADE-2A/B.

9. Human Systems Integration (HSI) Analysis. It is important to define and measure characteristics and roles of the system end-users (i.e., operators, maintainers, trainers, and other system support personnel). HSI analysts define the system's human component in engineering terms by examining all HSI domains (Manpower, Personnel, Human Performance Support and Training, Systems Safety/Occupational Health, Human Factors Engineering, Habitability, and Personnel Survivability) and the interrelations of these domains on total system performance. One of the most important HSI endeavors is to ascertain which functions of the system will be accomplished by humans and which will be automated or accomplished by machines – and to identify the interfaces between the two. HSI analyses and studies may include Manpower Requirements Analysis, Top-Down Functional Analysis, and Front-End Analysis. Commandant (CG-1B3) will determine the appropriate analyses required for the system and will identify system requirements needed for the human component (e.g. anthropometric, cognitive, sensory, physiological, job performance features, etc.) and for relevant non-human components (e.g. workspace configuration, workload distribution, display systems, etc.) These results will inform the ORD with requirements such as end-user training needs, manpower requirements, habitability requirements, unique safety requirements, system redundancies, and HFE considerations (e.g., display requirements; controls, alarms, alerts, and labels; lighting; user-interfaces; etc.).

10. Force Structure Analysis. The force structure is the number, size, and composition of the units that comprise the Coast Guard. Force Structure Analysis can be oriented toward meeting presence requirements in operating areas or the determination of the number and types of units that are required to perform allocated missions. It may involve fixing certain variables to find the best force structure within those limitations. It may involve achieving a specified level of effectiveness while minimizing some other resource, e.g. cost. Force

Structure Analysis determines how many units there should be. A Force Structure Analysis may exist or may be conducted by the Sponsor or Commandant (CG-771).

> **Example**: "How many High Endurance/National Security cutters are needed to perform the required Coast Guard missions at a specified level of effectiveness?" is a question that is answered by a Force Structure Analysis.

11. Preliminary Integrated Logistics System (ILS) Analysis. While the ILS analysis is not complete until the ORD is finished, it is important to analyze the data obtained during market research from an ILS perspective in order to determine the state of the market with respect to supportability, reliability, and availability of the latest systems. This analysis also identifies and documents any ILS constraints that should be taken into consideration early on in the project as part of the systems engineering approach to lifecycle management. This is necessary to identify a suitable or appropriate ILS concept for the fielded asset, which is documented in the Integrated Logistics Support Plan (ILSP). The purpose of this analysis is to support the systems engineering approach with the end goal of minimizing lifecycle cost. Reference (i) provides additional information on the ILSP and provides an ILSP template.

12. C4ISR Analysis. For systems with significant interfaces to external communications nodes, or that have significant network infrastructure, a C4ISR analysis should be performed. The analysis typically assesses the system architecture and identifies required interfaces to other systems along with interoperability standards. This component of the analysis lays the foundation for the enterprise architecture required to be included in the ORD. The analysis may include a preliminary estimate of data transfer requirements for mission areas (quantity or bandwidth), quality of service and timeliness requirements, and determination of classified or sensitive information processing needs. Specific communications systems that are required for interoperability, such as data links, are listed. Commandant (CG-761) will initiate and oversee all C4ISR analysis related to operational requirements generation.

G. Draft P-ORD.

1. General Activity. The SPO will determine responsibility for development of the P-ORD. The P-ORD documents the initial set of proposed operational requirements and other information necessary to support the AoA/AA and Life Cycle Cost Estimate (LCCE).

2. Develop P-ORD.

   a. The SPO will use the ORD template to develop the P-ORD, which will document the initial set of operational requirements in accordance with Reference (b). Commandant (CG-771) maintains a document library of templates to support the development of operational requirements documents.

   b. The SPO, with support from the RO and PM, will determine the specific information necessary for inclusion into the P-ORD based on the scope and complexity of the project. The details in Section I, of this Chapter, will provide additional information to support the SPO and IPT in the development of the P-ORD. Although the specific information in a P-ORD may vary from project to project, a P-ORD establishes the initial set of

proposed operational requirements and other information needed to initiate the AoA/AA and LCCE in accordance with References (c-e).

