Mission Need Statement (MNS)
Integrated Deepwater System
Update (Revision 1.0)

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Executive Summary

This Mission Need Statement (MNS) Update aligns the Integrated Deepwater System (IDS) with the Department of Homeland Security missions, vision, and strategic goals. This realignment is required to respond to changes in mission emphasis and effort in recognition of the Coast Guard's role as the lead federal agency for Maritime Security. This is the second update to the Integrated Deepwater System MNS and has been rewritten in its entirety. The original Mission Need Statement was approved in 1996[1]; the first update was the 2000 Interagency Task Force on Roles and Missions for the U.S. Coast Guard.[2] At each iteration the need and importance for highly capable Deepwater assets has been well documented. This time the need is even greater!

Specifically, this MNS Update addresses the increased threat to the United States maritime regions, the gap in requirements, capabilities and capacity facing the Department of Homeland Security and the U.S. Coast Guard in the 21st Century. These gaps have been identified by many independent sources including the Interagency Task Force recommendations in 2000, the Center for Naval Analyses studies in 2002[3] and 2003[4], and the concurrent Coast Guard Performance Gap Analysis.[5] Other changes include updates to the Deepwater mission descriptions and required functional capabilities, recent changes in demand, the transition to the Department of Homeland Security, and compliance with Executive Order 12333 "United States Intelligence Activities" admitting the Coast Guard to the National Intelligence Community.

The Interagency Task Force on Roles and Missions, the first MNS update, identified the six following conclusions[6] all of which clearly remain relevant today:

- *The Coast Guard's roles and missions support national policies and objectives that will endure into the 21st century*
- *The U.S. will continue to need a flexible, adaptable, multi-missioned, military Coast Guard to meet national maritime interests and requirements well into the next century*
- *In order to hedge against tomorrow's uncertainties, the Coast Guard should be rebuilt so as to make it adaptable to future realities.*
- *In keeping with its well-deserved reputation as one of Federal Government's most effective and efficient organizations, the Coast Guard should continue to pursue new methods and technologies to enhance its ability to perform its vital missions.*
- *The recapitalization of the Coast Guard's Deepwater capability is a near term national priority.*
- *The Deepwater acquisition project is a sound approach to that end and the Interagency Task Force strongly endorses its process and timeline.*

The world changed on September 11, 2001 as the ever-increasing terrorist threat became real. At

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[1] " Steaming into the 21st Century", Mission Need Statement for the Deepwater Capability Replacement Project, 3 May 1996

[2] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999.

[3] Impact of Post-1998 USCG Deepwater Mission Demands by Kent B. Nordstrom and Dana S. Partos, Center For Naval Analyses, December 2002.

[4] Impact of Post-1998 USCG Deepwater Mission Demands: Additional Issues by Kent B. Nordstrom, Center For Naval Analyses, June 2003.

[5] Performance Gap Analysis Executive Steering Committee Report dated September 3, 2003.

[6] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999 , Chapter 4.

that moment the national strategic security environment changed. This major sea change within the environment requires specific changes to the capabilities within the Integrated Deepwater System (IDS). The originally proposed Integrated Deepwater System (IDS) solution was constrained as an asset capability replacement program. This Mission Need Statement Update changes that mandate from one of capability replacement and status quo to one of capability improvement linked to Department of Homeland Security strategic objectives.

Simply meeting legacy Deepwater mission performance, based on a 1998 demand, has been revisited as part of this MNS update and deemed insufficient to meet current and future threats and performance expectations.[7,8] The block obsolescence predicted five years ago is accelerating rapidly. The actual degradation in the material condition of legacy assets is far worse than originally forecast as evidenced by recent high endurance cutter (WHEC) turbine failures, the structural problems with the 110' patrol boats (WPB), HH-65 engine performance and reliability concerns, HH-60 Avionics block obsolescence, and HC-130 structural failures and electrical issues. In turn, decreasing material condition further exacerbate the gap in legacy asset performance[9, 10, and 11]. The current proposed IDS force structure falls far short of providing the operational capacity and capability to meet Government Performance and Results Act (GPRA) targets, and it is not responsive to the post-9/11 mission demands, emerging threats and future challenges. This mismatch of the original acquisition objectives with current realities requires an immediate change within the Deepwater System.

The IDS MNS Update was completed through an iterative process that was facilitated by Booz Allen Hamilton. The Booz Allen IDS MNS Update team performed an in-depth review of top-level Department of Homeland Security (DHS) and Coast Guard strategy, vision, policy, and mission related guidance documents. Booz Allen's document review effort was used to establish the framework for the updated MNS. The full MNS Update report is attached and should be considered in its entirety as part of this Mission Need Statement Update.

