



Coast Guard Deepwater Acquisition Programs: Background, Oversight Issues, and Options for Congress

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Summary

The term Deepwater refers to more than a dozen separate Coast Guard acquisition programs for replacing and modernizing the service's aging fleet of deepwater-capable ships and aircraft. Until April 2007, the Coast Guard pursued these programs as a single, integrated acquisition program that was known as the Integrated Deepwater System (IDS) program or Deepwater program for short. Since April 2007, the Coast Guard has pursued them as separate acquisition programs. Deepwater acquisition programs include plans for, among other things, 91 new cutters, 124 new small boats, and 247 new or modernized airplanes, helicopters, and unmanned aerial vehicles (UAVs).

The year 2007 was a watershed year for Deepwater acquisition. The management and execution of what was then the single, integrated Deepwater program was strongly criticized by various observers. House and Senate committees held several oversight hearings on the program. Bills were introduced to restructure or reform the program in various ways. Coast Guard and industry officials acknowledged certain problems in the program's management and execution and defended the program's management and execution in other respects. The Coast Guard announced a number of reform actions that significantly altered the service's approach to Deepwater acquisition (and to Coast Guard acquisition in general). Among these was the change from a single, integrated Deepwater acquisition program to a collection of separate acquisition programs.

The Coast Guard's management of Deepwater acquisition programs, including implementation of recommendations made by the Government Accountability Office (GAO), is a topic of continuing congressional oversight. Additional oversight issues include reporting of information to Congress on Deepwater programs; cost growth in, and budget planning for, Deepwater acquisition programs; a Coast Guard fleet mix analysis that could lead to changes in planned Deepwater asset quantities; and execution of individual Deepwater acquisition programs.

The Coast Guard's proposed FY2012 budget submission states that it "proposes the elimination of the Integrated Deepwater System (IDS) sub-appropriation and disaggregation of the IDS construct from the Coast Guard's Acquisition, Construction and Improvement (AC&I) appropriation.... Consistent with the dissolution of Integrated CG Systems and the disaggregation of the Deepwater Acquisition into asset-based Acquisition Program Baselines, the proposed changes align projects that were formerly grouped under Integrated Deepwater Systems (IDS) with the existing authorized structure for Vessels, Aviation, Shore, Other Equipment, and Personnel and Management."

The Coast Guard's FY2012 budget appears to request \$975.5 million in acquisition funding for Deepwater programs, including \$289.9 million for aircraft, \$512.0 million for surface ships and boats, and \$173.6 million for other items.

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Introduction

This report provides background information and oversight issues for Congress on the Coast Guard's Deepwater acquisition programs for replacing and modernizing the service's aging fleet of deepwater-capable ships and aircraft. The Coast Guard's FY2012 budget appears to request \$975.5 million in acquisition funding for Deepwater programs, including \$289.9 million for aircraft, \$512.0 million for surface ships and boats, and \$173.6 million for other items. Congress's decisions on Deepwater acquisition programs could substantially affect Coast Guard capabilities and funding requirements, as well as contractors involved in these programs.

Background

Deepwater Missions

The Coast Guard performs a variety of missions in the deepwater environment, which generally refers to waters more than 50 miles from shore. These missions include search and rescue, drug interdiction, alien migrant interdiction, fisheries enforcement, marine pollution law enforcement, enforcement of lightering (i.e., at-sea cargo-transfer) zones, the International Ice Patrol in northern waters, overseas inspection of foreign vessels entering U.S. ports, overseas maritime intercept (sanctions-enforcement) operations, overseas port security and defense, overseas peacetime military engagement, and general defense operations in conjunction with the Navy. Deepwater-capable assets are also used closer to shore for various operations.

Origin of Deepwater Acquisition Effort

The Coast Guard initiated the Deepwater acquisition effort in the late 1990s, following a determination by the Coast Guard that many of its existing (i.e., "legacy") deepwater-capable legacy assets were projected to reach their retirement ages within several years of one another. The Coast Guard's legacy assets at the time included 93 aging cutters and patrol boats and 207 aging aircraft. Many of these ships and aircraft are expensive to operate (in part because the cutters require large crews), increasingly expensive to maintain, technologically obsolete, and in some cases poorly suited for performing today's deepwater missions.

Structure of Deepwater Acquisition Effort

Structure Until 2007

Until 2007, the Coast Guard pursued Deepwater acquisition through a single, performance-based, system-of-systems acquisition program that used a private-sector lead system integrator (LSI):

- **System-of-Systems Acquisition.** Rather than replacing its deepwater-capable legacy assets through a series of individual acquisition programs, the Coast Guard initially decided to pursue the Deepwater acquisition effort as an integrated, system-of-systems acquisition, under which a combination of new and

modernized cutters, patrol boats, and aircraft, along with associated C4ISR¹ systems and logistics support, would be procured as a single, integrated package (i.e., a system of systems). The Coast Guard believed that a system-of-systems approach would permit Deepwater acquisition to be optimized (i.e., made most cost effective) at the overall Deepwater system-of-systems level, rather than suboptimized at the level of individual Deepwater platforms and systems.

- **Private-Sector Lead Systems Integrator (LSI).** To execute this system-of-systems acquisition approach, the Coast Guard initially decided to use a private-sector lead system integrator (LSI)—an industry entity responsible for designing, building, and integrating the various elements of the package so that it met the Coast Guard’s projected deepwater operational requirements at the lowest possible cost.² The Coast Guard decided to use a private-sector LSI in part because the size and complexity of the Deepwater program was thought to be beyond the system-integration capabilities of the Coast Guard’s then-relatively small in-house acquisition work force.
- **Performance-Based Acquisition.** The Coast Guard initially pursued the Deepwater program as a performance-based acquisition, meaning that the Coast Guard set performance requirements for the program and permitted the private-sector LSI some latitude in determining how the various elements of the Deepwater system would meet those requirements.

The Coast Guard conducted a competition to select the private-sector LSI for the Deepwater program. Three industry teams competed, and on June 25, 2002, the Coast Guard awarded the role to Integrated Coast Guard Systems (ICGS)—an industry team led by Lockheed Martin and Northrop Grumman Ship Systems (NGSS). ICGS was awarded an indefinite delivery, indefinite quantity (ID/IQ) contract for the Deepwater program that included a five-year baseline term that ended in June 2007, and five potential additional award terms of up to five years (60 months) each. On May 19, 2006, the Coast Guard announced that it was awarding ICGS a 43-month first additional award term, reflecting good but not excellent performance by ICGS. With this additional award term, the contract has been extended to January 2011.

Revised Structure Since 2007

In 2007, as the Coast Guard’s management and execution of the then-integrated Deepwater program was being strongly criticized by various observers, the Coast Guard announced a number of reform actions that significantly altered the service’s approach to Deepwater acquisition (and to acquisition in general). As a result of these reforms, the Coast Guard, among other things, stopped pursuing Deepwater acquisition through a single, performance-based, system-of-systems acquisition program that used a private-sector LSI, and began pursuing Deepwater acquisition as a collection of individual, defined-based acquisition programs, with the Coast Guard assuming the lead role as systems integrator for each:

- **Individual Programs.** Although Deepwater acquisition programs continued (until the FY2012 budget submission) to appear in the budget under the common

¹ C4I stands for command, control, communications, computers, intelligence, surveillance, and reconnaissance.

² For more on private-sector LSIs, see CRS Report RS22631, *Defense Acquisition: Use of Lead System Integrators (LSIs)—Background, Oversight Issues, and Options for Congress*, by Valerie Bailey Grasso.

heading IDS, the Coast Guard since April 2007 has been pursuing Deepwater acquisition programs as individual programs, rather than as elements of a single, integrated program. The Coast Guard states that it is still using a systems approach to optimizing its acquisition programs, including the Deepwater acquisition programs, but that the system being optimized is now the Coast Guard as a whole, as opposed to the Deepwater subset of programs.

- **Coast Guard as System Integrator.** The Coast Guard announced in April 2007 that, among other things, it would assume the lead role as systems integrator for all Coast Guard Deepwater assets (as well as other major Coast Guard acquisitions as appropriate). The Coast Guard is phasing out its reliance on ICGS as a private-sector LSI for Deepwater acquisition, and shifting system-integration responsibilities to itself. To support this shift, the Coast Guard is increasing its in-house system-integration capabilities.
- **Defined-Based Acquisition.** The Coast Guard decided to shift from performance-based acquisition to the use of more-detailed specifications of the capabilities that various Deepwater assets are to have. The Coast Guard states that although this new approach involves setting more-detailed performance specifications, it does not represent a return to minutely detailed specifications such as the Military Specification (MilSpec) system once used in Department of Defense (DOD) acquisition programs. The Coast Guard refers to its new approach as defined-based acquisition.