3. Executive Oversight Council (EOC) Brief. The P-ORD will be briefed to the EOC in accordance with References (d) and (e). The SPO is responsible, with support of the RO and PM, for developing and coordinating the brief with the EOC Executive Secretary (Commandant (CG-924)).

4. Approval. Following a successful P-ORD brief to the EOC, the Sponsor will approve the P-ORD. In cases where Commandant (CG-7) is not the Sponsor, Commandant (CG-7) will endorse the P-ORD prior to approval by the Sponsor. The Approved P-ORD will be submitted to Commandant (CG-9) for acceptance and used to support the AoA/AA and the LCCE.

H. Additional Analyses.

1. General Activity. The SPO works with the ORD IPT members to finalize analyses (see Section F of this Chapter) initiated to support the development of the P-ORD and use additional analyses such as the AoA/AA and LCCE to refine and finalize the ORD.

2. Analysis of Alternatives (AoA) or Alternatives Analysis (AA).

   a. The AoA is an analytical comparison (from a high-level cost and performance perspective) of selected solution alternatives for fulfilling the specific capability gaps/needs. An AoA is generally applicable if the potential solutions encompass a wide spectrum of alternatives, such as when the capability could be provided by technology, air, land, or sea solutions. The AoA explores these alternatives with the goal of identifying the most promising approach to achieve user-required capabilities within practical performance, cost, schedule, and risk boundaries. Within this decision space, it trades-off these variables to achieve a balanced solution. An AoA helps ensure unbiased exploration of a broad range of feasible alternatives and that the analyses cover the DOTmLPF-R/G/S spectrum.

   b. An AA is an analytical comparison used when the preferred solution is already narrowed down to a specific materiel capability. An AA examines more detailed performance characteristics of various alternative ways to implement the materiel solution, and may be affected by cost and schedule constraints and trade-offs.

   c. A solid business case should be made for the preferred alternative, addressing the quantifiable and qualitative benefits and costs of the solution (AoA and AA). To the extent possible, benefits should be expressed in terms that enable a comparison between effectiveness and costs. The AoA/AA addresses the evaluation of commercial and non-developmental items as part of the solution.

3. Life Cycle Cost Estimate (LCCE). The LCCE is an important tool for project decision-making and risk management. LCCE analysis and documentation is required to facilitate and support project reviews and decisions. LCCE means total acquisition cost plus operations and maintenance costs (operation, maintenance, manpower, personnel, training, support,

depot development and support, post-production support, and disposal costs) over the life of a system or platform. Total Acquisition Cost means all costs for acquiring, by contract, interagency agreement, and other funding instruments, the supplies and services for a designated program or project through purchase or lease, whether the supplies are already in existence or must be created, developed, demonstrated, and evaluated, and without regard to the type(s) of appropriated funds used. The Acquisition Program Manager is responsible for coordinating the LCCE.

I. Draft ORD.

1. General Activity. The ORD is a definitive and quantitative statement of requirements. The ORD incorporates detailed operational characteristics for the new system, including Key Performance Parameters (KPP). KPPs are the most important and non-negotiable requirements that the system will meet to fulfill its fundamental purpose. KPPs are tracked in the Acquisition Program Baseline (APB). Failure to meet a KPP threshold results in a program "breach", which could result in program cancellation or other action. Normally, programs will identify between four and five KPPs. Additionally, the IPT drafts initial technical parameters and non-technical requirements, which may be refined based upon new analyses. Command and control requirements are based upon network bandwidth, quality of service, and channel assessment. Detailed guidance for the writing the ORD is provided in the JRIMS User Guide that is available on the Commandant (CG-771) portal page https://cg.portal.uscg.mil/units/cg771/SitePages/Home.aspx.