The Coast Guard's strategic approach to maritime homeland security places a premium on identifying and intercepting threats well before they reach U.S. shores. This approach necessitates giving Coast Guard crews multiple opportunities to prosecute potential threats in a layered defense extending across the entire maritime domain of domestic waters, border and coastal areas and the high seas and foreign ports. To effectively push the borders outward, the service needs more capable assets with new technology for better surveillance, secure communications and more efficient command and control – and that is what the IDS is designed to provide.

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[7] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999.
[8] U.S. Coast Guard Deepwater Missions: Current and Projected Requirements and Capabilities b y James R. East, Alarik M. Fritz, Steven W. Klein, and Kent B. Nordstrom, Center for Naval Analyses, September 2000
[9] United States Coast Guard Integrated Deepwater System (IDS) Report to Congress on the Feasibility of Accelerating the Integrated Deepwater System, March 2003.
[10] Commandants Direction: Readiness, People, Stewardship: Safety And Reliability Of The HH-65 Power Plant, message 160005Z JAN 04 COMDT COGARD WASHINGTON DC.
[11] GAO Report GAO-03-544T, "Coast Guard – Comprehensive Blueprint Needed to Balance and Monitor Resource Use and Measure Performance for All Missions," Statement of Jay Etta Z. Hecker, March 12, 2003.

Section A. Description of Missions and Capabilities

1. Required Missions and Need

This MNS update aligns the IDS with DHS strategic goals, vision, and mission so that the Coast Guard is capable of meeting current and future Deepwater mission requirements. The National Strategy for Homeland Security and the Homeland Security Act of 2002 create the organization and mission set required to secure the homeland. One primary reason for the establishment of the Department of Homeland Security was to provide the unifying core for the vast national network of organizations and institutions involved in efforts to secure our nation. The vision, mission statements, strategic goals and objectives provide the framework guiding the actions that make up the daily operations of the department. The IDS is a key system involved in providing Maritime Security to the Nation and needs to be aligned within this new National Security context.

The fourteen original Deepwater missions identified in the IDS System Performance Specification and Modeling and Simulation Master Plan (MSMP) have been reviewed and validated in preparation for the original MNS of 1996 and during the Interagency Task Force on Roles and Missions for the USCG in 2000, which served as the first MNS Update.[12] This second update of the MNS specifically includes the Ports, Waterways and Coastal Security (PWCS) mission[13] as an IDS mission requirement, including the mission subsets of Air Intercept (AI), and capability improvements such as Airborne Use of Force (AUF), Vertical Insertion/Vertical Delivery (VI/VDEL), as well as improved Maritime Domain Awareness and necessary force protection requirements such as Chemical, Biological, Radiological Detection and Defense (CBRD&D) capabilities. In order to effectively perform maritime security missions, the Coast Guard needs more capable cutters and aircraft with new technology for better surveillance, interoperable communications, swifter more effective end-game prosecutions and more efficient command and control. The full MNS Report amplifies the rationale for these capabilities.

The PWCS mission requires that the IDS push the nation's borders outward, not only ensuring that national economic and environmental regulations are enforceable throughout our exclusive economic zone (EEZ), but proactively providing forward security presence at sea, far away from our shores whenever possible. The System-of-Systems IDS design is intended to improve the capability to detect, intercept, and interdict potential threats in the maritime domain using a layered defense of major cutters, patrol boats, helicopters, unmanned aerial vehicles (UAV) and maritime patrol aircraft all connected using a single command and control architecture. The further away from our shores that these threats are interdicted, the safer the country will be.

By extending the DHS and interagency reach of domain awareness, the IDS, in providing Maritime Domain Awareness (MDA) mission capability, also supports and protects an extended virtual front-line in our homeland security architecture. MDA requires more than just a network-centric Deepwater or total Coast Guard force. MDA requires a myriad of sensors across DHS

[12] Each of the IDS mission areas is described in greater detail in the IDS Mission Analysis Study Section 1 *Architecturally Required Missions and Capabilities*

[13] PWCS is defined as the ability to protect the U.S. maritime domain and the U.S. Marine Transportation System (MTS) and deny their use and exploitation by terrorists as a means for attacks on U.S. territory, population, and critical infrastructure. Prepare to prevent attack, and in the event of attack, conduct emergency response operations. Conduct military homeland defense operations, when directed, as the supported or supporting commander

and other government agencies, sharing detection and track information, correlating such information with intelligence and commerce data, and accomplishing all of this within the Surveillance-Detect-Classify-Identify-Prosecute (SDCIP) continuum for the mission and the target of interest. Building in this interoperability is key to the success of the Department and to the Coast Guard.

The demand on the Coast Guard to provide organic fixed wing heavy lift is characterized through the MSMP and designed into the IDS. This demand will drive the quantity and cargo lift capacity of fixed wing aircraft. The IDS must have the capability to provide organic airlift for the National Strike Force (NSF), Port Security Units (PSU), Marine Safety & Security Teams (MSST) and Department of Homeland Security (*e.g.*, FEMA response teams, etc.). Timely movement of these national teams will provide a more robust anti-terrorism and law enforcement capability for port control and protection along the maritime boundaries of the United States. DHS and the Coast Guard need this organic capability in order to successfully meet expected demands and levels of responsiveness.