Reflecting the 2007 change to a collection of separate acquisition programs, the Coast Guard's FY2012 budget submission

proposes the elimination of the Integrated Deepwater System (IDS) sub-appropriation and disaggregation of the IDS construct from the Coast Guard's Acquisition, Construction and Improvement (AC&I) appropriation. Enacting this proposal will further enhance acquisition management and accountability by aligning the appropriations structure with how the projects are managed. This initiative also enhances accountability by establishing a stronger linkage between appropriations and specific asset acquisition projects, promotes better alignment with the authorized appropriation structure, and is a natural outcome of the Coast Guard's ongoing efforts to reform acquisition management and oversight....

Consistent with the dissolution of Integrated CG Systems and the disaggregation of the Deepwater Acquisition into asset-based Acquisition Program Baselines, the proposed changes align projects that were formerly grouped under Integrated Deepwater Systems (IDS) with the existing authorized structure for Vessels, Aviation, Shore, Other Equipment, and Personnel and Management.³

2006 Deepwater Acquisition Program Baseline

Table 1 shows Deepwater assets planned for acquisition under a November 2006 Deepwater Acquisition Program Baseline (APB), and the acquisition cost of these assets in then-year dollars as estimated at that time. As shown in the table, the total acquisition cost of these assets was estimated at the time at \$24.23 billion in then-year dollars. Acquisition funding for Deepwater

³ (Department of Homeland Security, *United States Coast Guard, Fiscal Year 2012 Congressional Justification*, pp. CG-AC&I-3 and CG-AC&I-13)

assets was scheduled at the time to be completed in FY2025, and the buildout of the assets was scheduled at the time to be completed in 2027.

Table I. Deepwater Assets Planned for Acquisition (2006 Baseline)

(with acquisition costs in millions of then-year dollars, as estimated at the time the Acquisition Program Baseline was published)

Qty.	Item	Cost
Air assets		
6	Missionized HC-130J Long Range Surveillance (LRS) aircraft (cost of missionization)	11
16	Modernized and upgraded HC-130H LRS aircraft (cost of modernization and upgrading)	610
36	New HC-144A Medium Range Surveillance (MRS) aircraft (also called Maritime Patrol Aircraft, or MPA) based on the European Aeronautic Defence and Space Company (EADS)/CASA CN-235 Persuader MPA aircraft design	1,706
42	Modernized and upgraded MH-60T Medium Range Recovery (MRR) helicopters (cost of modernization and upgrading)	451
102	Modernized and upgraded HH-65C Multi-Mission Cutter Helicopters (MCHs) (cost of modernization and upgrading)	741
45	New vertical take-off unmanned aerial vehicles (VUAVs), also called unmanned aircraft systems (UASs)	503
Subtotal air assets		4,022
Surface assets		
8	New National Security Cutters, or NSCs, displacing about 4,000 tons each (i.e., ships analogous to today's high-endurance cutters)	3,450
25	New Offshore Patrol Cutters, or OPCs, displacing about 3,200 tons each (i.e., ships analogous to today's medium-endurance cutters)	8,098
46	New Fast Response Cutters—Class A (FRC-As) displacing roughly 200 tons each, to replace most of the Coast Guard's existing 110-foot Island-class patrol boats	2,613
12	New Fast Response Cutters—Class B (FRC-Bs) displacing roughly 200 tons each, to replace the rest of the Coast Guard's existing 110-foot Island-class patrol boats	593
27	Medium Endurance Cutters (MECs) upgraded with a Mission Effectiveness Project (MEP) (cost of upgrading)	317
17	Patrol boats (PBs) upgraded with a MEP (cost of upgrading)	117
124	New small boats for Deepwater cutters, including 33 Long-Range Interceptors (LRIs) and 91 Short-Range Prosecutors (SRPs)	110
8	110-foot Island-class PBs converted into 123-foot PBs (cost of conversion; program not successful and halted after 8 boats)	95
Subtotal surface assets		15,393
C4ISR systems		
—	Common operational picture	1,071
—	Shore systems	102
—	Cutter upgrades	180
Subtotal C4ISR systems		1,353
Integration and oversight		

Qty.	Item	Cost
—	System engineering and oversight	1,118
—	Government program management	1,518
—	Technology obsolescence prevention	345
—	Logistics and infrastructure upgrades	481
	Subtotal integration and oversight	3,462
	TOTAL	24,230

Source: Deepwater Acquisition Program Baseline (APB) approved November 7, 2006.

Although **Table 1** shows 12 FRCs and 46 FRC-Bs, the Coast Guard's Request for Proposals (RFP) for the FRC-B program included options for building up to 34 FRC-Bs (which, if exercised, would reduce the number of FRC-As to as few as 24). The Coast Guard has also stated that if the FRC-Bs fully meet the requirements for the FRC, all 58 of the FRCs might be built to the FRC-B design.

A version of the baseline approved by the Department of Homeland Security (DHS) in May 2007 shows some different quantities compared to those shown above—specifically, 20 patrol boats upgraded with a MEP (rather than the 17 shown above); a figure to be determined for an unmanned aerial system (UAS) (rather than 45 VUAVs shown above); and no 110/123-foot modernized Island class patrol boats (rather than the 8 shown above).⁴

Criticism of Deepwater Management in 2007

The management and execution of the then-integrated Deepwater program was strongly criticized in 2007 by the DHS Inspector General (IG),⁵ the Government Accountability Office (GAO),⁶ the

⁴ Government Accountability Office, *Coast Guard[:] Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, p. 4.

⁵ See, for example, Statement of Richard L. Skinner, Inspector General, U.S. Department of Homeland Security, Before the Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, U.S. House of Representatives, "Deepwater: 120-Day Update," June 12, 2007; as well as Department of Homeland Security, Office of Inspector General, *Acquisition of the National Security Cutter*, OIG -07-23, January 2007 (available online at http://www.dhs.gov/xoig/assets/mgmttrpts/OIG_07-23_Jan07.pdf); Department of Homeland Security, Office of Inspector General, 110'/123' Maritime Patrol Boat Modernization Project, OIG -07-27, January 2007 (available online at http://www.dhs.gov/xoig/assets/mgmttrpts/OIG_07-27_Feb07.pdf); U.S. Department of Homeland Security, Office of Inspector General, *Major Management Challenges Facing the Department of Homeland Security (Excerpts from the FY 2006 DHS Performance and Accountability Report)*, December 2006. (OIG-07-12); and U.S. Department of Homeland Security, Office of Inspector General, *Improvements Needed in the U.S. Coast Guard's Acquisition and Implementation of Deepwater Information Technology Systems*, August 2006. (Office of Information Technology, OIG-06-55).

⁶ See, for example, Government Accountability Office, *Coast Guard[:] Challenges Affecting Deepwater Asset Deployment and Management and Efforts to Address Them*, GAO-07-874, June 2007; Government Accountability Office, *Coast Guard[:] Status of Efforts to Improve Deepwater Program Management and Address Operational Challenges*, Statement of Stephen L. Caldwell, Acting Director Homeland Security and Justice Issues, Testimony Before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives, GAO-07-575T, March 8, 2007; and Government Accountability Office, *Coast Guard[:] Coast Guard Efforts to Improve Management and Address Operational Challenges in the Deepwater Program*, Statement of Stephen L. Caldwell, Acting Director Homeland Security and Justice Issues, Testimony Before the Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard, Committee on Commerce, Science and Transportation, U.S. Senate, GAO-07-460T, February 14, 2007.

Defense Acquisition University (DAU) (whose analysis was requested by the Coast Guard),⁷ several Members of Congress from committees and subcommittees that oversee the Coast Guard, and other observers. House and Senate committees held several oversight hearings on the program, at which non-Coast Guard, non-ICGS witnesses, and several Members of Congress strongly criticized the management and execution of the program. Criticism focused on overall management of the program, and on problems in three cutter acquisition efforts—the NSC, the modernization of the 110-foot patrol boats, and the FRC. For a more detailed discussion, see **Appendix A**.