2. Assemble Analyses and Supporting Documents. As the ORD matures in light of the information made available from the AoA/AA, market surveys, cost analysis, engineering analysis, and other analyses, the SPO leads IPT efforts to adjust the requirements statements to align with what is technically feasible and affordable. The results of the AoA/AA are often of particular value in determining the objective and threshold performance values while meeting the needs of the operator in a timely and cost effective manner.

> **Note**: The ORD IPT establishes KPPs in order to ensure that the required operational capability is not compromised through tradeoffs; however, the IPT must also guard against setting specific elements of the requirements (such as system performance parameters) at levels that might prohibit successful completion of the program or render it un-testable 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.

3. General Flow of Requirements Development. The general flow in the development of requirements is:

   a. Technical Parameters (TP) (effectiveness)

   b. Non-Technical Requirements (NTR) (suitability)

   c. Key Performance Parameters (KPP)

4. Draft Performance Statements. In coordination with the ORD IPT, the SPO ensures each operational performance parameter is stated in terms of a minimum acceptable value (threshold) and, if warranted by analysis, a goal (objective) value whenever quantitative values can be derived. The number of KPPs in an ORD should not exceed five without agreement between the Sponsor and Commandant (CG-9) that a higher number is reasonable and executable in a contracting arena. The results of the AoA/AA and other analyses should be used to build the threshold and objective values in the ORD. Objectives, if stated, should be readily measurable and offer significant positive increases in capability or improvements in operations and support. Thresholds and objectives must be justifiable based on need, utility and likelihood of achievability. Threshold and objective values bracket a requirement's range needed to meet system capability requirements. Thresholds in particular must be readily defendable as they are supposed to represent the minimum acceptable level for that parameter/requirement, and failure to meet would/could result in key program changes or even possible termination if a KPP threshold were deemed unachievable. Objectives, on the other hand, represent upper levels of performance above which additional expense is not justified.

5. Key Performance Parameters. The ORD IPT reviews the TPs and NTRs to draft the KPPs and develop a recommended list of performance parameters for inclusion in the Acquisition Program Baseline (APB). At a minimum, the KPPs must be included in the APB. The ORD should only contain a limited number of KPPs (normally four or five) that capture the parameters needed to reach the overall desired mission capabilities. KPPs should be viewed as go/no-go decision drivers that could result in cancellation of the program if the KPP is not met. The AoA/AA, market survey results, and cost estimate are excellent sources for the IPT to use in identifying performance parameters that are cost drivers. Additionally, KPPs are source data for Critical Operational Issues (COIs), and derived technical parameters for developing a Test and Evaluation Master Plan (TEMP).

6. C4ISR Considerations. The ORD must also consider Information Systems Interoperability within and external to the Coast Guard. If interoperability with other systems, DHS Components, or other government agencies is a critical factor in mission accomplishment, an interoperability KPP should be included. It should include a detailed list of systems or other capabilities which the asset or system to be acquired is intended to be interoperable with, including an explanation of the attributes of interoperability along with information exchange requirements.

7. Review the Draft ORD. Finally, the ORD IPT reviews and finalizes the draft ORD. The RO ensures the content and form is in accordance with Reference (b). Commandant (CG-771) maintains a document library of templates to support the development of operational requirements documents.

> **Note**: The JRIMS checklist provides the IPT with a ready reference for self-assessment of their ORD development. Commandant (CG-771) maintains a library of templates and checklists available at the CG-771 portal.

J. Review/Validation.

1. General Activity. The SPO coordinates the internal review of the draft ORD to include concurrent clearance. Table 6-2 provides the recommended minimum distribution list for concurrent clearance of the ORD. Chapter 7 of this Manual provides detailed information on the review and validation process.

> **Note**: Throughout the process of adjudicating comments, it must be remembered that the final language of the ORD must allow for a product that meets the needs of the operator, which can be built at an affordable cost, and can be tested and delivered on time.