It is also important to remember that Deepwater forces are expected to perform all statutory missions, plus "surge operations." These unscheduled responses to national emergencies typically demand increased tempo and extraordinary efforts on the part of Coast Guard crews and resources. Response to these emergencies has long been part of the Coast Guard's experience, however recently such actions have become more frequent, almost to the point of becoming routine. For example, OPERATION ABLE MANNER, OPERATION ABLE VIGIL and OPERATION UPHOLD DEMOCRACY were the Coast Guard's response to the mass migration from Haiti, Cuba and the restoration of a democratically elected government to Haiti in 1994-1995. This resulted in the interdiction of 25,177 Haitian migrants over the course of 581 events and 30,224 Cuban migrants interdicted in 3,304 events. These examples clearly demonstrate the impact that surge operations have on Coast Guard operations. It is imperative that the Coast Guard creates the necessary IDS capacity to respond to these National Security events.

2. Authority

The Coast Guard is defined under Title 14 of the United States Code (USC) as both a civilian law enforcement agency and a military service. The basic authorities for all Coast Guard activities are found in the Public Laws, Statutes at Large, revised Statutes of the United States, United States Code, Executive Orders, various executive agency reorganization plans, and treaties and conventions to which the United States is party. On March 1, 2003, the Coast Guard transferred from the Department of Transportation to the Department of Homeland Security[14].

The original Deepwater MNS of 3 May 1996 provided the authority for Deepwater missions as a subset of all Coast Guard missions. The Homeland Security Act of 2002, Public Law 107-296 enacted 25 November 2002, defined eleven Coast Guard missions. The Deepwater System of Systems refined these mission definitions, providing greater detail and specificity to those missions that generally occur beyond 50 nautical miles from shore, and/or which involve the use of aircraft, C2 architecture, or require a sustained presence.

[14] Homeland Security Act of 2002, Public Law 107-296

Table 1: Deepwater Missions

USCG Role/Strategic Goal	USCG Statutory Mission Programs	USCG Deepwater-Specific Mission Sets	Other Mission Drivers[15]
Maritime Safety	Search and Rescue	Search and Rescue	Maritime Domain Awareness
	Marine Safety	International Ice Patrol	Common Operational Picture
Maritime Mobility	Aids to Navigation	Non-Deepwater Missions (Coastal Zone Missions)	Intelligence Community
	Ice Operations	Non-Deepwater Aviation Demand (NDAD)	Non-Deepwater Aviation Demand (Strategic Lift)
National Defense	Defense Readiness	Defense Operations	Surge Operations
		- General Defense Operations/Exercises	
		- Port Operations Security & Defense	
		- Coastal Sea Control Operations	
		- Maritime Intercept Operations	
		- Military Environmental Response Operations	
		Theatre Security Cooperation	
Maritime Security	Drug Interdiction	Living Marine Resources – Economic Exclusion Zone Enforcement	
	Migrant Interdiction Operations	Drug Interdiction	
	Other/General Law Enforcement	Migrant Interdiction Operations	
	Ports, Waterways, and Coastal Security	General Law Enforcement	
		Ports, Waterways, and Coastal Security	
Protection of Natural Resources	Marine Environmental Protection	Maritime Pollution Enforcement & Response	
	Living Marine Resources	Foreign Vessel Inspection	
		Domestic Living Marine Resources	
		Lightering Zone Enforcement	

Congress has crafted specific direction for portions of a network-centric enterprise backbone as part of broader maritime domain awareness efforts under the Ocean Observations and Coastal Systems Act[16]. This new DHS architecture integrated with the Coast Guard's maritime Deepwater architecture will essentially establish a layered homeland security perimeter. Each Deepwater asset will become a node within the overall DHS architecture, increasing strategic, regional, and tactical situational awareness...leading toward maritime domain awareness.

Maritime Domain Awareness will:

- Provide operational commanders with information, intelligence, and knowledge products, including a common operational picture (COP), that describe what is currently happening, and what is likely to happen, in the Maritime Domain in order to identify, isolate, and

[15] Other Mission Drivers is not a CG Role/Strategic Goal, but is shown in this fashion to provide prominent exposure to these significant cross-programmatic mission program enablers.

[16] S.1400, 108th Congress, 1st Session, July 14, 2003. As of May 18,2004, the bill had been delivered to the House committee/subcommittee for action after being passed in the Senate on Oct, 31, 2003. The committee is currently awaiting executive comment from DOD.

dismantle threats, and to minimize the conditions under which threats might develop;

- Support U.S. national security decision-makers in developing responsive maritime strategies and policies, and to allocate limited Homeland security resources; and,
- Provide the broader MDA Community with information, intelligence, and knowledge products to support their own Homeland Security strategies and plans for unified effort, and to promote their other maritime related goals and interests.