Coast Guard Reform Actions in 2007

In 2007, as the Coast Guard’s management and execution of the then-integrated Deepwater program was being strongly criticized by various observers, the Coast Guard announced a number of reform actions that significantly altered the service’s approach to Deepwater acquisition (and to Coast Guard acquisition in general). Among these was the change from a single, integrated Deepwater acquisition program to a collection of separate Deepwater acquisition programs. For a more detailed discussion, see **Appendix B**.

Examples of Deepwater Deliveries and Other Milestones⁸

Examples of deliveries and other milestones for Deepwater assets include the following:

- **NSC:** The Coast Guard commissioned the first and second NSCs, *Bertholf* and *Waesche*, into service on August 4, 2008, and May 7, 2010, respectively. The third, *Stratton*, completed builder’s trials on July 1, 2011, and was 94% complete as of August 8, 2011.
- **OPC:** The Coast Guard released the draft specification for the OPC on May 2, 2011.
- **FRC:** The first FRC was launched (meaning that it was put into the water for the final phase of its construction) on April 21, 2011. The Coast Guard testified in April 2011 that “delivery of the first FRC is scheduled for the fall of 2011.”⁹ As of December 22, 2010, the first six FRCs were 85%, 68%, 55%, 37%, 12%, and 1% complete, respectively. As of May 24, 2011, the Coast Guard stated that “production progress continues on hulls 2-6.”
- **HC-144A:** The first HC-144A Ocean Sentry MPA aircraft was accepted by the Coast Guard on March 10, 2008. On February 6, 2009, an HC-144A officially stood watch for the first time on a scheduled operational patrol. The HC-144A achieved Initial Operational Capability (IOC) on April 22, 2009. The 12th HC-144A was delivered on July 29, 2011.

⁷ Defense Acquisition University, *Quick Look Study, United States Coast Guard Deepwater Program*, February 2007.

⁸ Except where indicated, information in this section is taken from the Coast Guard Acquisition Directorate’s web page on acquisition programs and projects (<http://www.uscg.mil/acquisition/programs/acquisitionprograms.asp>).

⁹ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, p. 7.

- **HC-130J/H:** The first missionized HC-130J LRS aircraft was accepted by the Coast Guard on February 29, 2008; the sixth was accepted on May 18, 2010. Two more HC-130Js are on order.¹⁰ As of May 31, 2011, new surface search radars had been installed on 23 of 23 HC-130H aircraft.
- **MH-60T:** The first production MH-60T Jayhawk Medium Range Recovery Helicopter was delivered on June 3, 2009, and the MH-60T achieved Initial Operational Capability (IOC) on October 1, 2009. As of July 6, 2011, 20 had been delivered to the Coast Guard.
- **MH-65C/D:** The Coast Guard received its first MH-65C Multi-Mission Cutter Helicopter (MCH) in October 2007. As of August 3, 2011, the Coast Guard had configured and delivered 83 MH-65Cs. The 15th MH-65D was delivered on July 29, 2011.

Deepwater Acquisition Funding

Prior-Year Funding

Table 2 below shows prior-year acquisition funding for Deepwater acquisition programs.

Table 2. Prior-Year Acquisition Funding For Deepwater Programs

(in millions of dollars, rounded to nearest tenth)

	Prior ^a	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Request	n/a	320.2	500.0	500.0	678	966.0	934.4	836.9	990.4	1,051.5	1,112.5
Appropriation	n/a	320.2	478.0	668.2	724.0	933.1	1065.9	783.3	1034.0	1,123.0	1,266.5
Rescissions	n/a		3.1	57.6	38.9	98.7		132.4			
Transfers	n/a				49.7	77.8	78.7				
Supplemental appropriations	n/a					124.2					
Total^b	117.0	320.2	474.9	610.6	734.8	1036.4	1144.6	650.8	1034.0	1,123.0	1,266.5

Source: Prepared by CRS using Coast Guard data provided on January 29, 2007 (FY2007 and prior years), and FY2008-FY2011 appropriations acts. Totals may not add due to rounding.

Note: n/a=not available.

a. Pre-award funding prior to 2002.

b. Excludes HC-130J funding prior and airborne use-of-force funding prior to FY2007. The figure for FY2010 excludes \$4.0 million funding for High Endurance Cutter sustainment and \$27.3 million in funding for polar icebreaker sustainment. Although these funds were appropriated in FY2010 under the surface category of the Integrated Deepwater System (IDS), the Coast Guard, as part of its FY2011 budget display of its Acquisition, Construction and Improvement (AC&I) account, shows these two line items outside the IDS collection of line items.

¹⁰ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, p. 8.

FY2012 Acquisition Funding Requests

Table 3 shows acquisition funding requested for Deepwater programs for FY2012. As mentioned earlier, reflecting the 2007 change to a collection of separate acquisition programs, the Coast Guard's FY2012 budget submission

proposes the elimination of the Integrated Deepwater System (IDS) sub-appropriation and disaggregation of the IDS construct from the Coast Guard's Acquisition, Construction and Improvement (AC&I) appropriation. Enacting this proposal will further enhance acquisition management and accountability by aligning the appropriations structure with how the projects are managed. This initiative also enhances accountability by establishing a stronger linkage between appropriations and specific asset acquisition projects, promotes better alignment with the authorized appropriation structure, and is a natural outcome of the Coast Guard's ongoing efforts to reform acquisition management and oversight....

Consistent with the dissolution of Integrated CG Systems and the disaggregation of the Deepwater Acquisition into asset-based Acquisition Program Baselines, the proposed changes align projects that were formerly grouped under Integrated Deepwater Systems (IDS) with the existing authorized structure for Vessels, Aviation, Shore, Other Equipment, and Personnel and Management.¹¹

As a matter of convenience, **Table 3** arranges the FY2012 requests for Deepwater acquisition programs in the Deepwater budget-presentation format used in FY2011 and prior years.

¹¹ (Department of Homeland Security, *United States Coast Guard, Fiscal Year 2012 Congressional Justification*, pp. CG-AC&I-3 and CG-AC&I-13)

Table 3. FY2012 Acquisition Funding Requested for Deepwater Programs

(in millions of dollars, rounded to nearest tenth)

Program	FY12 requested^a
Maritime Patrol Aircraft (MPA)	129.5
HH-60 Conversion Projects	74.4 ^b
HH-65 Conversion/Sustainment Projects	24.0
HC-130H Conversion/Sustainment Projects	62.0
HC-130J Fleet Introduction	0
Subtotal aircraft	289.9
National Security Cutter (NSC)	77.0
Offshore Patrol Cutter (OPC)	25.0
Fast Response Cutter (FRC)	358.0
Deepwater small boats	5.0
Medium-endurance cutter sustainment	47.0
Patrol boats sustainment	0
Subtotal surface ships	512.0
Government program management	35.0
Systems engineering and integration	17.1
C4ISR	34.5
Deepwater logistics	87.0 ^c
Technology obsolescence prevention	0
Subtotal other	173.6
TOTAL	975.5

Source: Table prepared by CRS based on Coast Guard FY2012 budget submission. C4ISR means Command and control, communications, computers, intelligence, surveillance and reconnaissance.

- a. The Coast Guard's FY2012 budget submission states: "The Coast Guard FY 2012 budget proposes the elimination of the Integrated Deepwater System (IDS) sub-appropriation and disaggregation of the IDS construct from the Coast Guard's Acquisition, Construction and Improvement (AC&I) appropriation. Enacting this proposal will further enhance acquisition management and accountability by aligning the appropriations structure with how the projects are managed. This initiative also enhances accountability by establishing a stronger linkage between appropriations and specific asset acquisition projects, promotes better alignment with the authorized appropriation structure, and is a natural outcome of the Coast Guard's ongoing efforts to reform acquisition management and oversight... Consistent with the dissolution of Integrated CG Systems and the disaggregation of the Deepwater Acquisition into asset-based Acquisition Program Baselines, the proposed changes align projects that were formerly grouped under Integrated Deepwater Systems (IDS) with the existing authorized structure for Vessels, Aviation, Shore, Other Equipment, and Personnel and Management." (*Department of Homeland Security, United States Coast Guard, Fiscal Year 2012 Congressional Justification*, pp. CG-AC&I-3 and CG-AC&I-13.)
- b. Includes \$56.1 million for HH-60 conversion projects and \$18.3 million for a project called CGNR 6017 to convert a retired Navy SH-60F helicopter into a Coast Guard MH-60T helicopter, so as to replace a Coast Guard MH-60T lost in a crash in 2010.
- c. The Coast Guard's FY2012 budget submission states: "This is the first submission for CG-LIMS under the post-Integrated Deepwater Systems construct. Previous work managed under this program was conducted under the Deepwater Logistics Acquisition Project. Deepwater Logistics was disaggregated into CG-LIMS within the "Other" sub-appropriation and Major Acquisition Systems Infrastructure (MASI) within the 'Shore and Aids to Navigation' subappropriation." The requested FY2012 figure shown in this table for Deepwater Logistics is the sum of the FY2012 funding requests for CG-LIMS (\$6.5 million) and for MASI projects relating to the NSC (\$18 million), the FRC (\$57 million), and the MPA (\$5.5 million).