2. Commandant (CG-771) conducts the Gatekeeper review to ensure ORD compliance, Reference (b), and the ORD is ready for Sponsor signature and submission into DHS KMDS.

3. Specifically the review will ensure:

   a. Analysis is completed per plan (rigor);

   b. The KPPs and TPs comply with ADE-1 guidance (traceability);

   c. All ORD requirements statements link to higher level requirements (traceability); and

   d. All references cited are current (inputs).

Note - IPT members will provide additional clarity and specific offices to be included in the Concurrent Clearance process based on content of the document being staffed.

O= Originator

I= Information

C= Clear

Document	Sponsor	CG-0949	CG-1	CG-2	CG-4	CG-5P	CG-5R	CG-6	CG-7	CG-771	CG-8	CG-926	CG-93	FC	OTA
CASP															
NMCR	O	I	C	C	C	C	C	C	C	C	I			C	
CAR	O	I	C	C	C	C	C	C	C	C	I			C	
MNS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	
CONOPS	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C
ORD	O	I	C	C	C	C	C	C	C	C	C	C	C	C	C

Table 6-2 ORD Concurrent Clearance

K. Approve ORD.

1. The validation of the ORD signifies the requirements are traceable to strategic objectives, meets the needs of the operator, are affordable, and can be tested and delivered on time. The ORD is then routed by sequential clearance to the CAE or the Sponsor, in accordance with

References (d) and (e), for Coast Guard approval and, if required by References (c) and (d), to the DHS ADA for approval.

2. Chapter 7 of this Manual and References (c) and (d) provide more details on the approval process for documents in support of the Coast Guard and DHS acquisition process.

L. Additional Review/Analysis.

1. While IPT collaboration during development of the ORD normally leads to a quality product and stable requirements, it does not preclude changes that occur due to the dynamic nature of the acquisition process. This includes direction that may be included in an acquisition decision event memorandum.

2. The Sponsor will initiate a review and update the ORD whenever there is a change in higher-level guidance, or when substantial new information is received (to include cost, schedule, performance trades, and test and evaluation results) to ensure the ORD supports ADE-2A/B and ADE-3 in accordance with References (c) and (d). The ORD update process is shown in Figure 6-3.

Figure 6-3 ORD Update Process

M. Update ORD.

1. General Activity. In this step, as before, the ORD IPT gathers the applicable inputs from the preceding stages and refines the ORD. As the ORD is refined and matures in light of new information from the supplemental analysis, the IPT adjusts the requirements statements to meet what is technically feasible or affordable. The IPT must ensure that the required operational capability is not compromised through trade-offs; however, the IPT also guards against setting specific elements of the requirements (such as system performance parameters) at levels that might prohibit successful completion of the program or render it untestable or unaffordable.

2. Update. The SPO updates the ORD using information from the review and additional analysis. At this stage, the ORD describes the system characteristics of the new system in final form reflecting ORD IPT consensus. Technical parameters previously drafted by the IPT are subject to refinement based upon the review and additional analysis.

3. Review/Validation. The review/validation process is the same as described previously in Paragraph H of this Chapter.

4. Approve Updated ORD. The Approval for the updated ORD will be the same as described previously in Paragraph K of this Chapter.

CHAPTER 7. **Metrics and Reviews**

A. Introduction. Information sharing to keep communications open, provide current status, highlight potential problems, and report performance is a critical element of effective management of the operational requirements generation process. Reports and reviews keep senior management informed of the progress being made on major systems acquisition projects.

B. Process Metrics. Commandant (CG-771) will track information on the operational requirements generation process and develop metrics to analyze and identify process improvements. Within the operational requirements generation and management process, these metrics are derived from information captured in the Commandant (CG-771) Project Management Tool (PMT) involving the schedule and quality of the CAR, MNS, CONOPS, and ORD development and validation process. The metrics are directly traceable to user needs and priorities that include standard content areas with clearly stated and traceable requirements. The metrics also serve to monitor process elements that are necessary for the smooth operation of the operational requirements generation and management process.