In December 2001, the Coast Guard's relationship with the National Intelligence Community (IC) was formalized when the National Security Act of 1947 was amended to add the intelligence element of the Coast Guard to the IC. The IC will capitalize on the Coast Guard's unique role as both a military service and a law enforcement agency. The Coast Guard Intelligence Program (CGIP) has the ability to link, fuse, analyze, and share intelligence between law enforcement and intelligence agencies. This makes the CGIP ideally positioned to carry out the mandates of Section 906 of the USA Patriot Act, which requires law enforcement agencies to share foreign intelligence gathered during investigations with the IC. Deepwater cutters, equipped with tactical cryptologic suites and Electronic Surveillance Systems (ESM) will significantly add to the Department's overall situational awareness.

3. Capability Gap

The Deepwater Program was initiated to replace legacy assets as they aged, their performance dropped, and projected threats outpaced legacy asset capabilities. The original and current Deepwater Program was anticipated to provide for sufficient assets and asset-level functional performance to meet Deepwater demand at the same level as legacy Deepwater assets[17]. Since then, simply meeting legacy Deepwater mission performance has been revisited and deemed insufficient to meet expected demands for U.S. Coast Guard services and expected performance targets.[18,19]

In the post-September 11, 2001 era of increased Homeland Security mission demand, new gaps have emerged. Deepwater capability gaps, based on the Center for Naval Analyses (CNA) efforts in 2002[20] and 2003[21], and the concurrent Performance Gap Analysis (PGA)[22], appear in two categories:

- Capacity - The force structure and force size, specifically, the number and type of assets available to satisfy mission demands, and
- Functional Performance - System performance within projected force structure and force size, that is, the required or projected asset level functionality.

[17] Deepwater Mission Analysis Report, November 6, 1995.
[18] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999.
[19] U.S. Coast Guard Deepwater Missions: Current and Projected Requirements and Capabilities by James R. East, Alarik M. Fritz, Steven W. Klein, and Kent B. Nordstrom, Center for Naval Analyses, September 2000.
[20] Impact of Post-1998 USCG Deepwater Mission Demands by Kent B. Nordstrom and Dana S. Partos, Center For Naval Analyses, December 2003.
[21] Impact of Post-1998 USCG Deepwater Mission Demands: Additional Issues by Kent B. Nordstrom, Center For Naval Analyses, June 2003.
[22] Revision 1 to the Performance Gap Analysis Executive Steering Committee Report dated September 3, 2003.

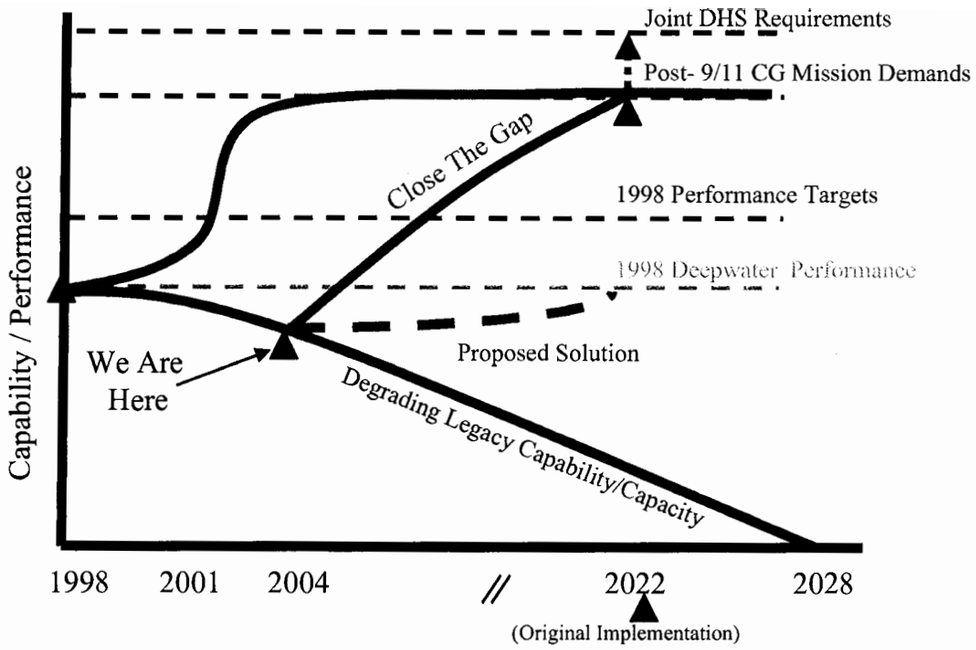

Figure 1 Performance Gap

Specific top-level capability gaps identified by the Performance Gap Analysis are addressed below:

- Overall planned IDS force structure and/or force mix is inadequate to meet existing performance targets.
- The PWCS mission did not exist in its current form or level of emphasis / effort in the baseline Deepwater Program and must be addressed in IDS asset mix and levels.
- The Deepwater CONOPS provides extensive command and control capability that will likely be leveraged throughout DHS. This use of mission capability is a critical consideration in re-baselining Deepwater, and involves both technical and operational aspects. This area must be closely matched with efforts for C4ISR, MDA, and Persistent Wide Area Surveillance (PWAS).
- AMIO mission accomplishment under the current paradigm challenges notions of reduced or optimally manned cutters. Future AMIO mission execution on cutters requires new methods or increased crewing.

Based on four of the seven DHS Strategic Goals (Awareness, Prevention, Protection, and Response), the Coast Guard should shift away from its current and predominantly reactive, or response-based, posture to a more proactive, enhanced presence posture. Post-September 11, 2001 requirements demonstrate the need for a Coast Guard, and perhaps a total DHS, single integrated, common operational picture, and the additional bandwidth to support it. Speed, endurance, and operational tempo are even more critical for all Deepwater assets.

The results of this alignment and capability gap analysis clearly indicate that the Deepwater System Performance Specification (SPS) must be updated to reflect the PWCS mission requirements as well as those resultant from the increased demand for Coast Guard and DHS services.

Section B. IDS Project Justification

1. Planning Linkage

The Coast Guard is the lead federal agency for Maritime Homeland Security and as such is the primary guardian of America's ports, waterways, coastlines, and maritime approaches. All authorities and functions of the Coast Guard were maintained when the service transferred from the Department of Transportation to the Department of Homeland Security. Within the Department of Homeland Security, the U.S. Coast Guard is a key agency supporting the National Security Strategy, National Strategy for Physical Protection of Critical Infrastructure and Key Assets, and National Strategy for Homeland Security maintaining the nation's economic, social, environmental, and military security in the maritime environment. The U. S. Coast Guard Maritime Strategy for Homeland Security links the objectives of the Executive and Department level strategy directives to the U. S. Maritime Domain as the guiding principles for Coast Guard PWCS operations.

One of the nation's five military Services, the Coast Guard is characterized by a unique combination of disciplines which extend far beyond traditional military roles and includes missions such as rescuing distressed mariners, interdicting drug smugglers, combating major oil spills, and conducting joint Homeland Security and Department of Defense operations. Title 14 USC establishes the Coast Guard as "...a military service and a branch of the armed forces of the United States at all times." This order requires the Coast Guard to maintain a state of readiness to function as a specialized service in the Navy in time of war, including fulfillment of U.S. Northern Command support responsibilities when necessary. Additionally, missions derived through international treaties and agreements place further responsibility and demand on the Coast Guard. The United States is obligated to render assistance to persons, vessels or aircraft in distress based on being signatory to several international conventions. Thus the myriad of requirements generated by the Coast Guard's unique military, maritime, and multi-mission nature must be addressed by the Deepwater System.

2. Compelling Federal Government Interests

The *National Strategy for Homeland Security*[23] identifies re-capitalization of the U.S. Coast Guard as one of six major initiatives under Border and Transportation Security, which are necessary to "promote the efficient and reliable flow of people, goods, and services across borders, while preventing terrorists from using transportation conveyances or systems to deliver implements of destruction." DHS pledged continued fiscal support to the re-capitalization of the aging Coast Guard's fleet, as well as targeted improvements in the areas of maritime domain awareness, command and control systems, and shore-side facilities.

Following the terrorist attacks of September 11, 2001, both the Executive Branch and Congress[24] identified homeland security as a top priority. In a letter to the Senate Committee on Budgets, Senators Collins and Lieberman highlighted the importance of not only fully funding but also accelerating the Coast Guard IDS project. Numerous Congressional reports have acknowledged the effective capability and presence of IDS and its necessity to support the wide range of Homeland Security missions. The importance of sustaining, and in many cases enhancing, the

[23] National Strategy for Homeland Security, Office of Homeland Security, July 2002.
[24] Collins/Lieberman Letter to Budget Committee, March 11, 2003.

performance and capability of the various, multi-mission assets that comprise the IDS, allowing the Coast Guard to establish a broader layered defense critical to MDA, has been identified as a key element of a successful Homeland Security strategy.

In recent reports by the Brookings Institution [25], the Coast Guard was identified as one of the lead agencies in neutralizing terrorist threats to the U.S. Homeland. The Institution identified several requirements to fill the gaps remaining in the current homeland security effort, which included building a much stronger Coast Guard, and concluded that:

- The Coast Guard's level of effort for Homeland Security missions has increased radically since September 11th, straining resources and putting pressure on the Service's other missions.
- The Coast Guard's Homeland Security mission will be well served by engaging potential threats offshore and away from US ports.
- The Coast Guard's fleet is aging and becoming obsolete. The Deepwater Program should be sufficiently funded to solve this problem.