Oversight Issues for Congress

Deepwater acquisition programs have been a focus of congressional oversight for several years. In support of this oversight activity, GAO for several years has been assessing, providing reports and testimony on, and making recommendations for Coast Guard management and execution of Deepwater acquisition programs. The Coast Guard has implemented many of GAO's recommendations.

Specific Deepwater oversight issues have evolved over time in response to developments in Deepwater acquisition programs. Below are some current Deepwater oversight issues, particularly as detailed in recent GAO reporting.

Overall Management of Deepwater Acquisition Programs

Coast Guard Perspective

The Coast Guard testified in April 2011 that:

In recent years, the Coast Guard has made significant changes to its acquisition enterprise to increase the efficiency and efficacy of our programs. We have consolidated our acquisition, contracting, foreign military sales, and research and development functions under the Acquisition Directorate to support timely delivery of complex and interoperable cutters, boats and aircraft to our frontline forces. The Coast Guard Acquisition Directorate has reclaimed a leadership role in systems integration at all levels, and is now the Systems Integrator for all major and non-major acquisition projects across the Service....

ACQUISITION TODAY

The Acquisition Directorate was established nearly four years ago through the integration of programs previously governed under Integrated Deepwater Systems and the Service's legacy acquisition programs. Since then, we have progressed as an organization, and we are implementing effective processes and improving our project management capability and capacity.

The Acquisition Directorate established itself as a learning organization, building on our experiences and incorporating relevant lessons learned and best practices from within and outside of the Coast Guard. We are committed to sound management and comprehensive oversight of all aspects of the acquisition process by leveraging the expertise of our acquisition workforce, technical authorities and governmental partners. The acquisition reform measures recently enacted in the Coast Guard Authorization Act of 2010 provide the Coast Guard with the needed tools and authorities to build upon the efforts that were already underway to enhance our acquisition programs. The Coast Guard has ensured that compliance with the Act's requirements is a priority, and we continue to make progress in implementing these required programmatic changes.

The Coast Guard has always adapted to meet the needs of the nation, whether those needs are well-known and long-standing—saving lives, enforcing federal law, protecting the marine environment, and contributing to national security—or responding to emergent threats. We have been, and will always be, America's maritime guardians, safeguarding the nation's maritime interests. However, as we face new threats, we must be prepared to adapt our tactics and processes to meet mission requirements. Recapitalization of our aging, costly-to-

maintain assets and infrastructure is critical to meeting current missions as well as ensuring that we are ready for the future. Due in large part to this Subcommittee's efforts, we are creating a more unified and agile organization focused on the sustained delivery of mission support to enhance mission execution.

The Acquisition Directorate is actively working with our mission support partners—who also act as technical authorities for our ongoing acquisition programs—to provide efficient and effective logistics and maintenance support to our assets in the field.

These organizational changes have come in concert with the significant changes in our acquisition processes and project management, in which the Department of Homeland Security (DHS) and this Subcommittee have played integral roles. Consolidation of the Acquisition Directorate, assumption of the Systems Integrator responsibilities and implementation of the recently released Blueprint for Continuous Improvement, Version 5.0, have better equipped us to manage cost, schedules, and contractor performance. We have achieved several accomplishments in key areas:

Coast Guard as the Systems Integrator

The Coast Guard Acquisition Directorate is now the Systems Integrator for all Coast Guard acquisition projects. Our contract with Integrated Coast Guard Systems (ICGS), a joint venture of Northrop Grumman and Lockheed Martin, expired in January 2011 and will not be renewed. As Systems Integrator, the Coast Guard is responsible for all phases in the lifecycle of its assets, from concept development to decommissioning.

We are carrying out these responsibilities through active collaboration with our technical authorities, who set technical standards for the projects, and project sponsors who set the requirements.

The Asset Project Office (APO) was added to the Acquisition Directorate last year to ensure new surface assets smoothly transition from acquisition to sustainment by integrating life cycle support early in the acquisition process, and establishing a strong link between the acquisition and maintenance communities.

Documentation

Major systems acquisitions are complex and require disciplined processes and procedures. In 2010, the Acquisition Directorate completed a comprehensive revision of the Coast Guard's Major Systems Acquisition Manual (MSAM), which defines policies and procedures for project managers to plan, coordinate and execute major systems acquisition projects. The MSAM is closely aligned with DHS acquisition management policy Directive 102-01. The revised MSAM ensures that uniform procedures for acquisition planning and project management are applied to every major systems acquisition, aligning the Coast Guard with the requirements of the Coast Guard Authorization Act of 2010, our Department's acquisition management policy and processes, and federal acquisition rules and procedures. We have made significant progress in ensuring that acquisition projects already underway comply with MSAM policies.

In 2010 we also released an updated strategic plan, the Blueprint for Continuous Improvement, Version 5.0—the top-level planning document for the Coast Guard's acquisition enterprise for the next two years. It builds on the action plans included in previous versions by shifting toward a performance measurement and management structure. Furthermore, this plan fits within a broader Mission Support plan, recently signed, that addresses all aspects of support for our people, systems, and assets.

Role of Governance and Oversight

The Coast Guard's revitalized and improved acquisition organization has been informed and aided by the support of this Subcommittee, DHS and the Government Accountability Office. Effective oversight requires well-defined and repeatable processes, and we have worked hard during the last few years to improve our transparency to Congress and the public. In addition, this Subcommittee was closely involved in developing reforms to our acquisition program that were enacted as part of the Coast Guard Authorization Act of 2010. We are working diligently to institute these reforms, which build on programmatic improvements that the Coast Guard had begun implementing prior to the Act's passage.

We have also benefited from the guidance provided by DHS as the Coast Guard's acquisition decision authority. The Department's Acquisition Lifecycle Framework provides the Coast Guard with a disciplined, phased acquisition approach and governance by department-level Acquisition Review Boards, which evaluate the direction of each program according to consistent criteria. This oversight function not only ensures Coast Guard acquisition programs are soundly conceptualized, developed and managed, but also fosters a strong collaborative component-department relationship. The acquisition process support and clear guidance provided by the Department's Office of the Chief Procurement Officer and Acquisition Program Management Division have played a considerable role in the maturation of the Coast Guard's Acquisition Directorate as a cost-conscious and milestone-driven acquisition organization.

Organizational Realignment and Partnerships

A key component of the reorganized and revitalized acquisition organization is the strong relationships forged with our technical authorities in the Coast Guard's mission support community, including Human Resources; Engineering and Logistics; and Command, Control, Communications, Computers and Information Technology (C4IT). We have institutionalized collaborative partnerships with these authorities in their roles as our technical authorities for the platforms and mission systems the acquisition enterprise produces and delivers.

We continue to benefit from a robust partnership with the U.S. Navy, leveraging its expertise in acquisition processes, common systems planning, engineering, and testing.

While the Coast Guard maintains its position as the final authority for asset and system certification, we are committed to seeking out independent validation by third-party experts. These experts provide valuable input to the Coast Guard's own certification process, allowing our technical staff and other professionals to make better-informed decisions regarding designs and operational capabilities of assets and systems....

ACQUISITION WORKFORCE

The Coast Guard has been able to make accomplishments in the acquisition field over the past year due in large part to the quality of our people and the great work that they do. The Acquisition Directorate has placed a tremendous emphasis on ensuring workforce quality through professional development and retention, as well as enhancing training and certification opportunities for our acquisition personnel. Project managers for all major acquisition projects within the Acquisition Directorate have attained DHS Level III program manager certification. Both military and civilian Level III program managers have risen through the ranks of our acquisition organization, learning from their leaders, tapping into previous experience in other programs, and increasing leadership continuity in the acquisition enterprise.

In addition to maintaining a trained and certified workforce, the expedited hiring authority provided in the Coast Guard Authorization Act of 2010 proved vital to filling many critical civilian positions with individuals who have the appropriate acquisition experience and capabilities. The Service is also establishing military and civilian career paths within the acquisition enterprise to give members of our workforce the opportunity to establish themselves in the acquisition field....