1. Derived Metrics. The duration of designated steps of the process is calculated and recorded, in the PMT, in order to provide important metrics used for process improvement. Analyzing the relative amount of time required for development, review and validation of operational requirements documents can identify areas for continuing improvement.

2. Schedule. A schedule for the development, review, and validation of each operational requirements document is the foundation that makes metrics information actionable. These metrics will be measured against the JRIMS deliberate coordination and validation timeline established in Reference (a) with the exception of the schedule for development. The schedule for document development is dependent upon the Sponsor and or IPT and may be measured against historic timelines in order to help facilitate reasonable expectations for the Sponsor. Milestones for the development, review, and validation for each operational document will be recorded in the PMT in order to support analysis, identification of areas of improvement, and recommend changes to the operational requirements generation process.

C. Review/Validation Process. The review process provides a quality assurance mechanism for requirement documents and ensures the content and format is consistent with Reference (b). Validation helps to assess traceability and feasibility, and ensures all capability needs and requirements and recommended courses of action are cost-informed. Specific events in the review/validation process include:

1. Concurrent Clearance. The purpose of a concurrent clearance review is to communicate important program information to key stakeholders in order to solicit their comments and ultimately, their concurrence prior to submitting the document for validation and approval. The document originator should use relevant IPTs, working groups, and other forums to involve key stakeholders during the initial development and drafting of documents. This support will help ensure stakeholder and cross-stakeholder requirements are properly captured and addressed before the formal concurrent clearance process. Note that effective use of IPTs and Matrix teams can ease the concurrent clearance review process, but cannot supplant formal concurrent clearance. Reference (d) provides additional information on the

concurrence clearance process. Concurrent clearance review of operational requirements documents takes place in two parts: at the Matrix-level (O-6 level) and subsequently at the EOC-level.

a. A Matrix-level review is conducted among applicable stakeholders. This review provides the reviewing stakeholder staff with the opportunity to ensure their program responsibilities are addressed and their leadership is informed. This clearance process is also intended to ensure that all of their leadership's critical or substantial issues are identified and addressed at the earliest opportunity prior to signature clearance. A completed final draft document is distributed for Matrix-level concurrent clearance review along with Concurrent Clearance, Form CG-4590 that provides instructions and a deadline date for return to the originator.

   (1) Comment Receipt. The IPT members provide their office chief's comments to the SPO who verifies that all responses have been received, including those with no comments. The SPO enters them into a Comment Resolution Matrix (CRM), along with any stakeholder comments. If a comment has not had a category assigned, the RO adds a recommended category. The SPO sorts the comments by categories. The categories are:

      (a) Critical. A critical comment is cause for non-concurrence with the document if the comment is not satisfactorily resolved. The SPO makes every effort to resolve critical comments for the satisfaction of the Office Chief that submitted the comment. If a resolution cannot be reached, the SPO forwards the comment to the Sponsor for guidance and possible forwarding to higher authority for resolution.

      (b) Substantive. A substantive comment is based on a section of the document that appears to be, unnecessary, incorrect, misleading, confusing, or inconsistent with other sections or other policy documents. The SPO will make every effort to resolve substantive comments. The SPO will record, in the consolidated adjudication matrix, the action taken to resolve the substantive comment or that the comment was not accepted.

      (c) Administrative. An administrative comment corrects what appears to be a typographical, format, or grammatical error. The SPO corrects administrative comments and records the correction or non-acceptance of the comment in the consolidated adjudication matrix.

   (2) Comment Adjudication. The SPO makes changes to the draft document based on the comments received and IPT members review the updated document and adjudicated comments to ensure their respective Office Chief's comments are adequately reflected in the final draft document. The SPO updates the consolidated adjudication matrix during the meeting to provide a record of consensus and the disposition of all comments received.