3. Efficiency and Effectiveness

America needs a Coast Guard IDS that can effectively and efficiently carry out assigned missions in support of National interests. *The Report of the Interagency Task Force on U.S. Coast Guard Roles and Missions*[26] noted that the Coast Guard performs its vital services in an effective and efficient manner. This executive-level Task Force considered the re-capitalization and modernization of the Deepwater fleet as a near term national priority and cited the Deepwater project as a unique opportunity to develop and field a cost-effective and integrated system of cutters, aircraft, sensors and associated support systems that will meet the Nation's maritime security needs.

Greater interagency coordination and interoperability will further improve efficiency and effectiveness operating within the DHS.

4. Disapproval Impact

The IDS Performance Gap Analysis was accomplished to quantify the gap between the capabilities and performance of the currently proposed Deepwater solution and that required to meet current and forecast mission demand and GPRA performance targets. At the same time, legacy capability has declined more rapidly than anticipated. The system performance target that was established as the baseline was that of the 1998 Deepwater fleet. The goal of the acquisition was not to grow the Coast Guard or even enable the Coast Guard to meet 1998 performance targets, but merely to replace existing assets.

Without an accurate and timely update to the IDS replacement effort, the Coast Guard will be unable to fulfill its crucial Homeland Security obligations. Recent CNA studies[27] reinforced the need to update the current IDS solution. In the 2003 follow-on report, CNA stated, "the current

[25] Protecting the American Homeland: A Preliminary Analysis, May 6, 2002, Michael E. O'Hanlon, Ivo H. Daalder, David L. Gunter, Peter R. Orszag, I.M. Destler, Robert E. Litan, James B. Steinberg.
[26] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999.
[27] The Impact of Post-1998 Coast Guard Deepwater Mission Demands (Nordstrom, Partos, 2002) and Impact of Post-1998 Coast Guard Deepwater Mission Demands: Additional Issues (Nordstrom, 2003) highlighted numerous observations relating to IDS performance.

IDS asset mix would not be capable of fully supporting a nationwide Maritime Security Level 2 (MARSEC 2) condition with simultaneous deployment of a notional asset package to support an overseas military contingency." CNA estimated that it could take nearly twice as many patrol boats as planned to meet the peak demand of a MARSEC 2-plus-contingency situation[28]. In addition, the CNA study concluded that only a small number of aircraft (C-130s in Alaska) in the planned IDS solution were capable of moving National Strike Team or Maritime Safety and Security Team (MSST) resources. This situation would significantly limit options for deploying these assets critical to Homeland Security response efforts.

Section C. Project Boundaries

1. IDS Proposed Acquisition Alternatives

The original Deepwater Mission Analysis Report considered non-material solutions to resolve documented resource gaps. While certain efficiencies may be realized in innovative command and control efforts or other non-material solutions, there is little to suggest that the Coast Guard can avoid acquisition of material solutions to meet mission needs. Updated mission analysis indicates that while technology can certainly provide increased efficiencies, it will not eliminate the need for Coast Guard personnel to go to sea and to engage directly in mission prosecution.

Deepwater is not just "new ships and planes," but an integrated approach to upgrading existing assets while transitioning to newer, more capable platforms with improved C4ISR architecture and innovative logistics support systems. The future capabilities of the Deepwater System need to be designed for flexible and adaptable mission execution based on existing and projected demand, threats and challenges. Greater interagency coordination and interoperability is required in order to improve efficiency and effectiveness operating within DHS. Under DHS, the future IDS must continue to retain the capability to shift rapidly from planned routine at-sea law enforcement operations to unscheduled emergent requirements in order to provide maritime security at U.S. ports and maritime borders. Only multi-mission assets, crewed by well-trained, experienced professionals can efficiently and effectively perform these transitions, which have become the "new normalcy" in Coast Guard operations.

The Deepwater Program primary contract with the Integrated Coast Guard Systems team was awarded on June 25, 2002 and work is in progress to upgrade existing surface and air assets while developing new and more capable platforms including improved systems for command, control, communications, computers, intelligence, surveillance, and reconnaissance and advanced logistics capabilities. The currently proposed baseline Deepwater system consists of three classes of new cutters and their associated small boats, a new and upgraded fixed-wing manned aircraft fleet, a combination of new and upgraded helicopters, and both cutter-based and land-based unmanned aerial vehicles. While certainly a sound foundation upon which to build, this system of systems is geared toward satisfying 1998 legacy Deepwater performance criteria. This proposed system needs to be updated to reflect the realities associated with the Coast Guard transition to the Department of Homeland Security.