The motto of the Coast Guard's Acquisition Directorate states, "Mission execution begins here." Our job is to recapitalize the Coast Guard, and we are tasked with the responsibility of delivering the highest level of readiness in a sustainable manner. The dedicated efforts of our acquisition workforce, combined with guidance from DHS, the Administration and Congress, have had a lasting impact on Coast Guard men and women serving in the field. We have processes and procedures in place to ensure successful program management and oversight, and we have demonstrated their effectiveness. By adhering to and improving upon what we now have in place, we will be able to successfully meet and address any future challenges and deliver assets and systems with capabilities to meet our evolving mission needs.¹²

GAO Perspective

The July 2011 GAO report states:

The Coast Guard continues to strengthen its acquisition management capabilities in its role of lead systems integrator and decision maker for Deepwater acquisitions. We recently reported that the Coast Guard updated its *Major Systems Acquisition Manual* in November 2010 to better reflect best practices, in response to our prior recommendations, and to more closely align its policy with the DHS Acquisition Management Directive 102-01. We also reported that according to the Coast Guard, it currently has 81 interagency agreements, memorandums of agreement, and other arrangements in place, primarily with DOD agencies, which helps programs leverage DOD expertise and contracts. To further facilitate the acquisition process, the Coast Guard's Acquisition Directorate has increased the involvement of the Executive Oversight Council as a structured way for flag-level and senior executive officials in the requirements, acquisition, and resources directorates, among others, to discuss programs and provide oversight on a regular basis.

In addition to these efforts to strengthen its management capabilities, the Coast Guard has significantly reduced its relationship with ICGS. ICGS's remaining responsibilities include completing construction of the third NSC and a portion of the C4ISR project. In moving away from ICGS, the Coast Guard has awarded fixed-price contracts directly to prime contractors. For example, since our last report in July 2010, the Coast Guard: (1) awarded a sole source fixed price contract for the fourth NSC and long lead materials for the fifth NSC to Northrop Grumman Shipbuilding Systems, (2) exercised fixed price options for four additional FRCs on the contract with Bollinger Shipyards, and (3) awarded a fixed price contract to EADS for three MPAs with options for up to six additional aircraft, following a limited competition in which EADS made the only offer. In addition, the Coast Guard has developed acquisition strategies intended to inject competition into future procurements where possible. For example, the Coast Guard is planning to buy a "reprocurement data licensing package" from Bollinger Shipyards. This information package, according to project officials, is expected to provide the Coast Guard with the specifications to allow full and

¹² [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, pp. 1-3, 6, 12.

open competition of future FRCs. Our previous work has shown that when the government owns technical specifications, it does not need to rely on one contractor to meet requirements. As part of its acquisition strategy for the OPC, the Coast Guard plans to award multiple preliminary design contracts and then select the best value contract design for a detailed design and production contract. This planned acquisition strategy will also include an option for a data and licensing package, similar to the FRC. In May 2011, the Coast Guard released a draft of the OPC specifications for industry review in advance of releasing a request for proposals, currently planned to occur in the fall of 2011. Lastly, the Coast Guard is in the process of holding a competition for the over-the-horizon cutter small boat through a small business set-aside acquisition approach.¹³

Reporting of Information to Congress

GAO Perspective

The July 2011 GAO report stated:

As part of its role in program execution, the Coast Guard is gaining a better understanding of each asset's cost, schedule, and technical risks, but not all of this information is transparent to Congress. The Coast Guard maintains two different quarterly reports to track information on its major acquisitions, including narrative and mitigation actions pertaining to risks, and Coast Guard officials told us that the same database is used to populate both reports. One is the Quarterly Project Report which is an internal acquisition report used by Coast Guard program managers. The other, known as the Quarterly Acquisition Report to Congress (QARC), was required by various appropriations laws to be submitted to the congressional appropriations committees and to rank on a relative scale the cost, schedule, and technical risks associated with each acquisition project. We found that this statutory requirement is no longer in effect. However, the Coast Guard and DHS continue to submit the QARC pursuant to direction in committee and conference reports and the Coast Guard's Major Systems Acquisition Manual. These committee and conference reports generally reiterate an expectation that the Coast Guard submit the QARC by the 15th day of the fiscal quarter.

We found that the Coast Guard's fiscal year 2010 QARCs did not always include risks identified in the Quarterly Project Reports. The Coast Guard's *Major Systems Acquisition Manual* states that the QARC incorporates the Quarterly Project Report for each major acquisition project. The Quarterly Project Report includes, among other things, the top three project risks. In comparing both sets of reports—the Quarterly Project Report and the QARC—from fiscal year 2010, we found that over 50 percent of medium and high risks identified in the internal Quarterly Project Reports were not included in the QARC. For example, the Coast Guard reported to Congress that the OPC program had no risks in fiscal year 2010, but several were identified in the internal report—including concerns about affordability. In addition, for all of fiscal year 2010, the Coast Guard reported no risks for the MPA project in the QARC even though several were identified in the internal report.

Before transmittal to Congress, the QARCs are reviewed by officials within the Coast Guard's resource directorate, the DHS Chief Financial Officer's office, and the Office of Management and Budget. Resource directorate officials told us they do not include risks in the QARC if those risks contradict the Coast Guard's current budget request. For example, the resource directorate did not include the risk related to spare parts for the MPA in the

¹³ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 28-29.

fiscal year 2010 reports to Congress because the Coast Guard did not request funding for spare parts. DHS officials told us that they do not remove medium and high risks from the report. Office of Management and Budget officials stated that they will discuss several items with the Coast Guard, including factors that the agency may want to consider with regard to the medium and high risks identified in their draft submissions, but that the Office of Management and Budget does not direct the Coast Guard to remove medium or high risks from the reports before they are transmitted. We could not obtain documentation to determine at what point in the review process the decision is made to not include risks.

For all four quarters of fiscal year 2010, the QARC was submitted consistently late. And as of May 2011, the Coast Guard had not submitted the first quarter fiscal year 2011 report to Congress—a delay of at least 4 months—but the second quarter fiscal year 2011 internal report was already complete. According to senior Coast Guard acquisition directorate officials, the QARC is intended to be the program manager’s communication with Congress about risks. However, when risks are not included, the Coast Guard is not presenting to Congress a complete and timely picture of the risks some assets face.¹⁴

The report also states:

To help ensure that Congress receives timely and complete information about the Coast Guard’s major acquisition projects, we recommend that the Commandant of the Coast Guard and the Secretary of the Department of Homeland Security:

- include in the project risk sections of the Quarterly Acquisition Report to Congress the top risks for each Coast Guard major acquisition, including those that may have future budget implications such as spare parts; and
- submit the Quarterly Acquisition Report to Congress by the 15th day of the start of each fiscal quarter.¹⁵

The report also states:

To help ensure that it receives timely and complete information about the Coast Guard’s major acquisition projects, Congress should consider enacting a permanent statutory provision that requires the Coast Guard to submit a quarterly report within 15 days of the start of each fiscal quarter on all major Coast Guard acquisition projects and require the report to rank for each project the top five risks and, if the Coast Guard determines that there are no risks for a given project, to state that the project has no risks. In addition, Congress should consider restricting the availability of the Coast Guard’s Acquisition, Construction and Improvements appropriation after the 15th day of any quarter of any fiscal year until the report is submitted.¹⁶

¹⁴ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 43-44.

¹⁵ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, p. 50.

¹⁶ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, p. 51.

Cost Growth, Schedule Delays, and Budget Planning

Coast Guard Perspective

Regarding estimated costs for its various acquisition programs (not just Deepwater acquisition programs), the Coast Guard testified in April 2011 that:

The [Coast Guard's] Capital Investment Plan (CIP) estimates Acquisition, Construction and Improvement (AC&I) funding levels from FY 2012 through FY 2016 for the program of record for each acquisition project. The plan includes the President's Request for FY 2012, the estimated cost of completion (identified as the Total Acquisition Cost), estimated funding levels for fiscal years 2013 through 2016, and estimated completion dates. The Total Acquisition Costs and estimated completion date identified in the CIP are based upon the cost estimates and schedules associated with the latest DHS-approved project-specific Acquisition Program Baseline (APB) when available, or the Integrated Deepwater System APB for acquisitions that do not yet have a DHS-approved project APB.

Funding levels included in the CIP are subject to change based upon adjustments to fiscal guidance, congressional action, changes to the Coast Guard's strategic plan, as well as direction provided by DHS leadership, including Future Years Homeland Security Programs (FYHSP)...