> **Note**: Successful adjudication is accomplished when the originating office and the commenting office are in agreement for the disposition of the critical and substantive comments that were provided on the document. Adjudication should be documented on the consolidated comment matrix and through email.

b. If unresolved critical comments remain at the IPT level, the following process applies:

(1) Elevate the issue to the Office Chief level for resolution.

(2) If there is not a full resolution at the Office Chief level, then elevate to a flag level discussion between Directorates for resolution.

(3) If there is not a full resolution at the Flag/Directorate level, the adjudication should be elevated to the EOC. Commandant (CG-924) places the issue on the EOC calendar.

2. Gatekeeper Review. Commandant (CG-771) is the designated Component Gatekeeper and is responsible for Gatekeeper reviews. The Gatekeeper review ensures that the requirement document (CAR, NMCR, MNS, CONOPS, and ORD) has been developed in accordance with Reference (b).

a. Gatekeeper reviews are event driven and required prior to the Sponsor approval/signature and the submission of operational requirements documents into the JRIMS process for validation in accordance with Reference (b).

b. The Gatekeeper review ensures:

(1) Analysis completed per plan (rigor);

(2) All requirements statements link to higher level requirements (traceability);

(3) All references cited are current (inputs); and

(4) All elements of the template are complete and in specified format (content and clarity).

3. Sponsor Approval/Signature. The Sponsor approval/signature signifies that the operational requirements document properly identifies, as appropriate for the document, capability gaps, overlaps, and redundancies; and materiel and non-materiel courses of action for mitigating them.

4. DHS JRIMS. References (a) and (b) provide specific details for the DHS Joint Requirements Integrations and Management System. Figure 7-1 provides a graphic for the JRC validation timeline.

a. In general the JRIMS process includes 5 stages:

(1) JRC Coordination (5 days) – The DHS Gatekeeper reviews for completeness. The JRC Analysis team assigns designation and lead Portfolio Team (PT) and Community of Interest (COI).

(2) Commenting (15 days) - Document distributed from comments from JRC Analysis, Lead PT and COI.

(3) Comment Adjudication (20 days) – DHS Gatekeeper returns document to Sponsor to adjudicate comments.

(4) Review (10 Days) – JRC Analysis and Lead PT review the final document and provide validation recommendations for the Director, JRC.

(5) Validation (10 Days) – Director, JRC reviews the Lead PT and JRC Analysis recommendations and determines if the document is valid and submits to JRC Principals for endorsement.

b. JRC Analysis, during the JRIMS process, identifies/assigns the appropriate validation authority. For Level 1, Level 2 and projects with joint component applicability or DMAG interest the JRC will be designated as the validation authority. For single component Level 3 programs, after JRC coordination and commenting, documents are returned to the component for adjudication, review, and validation by the Component Requirements Executive (CRE) in accordance with Component guidelines.