[28] Impact of Post-1998 USCG Deepwater Mission Demands by Kent B. Nordstrom and Dana S. Partos, Center For Naval Analyses, December 2003.

2. Acquisition Targets

The original re-capitalization funding target of $300M the first year, followed by an inflation adjusted $500M per year only procures a system performance equivalent to legacy performance back in 1998. The demand for Coast Guard services was outpacing the ability to re-capitalize the Service's fleet of cutters and aircraft before September 11, 2001 and this is even truer today. Due to increased responsibilities within the Department of Homeland Security, the need to sustain core mission effectiveness, and the need to reverse the trend of deteriorating asset material condition and readiness, the re-capitalization of the Coast Guard's inventory of major cutters, aircraft and their supporting systems is now more critical than ever. The near-term priority is to design a flexible, responsive system that is capable of meeting today's threats and demands.

Deepwater program targets are, in reality, manageable risks in cost, schedule and system performance. Cost risk exists due to the reliance on a single contractor. However, cost benefits are just as likely from the single contractor, single industry team approach due to economies of scale and other efficiencies. The Deepwater Program Executive Officer (PEO) is mitigating cost risk items through contract management methods and aggressive use of performance incentives.

Other Deepwater risks include technical and policy issues that could impact system performance. These risk areas include service life extension of certain legacy assets while phasing in new Deepwater assets, manpower and Operations Tempo (OPTEMPO) policy issues, and emerging requirements for anti-terrorism /force protection (AT/FP) and the conduct of missions for combatant commanders during the ongoing war on terrorism[29]. Early planning, policy revisions, and focused resource allocation within the projected Deepwater budget can mitigate each of these issues.

3. Acquisition Goals and Objectives

The objective of the Deepwater acquisition strategy is to maximize operational effectiveness and minimize total ownership cost. These top-level concepts translate to meeting or exceeding legacy deepwater mission effectiveness while moving forward under the targets[30] established in the original Request For Proposal. The Deepwater acquisition strategy calls for the delivery of an entire system of interoperable platforms and supporting systems designed to meet performance-based requirements. The IDS Program is a long-term acquisition, currently designed to achieve full system implementation in 2022. The lack of flexible TOC targets leads to extending out IDS implementation as new mission capabilities such as Chemical and Biological capabilities are added to each new Deepwater asset. The original acquisition goals fall far short in supporting an IDS solution that meets GPRA goals, and does not address post-September 11, 2001 mission demands and capability gaps. This mismatch of original acquisition objectives with current realities may necessitate Office of Management Budget (OMB) A-11 Exhibit 300 actions. The lack of flexible TOC targets leads to extending out IDS implementation as new mission capabilities such as Chemical and Biological Detection capabilities are added to each new Deepwater asset.

[29] Performance Gap Analysis, Iteration #1, 3 September 2003
[30] These targets were $500M/year AC&I; $996M/year OE in 1998 dollars, adjusted annually for inflation.

Section D. Resources

1. Total Acquisition Cost

The original Deepwater MNS bracketed AC&I costs at $7.5B to $15B on an asset per asset replacement basis in FY 1998 dollars. The total estimated AC&I cost projection for the originally proposed 20-year Integrated Deepwater System is approximately $13.5 Billion in 2005 dollars.

2. Priority/Affordability

The Deepwater Program is a top priority within the Department of Homeland Security as evidenced by increased AC&I funding in the Coast Guard's 2004 fiscal budget.[31] Re-capitalization of Deepwater assets is under scrutiny for increases and/or acceleration of implementation as emphasis on Homeland Security necessitates pushing America's maritime borders outward.[32]

The Deepwater Program will be in the forefront in developing the enterprise architecture for Maritime Domain Awareness (MDA), extending MDA sensor coverage, and leveraging MDA architecture to meet its strenuous mission demand. As such, the Deepwater Program will potentially become the standard bearer for the multi-agency enterprise architecture within the Department of Homeland Security.

3. Other Government Agencies

The Coast Guard IDS will routinely engage stakeholders from federal, state, local, tribal, and international governments and the private sector. DHS intra-agency coordination is critical to enhance effectiveness and ensure that IDS architecture efforts and policies are mutually supportive. Open systems architecture, standardization and commonality requirements have been imposed on the IDS System Integrator to ensure interoperability with other government, state, and local agencies including integration requirements with Coast Guard Rescue 21 coastal command and control infrastructure. The Coast Guard's long history of integrated operations with the Navy, and cooperative efforts with the former Customs Service, the Drug Enforcement Agency, the former Immigration and Naturalization Service, and other federal, state and local agencies will be of great benefit in forging new joint competencies and partnerships, to include building coherent information sharing networks within the DHS during the months and years ahead.