As the Coast Guard faces obsolescence across its fleet of aging air and surface assets, C4ISR, and shore infrastructure, the Coast Guard must carefully manage resources to ensure funding is allocated toward its highest priority requirements. The Coast Guard has established a senior level governance body, known as the Executive Oversight Council, to provide guidance and direction to ensure acquisition resources target the Service's highest priority recapitalization needs and are leveraged to best achieve cost, schedule, and performance objectives.¹⁷

An August 30, 2010, press report quoted Admiral Robert Papp, the Commandant of the Coast Guard, as acknowledging that the Coast Guard's ability to acquire Deepwater assets within budgeted costs will depend in part on factors that the Coast Guard does not control:

"We can't control the ups and downs of the economy, the price of steel and other things, so there could be [added] costs that occur," he said. "A lot of acquisition pricing depends upon a steady stream of funding. If you delay a ship or you delay the award of a contract for a year or if you don't get the funding through Congress, it adds costs in the out years ... Maybe the whole project doesn't fit within that original advertised cost. We'll be working very hard to bring it in within cost."¹⁸

GAO Perspective

The July 2011 GAO report states that

¹⁷ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, pp. 4, 12.

¹⁸ Cid Standifer, "Papp: Deepwater Cost Increases May Be Out Of Coast Guard's Control," *Inside the Navy*, August 30, 2010. Ellipses and bracketed material as in original.

The Deepwater Program as a whole continues to exceed the cost and schedule baselines approved by DHS in May 2007, but several factors preclude a solid understanding of the true cost and schedule of the program. The Coast Guard has developed baselines for some assets, most of which have been approved by DHS, that indicate the estimated total acquisition cost could be as much as \$29.3 billion, or about \$5 billion over the \$24.2 billion baseline. But additional cost growth is looming because the Coast Guard has yet to develop revised baselines for all the Deepwater assets, including the Offshore Patrol Cutter (OPC)—the largest cost driver in the Deepwater Program. In addition, the Coast Guard's most recent 5-year budget plan, included in DHS's fiscal year 2012 budget request, indicates further cost and schedule changes not yet reflected in the asset baselines. The reliability of the cost estimates and schedules for selected assets is also undermined because the Coast Guard did not follow key best practices for developing these estimates. Coast Guard and DHS officials agree that the annual funding needed to support all approved Deepwater baselines exceeds current and expected funding levels in this fiscal climate. This contributes to churn in program baselines when programs are not able to execute schedules as planned. The Coast Guard's acquisition directorate has developed several action items to help address this mismatch by prioritizing acquisition program needs, but these action items have not been adopted across the Coast Guard.

The estimated total acquisition cost of the Deepwater Program, based on approved program baselines as of May 2011, could be as much as approximately \$29.3 billion, or about \$5 billion more than the \$24.2 billion approved by DHS in 2007. This represents an increase of approximately 21 percent. As of May 2011, DHS had approved eight revised baselines from the 2007 program and the Coast Guard had approved two based on a delegation of approval authority from DHS. The increase in acquisition cost for these programs alone is about 43 percent. Table 2 compares each Deepwater asset's acquisition cost estimate from the 2007 program baseline with revised baselines, if available.

Table 2: Increased Total Acquisition Cost Estimates for Deepwater Assets with Approved Baselines as of May 2011 (Then-Year dollars in millions)

Asset	2007 baseline	Revised baseline ^a	Percentage change from 2007 baseline to revised baseline
NSC	\$3,450	\$4,749	38
FRC	3,206	4,243	32
OPC	8,098	No revised baseline	N/A
Cutter/Small Boats	110	No revised baseline ^b	N/A
Medium Entrance Cutter Sustainment	317	321	1
Patrol Boat Sustainment	117	194	66
MPA	1,705	2,400	41
HC-130J ^c	11	176	1500
HC-130H	610	745	22
HH-65 ^d	741	1242	68
HH-60	451	487	8
UAS	503	No revised baseline	N/A
C4ISR	1,353	2,522	86
Other Deepwater Costs ^e	3,557	No new baseline will be developed	N/A
Total	24,230	29,347	21

Source: GAO analysis of Coast Guard data.

Note: If the revised baselines present both threshold costs (the maximum cost allowable before a breach occurs) and objective costs (the minimum cost expected), threshold costs are used. An acquisition program baseline breach of cost, schedule, or performance is an inability to meet the threshold value of the specific parameter.

^a When a revised baseline is not available, the 2007 baseline cost is carried forward for calculating the total revised baseline cost.

^b The cutter small boat program includes two different iterations of small boats. Only one had an approved revised baseline as of May 2011.

^c The acquisition costs are related to the mission system. The original HC-130J baseline only included costs associated with the fleet introduction of missionized aircraft and did not include the cost of acquiring the mission system and logistics support for the first six aircraft, and the revised baseline corrected this omission.

^d The 2007 approved baseline did not include airborne use of force, National Capital Region Air Defense, and the surface search radar for the HH-65. The addition of these capabilities constitutes about \$420 million of the revised costs.

^e Includes other Deepwater costs, such as program management, that the Coast Guard states do not require a new baseline.

As we reported last year, these revised baselines reflect the Coast Guard's and DHS's efforts to understand acquisition costs of individual Deepwater assets, as well as insight into the drivers of the cost growth. We previously reported on some of the factors contributing to increased costs for the NSC, MPA, and FRC. For example, the Coast Guard has attributed the more than \$1 billion rise in FRC's cost to a reflection of actual contract costs from the September 2008 contract award and costs for shore facilities and initial spare parts not included in the original baseline. More recently, DHS approved the revised baseline for the C4ISR program in February 2011, 2 years after the Coast Guard submitted it to the department. The revised baseline includes more than \$1 billion in additional acquisition costs to account for factors such as post-September 11 requirements and the need to maintain a common core system design beyond the previously established fiscal year 2014 end date.

Additional cost growth is looming because the Coast Guard has yet to develop revised baselines for all of the Deepwater assets and even the approved baselines do not reflect all known costs. The Coast Guard has not submitted to DHS revised baselines for the OPC or the UAS because these two projects are pre-ADE-2. These two assets combined accounted for over 35 percent of the original baseline. The uncertainty regarding the OPC's cost estimate presents a key difficulty in determining what the Deepwater program may end up costing. The original 2007 estimate for one OPC was approximately \$320 million. However, the Coast Guard's fiscal years 2012-2016 capital investment plan cites a planned \$640

million in fiscal year 2015 for the lead cutter. Coast Guard resource and acquisition directorate officials stated that this \$640 million is a point estimate for the lead cutter, some design work, and project management, but the estimate was not based on an approved life-cycle cost estimate and the Coast Guard has identified affordability as this program

Coast Guard officials stated that some of the approved acquisition program baselines fall short of the true funding needs. This not only exacerbates the uncertainty surrounding the total cost of the Deepwater acquisition, but also contributes to the approved Deepwater Program no longer being achievable. For example, the NSC program's approved baseline reflects a total acquisition cost of approximately \$4.7 billion. However, Congress has already appropriated approximately \$3.1 billion for the program and the Coast Guard's fiscal years 2012-2016 capital investment plan indicates an additional \$2.5 billion is needed through fiscal year 2016 for a total of \$5.6 billion to complete the acquisition. This would represent an increase of approximately 19 percent over the approved acquisition cost estimate for eight NSCs. According to section 575 of Title 14 of the U.S. Code, the Commandant must submit a report to Congress no later than 30 days after the Chief Acquisition Officer of the Coast Guard becomes aware of a likely cost overrun for any level I or level II acquisition program that will exceed 15 percent. If the likely cost overrun is greater than 20 percent, the Commandant must include a certification to Congress providing an explanation for continuing the project. Senior Coast Guard acquisition officials stated that they cannot corroborate a total cost of \$5.6 billion for the NSC program, or a cost increase of 19 percent, because the Coast Guard has not yet completed a life-cycle cost analysis for the program. However, these officials stated that a certification to Congress for the NSC program is pending as well as one for the MPA program.