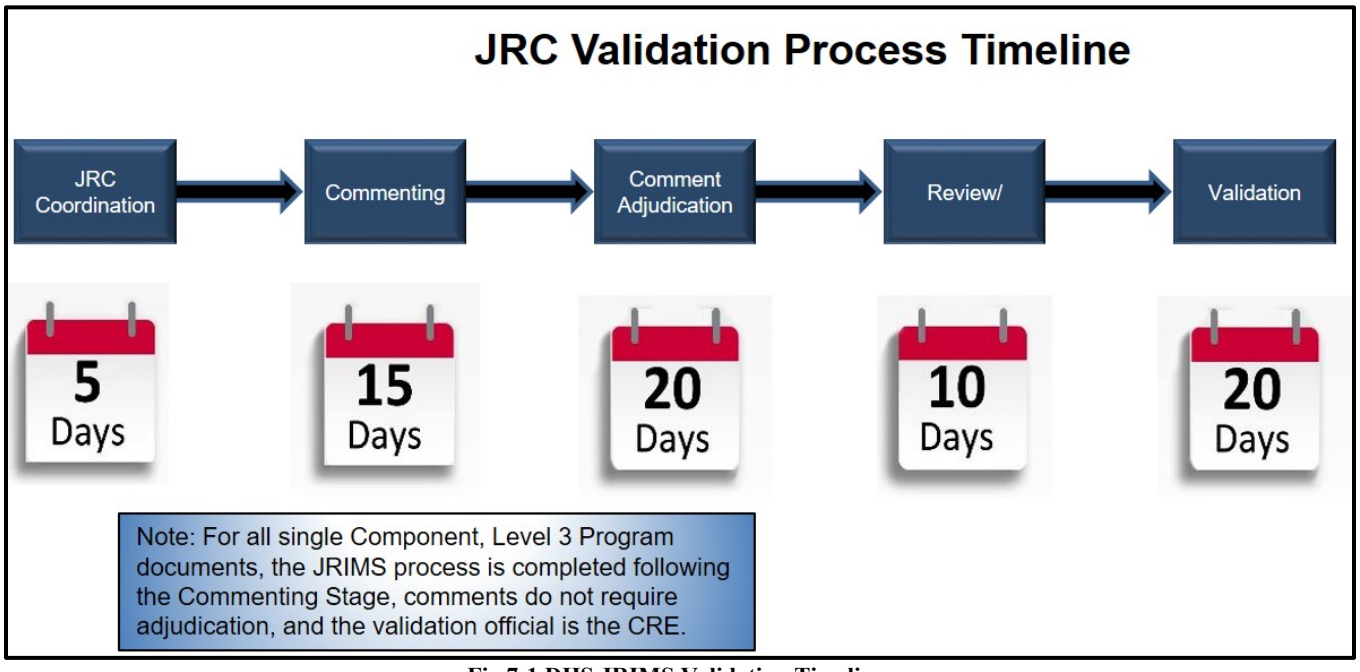

Fig 7-1 DHS JRIMS Validation Timeline

D. Acquisition Executive (CAE or ADA) Approval. Routing of the MNS and ORD for Coast Guard approval and, if required, DHS approval is governed in accordance with References (c), (d) and (e). Figure 7-2 demonstrates the validation process and relationship to the approval process.