Operations and interoperability with DoD is critical to IDS National Defense mission performance. The National Fleet Policy Statement (and various other Navy/Coast Guard MOUs) commits the Coast Guard and the Navy to work together to synchronize their multi-mission platforms, infrastructure, and personnel to provide the highest level of naval and maritime capability. DoD interoperability, compatibility, and commonality of systems and equipment will enhance the probability of realizing economies, and avoid acquiring redundant capabilities.

Some common enterprise initiatives involve the promulgation of DoD policy and strategic direction. The Joint Technical Architecture (JTA) defines standards governing the

[31] Summary of Meeting – Public Session: U.S. Department of Homeland Security, Homeland Security Advisory Council, The Marriott Renaissance Center, Detroit Michigan, October 3, 2003.
[32] Homeland Security Subcommittee Hearing; Statement of Admiral Thomas Collins, May 1, 2003.

implementation of system capabilities and interfaces. The DoD Common Operating Environment (COE) establishes a commonly defined executable environment for interoperable systems. This environment is intended to drive developers of new architectures toward a common set of solutions that work together and complement each other. Deepwater and Rescue 21 C4ISR architectures are being developed in compliance with the DoD COE and C4ISR Architecture Framework (version 2.0) requirements.

Section E. Major Acquisition Designation Criteria

On October 30, 2003, the DHS Investment Review Board (IRB)[33] designated the IDS Program as a DHS Level 1 Investment and approved the strategic direction. The IDS was designated as a top priority program for DHS in the Acquisition Decision Memorandum.

DHS oversight appropriate to this program was tailored to include the following visibility and accountability:

- DHS Program Analysis and Evaluation (PA&E) will establish a reporting system to capture key/critical program/platform activities and attend IDS program reviews (at least quarterly),
- DHS deferred Key Decision Point (KDP) decisions of specific asset/capability types (e.g., production decision for a cutter class) to the Coast Guard Acquisition Executive. Actual or projected changes to the IDS Program that impact cost, schedule or performance (e.g., significant changes to requirements, implementation of strategy) will be cause to notify DHS (PA&E) and schedule an IRB meeting. DHS (PA&E) will provide case-by-case guidance on issues that merit an IRB,
- DHS will be briefed annually on the IDS program.

This updated IDS MNS will be briefed to the DHS JRC. The JRC is expected to validate the IDS MNS and review cross-functional needs and requirements prior to making programmatic recommendations to the IRB. The Deepwater Program meets Level 1 Acquisition Designation Criteria as represented in Integrated Deepwater System (IDS) Program Acquisition Decision Memorandum, dated December 22, 2003 (Annex B).

Section F. Conclusion

The Deepwater Acquisition Strategy is unique in the federal government. Traditionally, major acquisition projects involve purchasing a single type of asset or a specific service. The Deepwater Program breaks with the traditional acquisition process to implement an innovative and unique mission performance-based acquisition approach. The Deepwater Program focuses on the potential mission capability achieved from a complete system of assets and not on the capabilities of specific asset types. This strategy often is referred to as a "system of systems" approach.

The Coast Guard's strategic approach to maritime homeland security places a premium on identifying and intercepting threats well before they reach U.S. shores. This approach necessitates giving Coast Guard crews multiple opportunities to prosecute potential threats in a

[33] Integrated Deepwater System (IDS) Program – Investment Review Board (IRB) Acquisition Decision Memorandum, December 22, 2003, Janet Hale Under Secretary for Management/Acting IRB Chairperson

layered defense extending across the entire maritime domain of domestic waters, border and coastal areas and the high seas and foreign ports. To effectively push the borders outward, the service needs more capable assets with new technology for better surveillance, secure communications and more efficient command and control – and that is what the IDS is designed to provide.

The foregoing discussion documents and substantiates the extent to which Coast Guard operational capability and capacity must grow and change to meet current and forecast mission demand. The Deepwater Sponsors' Performance Gap Analysis, Part I, quantifies this change, and Part II indicates the operational effectiveness impacts associated with varying levels of overall force capability and size.

Simply meeting legacy Deepwater mission performance, based on a 1998 demand, has been revisited as part of this MNS update and deemed insufficient.[34,35] The block obsolescence predicted five years ago is accelerating rapidly. The current proposed IDS force structure falls far short of providing the operational capacity and capability to meet Government Performance and Results Act targets, and it is not responsive to the post-9/11 mission demands, emerging threats and future challenges. This mismatch of the original acquisition objectives with current realities requires an immediate change within the Deepwater System.

[34] *Report of the Interagency Task Force on U.S. Coast Guard the Roles and Missions,* December 3, 1999.
[35] U.S. Coast Guard Deepwater Missions: Current and Projected Requirements and Capabilities b y James R. East, Alarik M. Fritz, Steven W. Klein, and Kent B. Nordstrom, Center for Naval Analyses, September 2000.