We previously reported several schedule delays for assets based on the revised baselines and noted that as the Coast Guard reevaluates its baselines, it gains improved insight into the final delivery dates for all of the assets. While the Coast Guard's revised baselines identify schedule delays for almost all of the programs, these baselines do not reflect the extent of some of these delays as detailed in the Coast Guard's fiscal years 2012-2016 capital investment plan. For example, the MPA's revised baseline has final asset delivery in 2020—a delay of 4 years from the 2007 baseline—but the capital investment plan indicates final asset delivery in 2025—an additional 5-year delay not reflected in the baseline. Coast Guard resource officials responsible for preparing this plan acknowledged that the final asset delivery dates in most of the revised baselines are not current. The forthcoming delays identified in the fiscal years 2012-2016 capital investment plan indicate that the final asset delivery dates approved in the 2007 Deepwater baseline are no longer achievable for most assets.¹⁹

The report also states:

Coast Guard and DHS officials agreed that the annual funding needed to support all approved Deepwater acquisition program baselines exceeds current and expected funding levels, particularly in this constrained fiscal climate. For example, Coast Guard acquisition officials stated that up to \$1.9 billion per year would be needed to support the approved Deepwater baselines, but they expect Deepwater funding levels to be closer to \$1.2 billion annually over the next several years. Therefore the Coast Guard is managing a portfolio—which includes many revised baselines approved by DHS—that is expected to cost more than what its annual budget will likely support. Our previous work on Department of Defense (DOD) acquisitions shows that when agencies commit to more programs than

¹⁹ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 10-16.

resources can support, unhealthy competition for funding is created among programs. This situation can lead to inefficient funding adjustments, such as moving money from one program to another or deferring costs to the future.

When a program's projected funding levels are lower than what the program was previously projected to receive, the program is more likely to have schedule breaches and other problems, as the program can no longer remain on the planned schedule. From September-October 2010, the Coast Guard reported potential baseline breaches to DHS for the C4ISR, HC-130H, and HH-60 programs that were caused, at least in part, by reduced funding profiles in the fiscal years 2011-2015 capital investment plan.²² For example, in the fiscal years 2008 and 2009 capital investment plans, the Coast Guard had anticipated allocating 20-27 percent of its planned \$1.1 billion fiscal year 2011 Deepwater budget to its aviation projects. In its actual fiscal year 2011 budget request, however, the Coast Guard only allocated about 9 percent of the \$1.1 billion to aviation projects. The percentage of dollars allocated to surface projects increased—largely driven by an increase of dollars allocated to the FRC program...

In the October 2010 *Blueprint for Continuous Improvement (Blueprint)*, signed by the Commandant, the Coast Guard's Assistant Commandant for Acquisition identified the need to develop and implement effective decision making to maximize results and manage risk within resource constraints. The *Blueprint* outlines several action items, expected to be completed by the end of fiscal year 2011, to accomplish this goal. The action items include:

- promoting stability in the Coast Guard's capital investment plan by measuring the percentage of projects stably funded year to year in the plan,
- ensuring acquisition program baseline alignment with the capital investment plan by measuring the percentage of projects where the acquisition program baselines fit into the capital investment plan, and
- establishing Coast Guard project priorities.

Acquisition officials responsible for implementing the *Blueprint* action items acknowledged that successful implementation requires buy-in from leadership. Senior resource directorate officials responsible for capital investment planning told us that the action items in the *Blueprint* are "noble endeavors," but that the directorates outside of the acquisition directorate are not held responsible for accomplishing them. According to the *Major Systems Acquisition Manual*, the Component Acquisition Executive (Vice-Commandant), to whom both the acquisition and resource directorates report, is responsible for establishing acquisition processes to track the extent to which requisite resources and support are provided to project managers.

In addition to the acquisition directorate's recognition of the need to establish priorities to address known upcoming resource constraints, in August 2010, the Coast Guard's flag-level Executive Oversight Council—chaired by the Assistant Commandant for Acquisition with representatives from other directorates—tasked a team to recommend strategies to revise acquisition program baselines to better align with annual budgets. This acknowledgment that program baselines must be revised to fit fiscal constraints, however, is not reflected in the Coast Guard's most recent capital investment plan.... With the exception of fiscal year 2012, the Coast Guard is planning for funding levels well above the expected funding level of \$1.2 billion.

This outyear funding plan seems unrealistic, especially in light of the rapidly building fiscal pressures facing our national government and DHS's direction for future budget planning. To illustrate, in fiscal year 2015, the Coast Guard plans to request funding for construction of

three major Deepwater surface assets: NSC, OPC, and FRC, but the Coast Guard has never requested funding for construction of three major Deepwater surface assets in the same year before. In a recent testimony, the Commandant of the Coast Guard stated that the plan for fiscal year 2015 reflects the Coast Guard's actual need for funding in that year. If program costs and schedules are tied to this funding plan and it is not executable, these programs will likely have schedule and cost breaches. When a program has a breach, the program manager must develop a remediation plan that explains the circumstances of the breach and propose corrective action and, if required, revise the acquisition program baseline.²⁰

The report also states:

To help the Coast Guard address the churn in the acquisition project budgeting process and help ensure that projects receive and can plan to a more predictable funding stream, we recommend that the Commandant of the Coast Guard take the following two actions:

- Implement GAO's Cost Estimating and Assessment Guide's best practices for cost estimates and schedules as required by the *Major Systems Acquisition Manual*, with particular attention to maintaining current cost estimates and ensuring contractor's schedules also meet these best practices.
- As acquisition program baselines are updated, adopt action items consistent with those in the Blueprint related to managing projects within resource constraints as a Coast Guard-wide goal, with input from all directorates. These action items should include milestone dates as well as assignment of key responsibilities, tracking of specific actions, and a mechanism to hold the appropriate directorates responsible for outcomes, with periodic reporting to the Vice-Commandant.²¹

Fleet Mix Analysis

GAO Perspective

The July 2011 GAO report stated that

To support its role as systems integrator, the Coast Guard planned to complete a fleet mix analysis in July 2009 to eliminate uncertainty surrounding future mission performance and to produce a baseline for the Deepwater acquisition. We previously reported that the Coast Guard expected this analysis to serve as one tool, among many, in making future capability requirements determinations, including future fleet mix decisions. The analysis, which began in October 2008 and concluded in December 2009, is termed fleet mix analysis phase 1. Officials from the Coast Guard's capabilities directorate comprised the majority of the project team for the analysis, which also included contractor support to assist with the analysis. As of May 2011, DHS had not yet released phase 1 to Congress. We received the results of the analysis in December 2010.

To conduct the fleet mix analysis, the Coast Guard assessed asset capabilities and mission demands in an unconstrained fiscal environment to identify a fleet mix—referred to as the

²⁰ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 23-24, 26-27.

²¹ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, p. 50.

“objective fleet mix”—that would meet long-term strategic goals. The objective fleet mix resulted in a fleet that would double the quantity of assets in the program of record, the \$24.2 billion baseline. For example, the objective fleet mix included 66 cutters beyond the program of record. Given the significant increase in the number of assets needed for this objective fleet mix, the Coast Guard developed, based on risk metrics, incremental fleet mixes to bridge the objective fleet mix and the program of record. Table 5 shows the quantities of assets for each incremental mix, according to the Coast Guard’s analysis.

Table 5: Alternative Fleet Mix Asset Quantities According to Coast Guard’s Phase 1 Fleet Mix Analysis

Surface/aviation platforms	Program of record	Fleet mix 1	Fleet mix 2	Fleet mix 3	Fleet mix 4 (objective)
NSC	8	9	9	9	9
OPC	25	32	43	50	57
FRC	58	63	75	80	91
HC-130	22	32	35	44	44
MPA HC-144A	36	37	38	40	65
HH-60	42	80	86	99	106
HH-65	102	140	159	188	223
UAS, Land-Based	12	19	21	21	22
UAS, Cutter-Based	18	15	19	19	19

Source: December 2009 Coast Guard data.

While the analysis provided insight on the performance of fleets larger than the program of record, the analysis was not cost-constrained. The Coast Guard estimated the total acquisition costs associated with the objective fleet mix could be as much as \$65 billion—about \$40 billion higher than the approved \$24.2 billion baseline. As a result, as we reported last year, Coast Guard officials stated that they do not consider the results to be feasible due to cost and do not plan to use it to provide recommendations on a baseline for fleet mix decisions. Since we last reported, Coast Guard officials stated that phase 1 supports continuing to pursue the program of record.