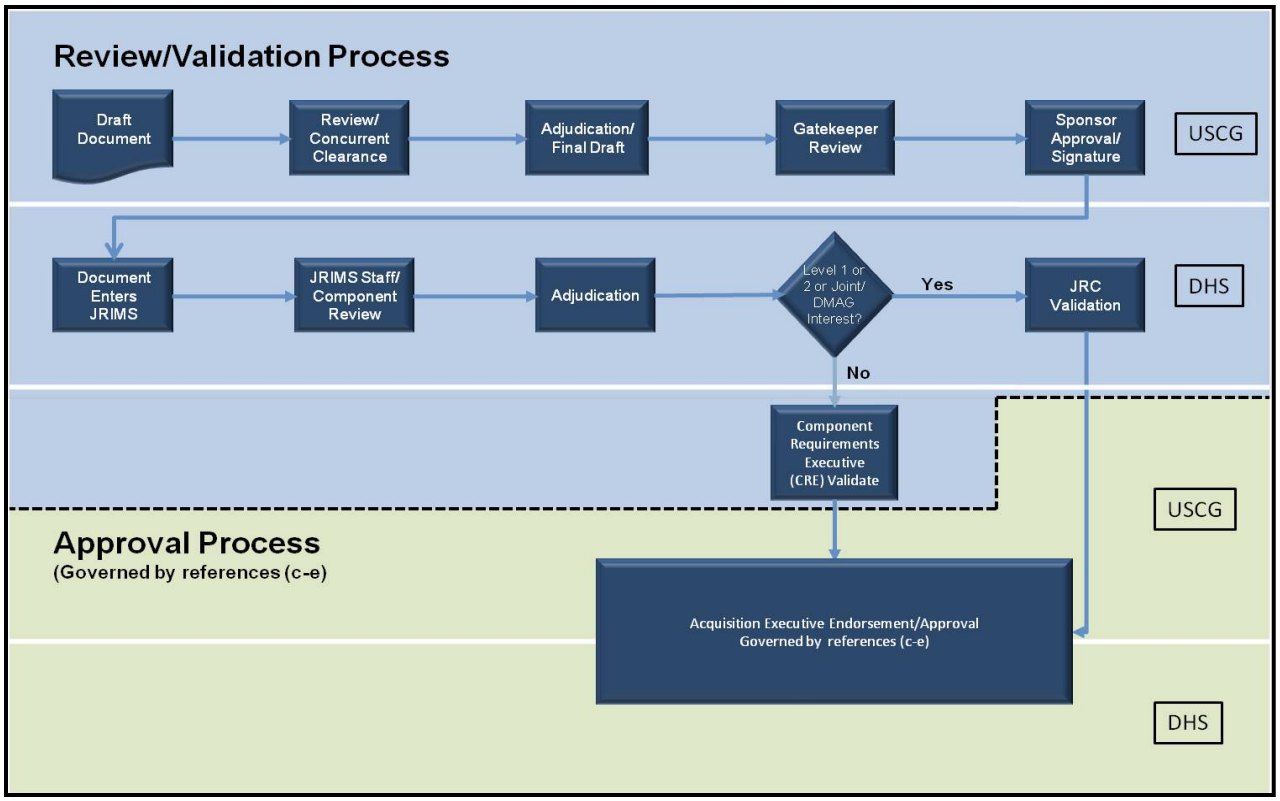

Figure 7-2 Review/Validation and Approval Processes

CHAPTER 8. **Urgent Operational Need (UON)**

A. Introduction. The UON process allows for an expedited review and coordination of UON documentation, ensuring that critical gaps in required capabilities are mitigated and proposed solutions are rapidly fielded in response to current or anticipated capability gaps expected to affect operations or activities.

B. Purpose. The UON process is used in place of the normal operational requirements generation process when there is a need to mitigate the materiel capability gap caused by a watershed shift in the threat or hazard environment. If not addressed in an expedited manner (e.g., fielded capability in less than one year), this shift in the threat or hazard could result in loss of life or imminent failure to a mission, function, or objective. The request for consideration under the UON process must be coordinated with Commandant (CG-771) prior to the Sponsor seeking Coast Guard senior leadership approval to proceed.

C. Process. The process is designed to take no longer than 13 business days to get a UON document in front of the DHS Under Secretary for Management (USM) for an acquisition decision. More details on the UON process and associated timeline is provided in Reference (b). By design, the review and validation of UONs within this process emphasizes speed and enables rapid delivery of capabilities to the field. The following applies for UONs:

1. Specific Solutions. To minimize Research, Development, Test, and Evaluation (RDT&E) and Acquisition activities that may extend the time of delivery of capability to the field, Sponsors are required to identify a recommended equipment solution from existing alternatives for consideration during the process. These solution approaches are capable of implementation within one year from receiving funding.

2. Funding Offsets. To assist in the rapid initiation of developmental/acquisition programs, Sponsors are required to identify potential funding offsets that sustain fielding throughout the projected timeframe in which the capability is needed.

3. Expedited Review Process. Review activities during the immediate process may not be as robust as those performed during the normal deliberative process. Adjustments to requirements made to enable rapid delivery of solutions may result in validation of a sub-optimal set requirements and recommended solution approaches.

4. Compromises in Criteria. A capability fielded in response to the UON coordination and approval process may not fully satisfy validated requirements, and may make compromises in areas such as cost, interoperability, sustainability, or training.

5. Rapid Fielding Assessment. The Sponsor is required to provide an assessment of the operational utility to the JRC within six months of fielding.