Because the first phase of the fleet mix analysis was not cost constrained, it does not address our July 2010 recommendation that the Coast Guard present to Congress a comprehensive review of the Deepwater Program that clarifies the overall cost, schedule, quantities, and mix of assets required to meet mission needs, including trade-offs in light of fiscal constraints given that the currently approved Deepwater Program is no longer feasible. The Coast Guard has undertaken what it refers to as a cost-constrained analysis, termed fleet mix analysis phase 2; however, according to the capabilities directorate officials responsible for the analysis, the study primarily assesses the rate at which the Coast Guard could acquire the Deepwater program of record within a high (\$1.7 billion) and low (\$1.2 billion) bound of annual acquisition cost constraints. These officials stated that this analysis will not reassess whether the current program of record is the appropriate mix of assets to pursue and will not assess any mixes smaller than the current program. Alternative fleet mixes are being assessed, but only to purchase additional assets after the program of record is acquired, if funding remains within the yearly cost constraints. The Coast Guard expects to complete its phase 2 analysis in the summer of 2011. As we reported in April 2011, because phase 2 will not assess options lower than the program of record, it will not prepare the Coast Guard to make the trade-offs that will likely be needed in the current fiscal climate.

Further, despite Coast Guard statements that phase 2 was cost constrained, there is no documented methodology for establishing the constraints that were used in the analysis, and we found confusion about their genesis. The acquisition directorate, according to the study's charter, was to provide annual funding amounts, but Coast Guard officials responsible for phase 2 told us that DHS's Program Analysis & Evaluation office provided the lower bound and the acquisitions directorate provided the upper bound. An official from the Program Analysis & Evaluation office stated that DHS informally suggested using historical funding levels of \$1.2 billion to establish an average annual rate but was unaware that the Coast Guard was using this number as the lower bound for the study. A senior Coast Guard acquisition directorate official stated that the directorate agreed with using the \$1.2 billion as the lower constraint and had verbally suggested the upper bound of \$1.7 billion. Based on our review of historical budget data, \$1.7 billion for Deepwater is more than Congress has appropriated for the entire Coast Guard's acquisition portfolio since 2007 and as such, is not likely a realistic constraint. Coast Guard officials stated that the upper bound was not necessarily a realistic level, rather an absolute upper bound to establish the range of possible acquisition levels. In addition, the Coast Guard does not have documentation of the cost constraints; according to a Coast Guard official, these cost constraints were verbally communicated to the contractor.

In addition to the Coast Guard's analysis, DHS's Program Analysis & Evaluation office is conducting a study, at the request of the Office of Management and Budget, to gain insight into alternatives to the Deepwater surface program of record. Office of Management and Budget officials told us that they recommended DHS conduct this study because DHS was in a position to provide an objective evaluation of the program and could ensure that the analysis of the trade-offs of requirements in a cost constrained environment would align with the Department's investment priorities. A DHS official involved in the study stated that the analysis will examine performance trade-offs between the NSC, OPC, a modernized 270' cutter, and the Navy's Littoral Combat Ship.⁴⁴ The official also explained that the analysis is based on a current estimate of surface asset acquisition costs, which serves as a cap to guide surface asset trade-offs. This cutter study is expected to be completed in the summer of 2011. This official also stated that the cutter study is not expected to contain recommendations, but Office of Management and Budget officials told us they plan to use the results to inform decisions about the fiscal year 2013 budget. A DHS official responsible for this study stated that this analysis and the Coast Guard's fleet mix analysis will provide multiple data points for considering potential changes to the program of record, including reductions in the quantities planned for some of the surface assets. However, as noted above, Coast Guard capabilities directorate officials have no intention of examining fleet mixes smaller than the current, planned Deepwater program.²²

The report also states:

To provide Congress with information needed to make decisions on budgets and the number of assets required to meet mission needs within realistic fiscal constraints, we recommend that the Secretary of Homeland Security develop a working group that includes participation from DHS and the Coast Guard's capabilities, resources, and acquisition directorates to review the results of multiple studies—including fleet mix analysis phases 1 and 2 and DHS's cutter study—to identify cost, capability, and quantity trade-offs that would produce a program that fits within expected budget parameters. DHS should provide a report to

²² Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 45-48.

Congress on the findings of the study group's review in advance of the fiscal year 2013 budget submission.²³

National Security Cutter (NSC)

Coast Guard Perspective

The Coast Guard testified in April 2011 that:

A critical element of our recapitalized fleet, the 418-foot Legend-class National Security Cutter (NSC) is the largest and most technically advanced class of cutter in the Coast Guard. The NSCs are replacing the capability of the Coast Guard's aging and obsolete High Endurance Cutters (WHECs) to execute today's homeland security and maritime law enforcement missions with agility and endurance.

BERTHOLF (NSC #1) attained "Ready for Operations" status in May 2010. During a 90-day patrol that ended in November 2010, her crew interdicted approximately 12,400 kilograms of cocaine worth nearly \$400 million, detained nine persons suspected of illegal activity and entered 27 associated smugglers into national databases. The BERTHOLF's Sensitive Compartmented Information Facility (SCIF) is proving integral to operations, providing real-time tactical intelligence and classified information-sharing with our operational partners. WAESCHE (NSC #2) was commissioned in May 7, 2010, with final acceptance in November 2010. STRATTON (NSC #3) is nearly 75 percent complete and was christened on July 23, 2010 by First Lady Michelle Obama in Pascagoula, MS. Delivery is scheduled for later this year.

After nearly a year of negotiations, a fixed-price incentive contract for the production and delivery of NSC 4 was awarded to Northrop Grumman Shipbuilding in November 2010, allowing future costs for the NSC program to be much more predictable. Valued at \$480 million, this was the first NSC production contract awarded directly to the shipbuilder and is significantly lower than their original proposal. In January 2011, we awarded a firm fixed price contract option to procure Long Lead Time Material for the fifth NSC. Negotiations for the production and delivery option for NSC 5 are ongoing, with a contract to be awarded as soon as full funding for this ship is received.²⁴

GAO Perspective²⁵

The July 2011 GAO report states

²³ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, p. 49.

²⁴ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, p. 6.

²⁵ Previous oversight issues concerning the NSC program have included whether the original design for the NSC was rugged enough to ensure that the ships could be operated for their full 30-year intended service lives; whether the electronic systems on the ship met technical standards (including some referred to as TEMPEST) for information assurance (or IA—the ability of the ship's various electronic systems to protect classified data); and cost growth in building the ships.

During acceptance testing for the second NSC in October 2010, Coast Guard officials identified five key issues, also identified on NSC 1 in an operational assessment completed in September 2010:

- reliability and maintenance problems with the crane on the back of the cutter,
- an unsafe ammunition hoist for the main gun,
- instability with the side davit for small boat launch,
- insufficient power to a key system used for docking the cutter, and
- an impractical requirement for using the side rescue door in difficult sea conditions.

Senior acquisition directorate officials stated that there are currently workarounds for some of these issues and the cutters do meet contractual requirements. Program officials added that funding and design changes have yet to be finalized for these five issues and in some cases, correcting these issues will likely require costly retrofits.

In January 2011, Coast Guard officials canceled the Aircraft Ship Integrated Secure and Traverse (ASIST)—a system intended to automate the procedure to land, lock down, and move the HH-65 helicopter from the deck to the hangar on the NSC—after significant deficiencies were identified during testing conducted by the U.S. Naval Air Warfare Center. Examples of deficiencies included increased pilot workload during landing, excessive stress on the helicopter components as the aircraft moved across the deck into the hangar, and failure to reduce the number of people needed to secure the helicopter as the system was designed to do. In addition, testing officials determined that the system could cause injury to the aircrew because the landing operator could not communicate with the pilot in a timely manner, and the system demonstrated unpredictable failures to locate the aircraft while it was hovering over the NSC’s flight deck. The ASIST system was identified by ICGS as a solution to a Coast Guard requirement. Several Coast Guard officials told us that the Coast Guard was aware of potential problems with ASIST as early as 2007, but the Coast Guard moved forward with it until testing was complete. The Coast Guard invested approximately \$27 million to install the system on three NSCs, purchase long lead materials for the fourth NSC, and modify one HH-65 helicopter for the test event. The Coast Guard is now exploring solutions in use by the Navy to replace the system. For the two operational NSCs, officials stated that operators secure the HH-65 using legacy cutter technology.²⁶

Offshore Patrol Cutter (OPC)

Coast Guard Perspective

The Coast Guard testified in April 2011 that:

The Offshore Patrol Cutter (OPC) will replace the capability of our current fleet of 29 aging Medium Endurance Cutters (WMECs). We are continuing pre-acquisition work for the 25-cutter OPC class. The Operational Requirements Document was approved by DHS in August 2010 and work continues on developing total acquisition and lifecycle cost estimates for the

²⁶ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 39-40.

project. We have directly engaged with industry throughout the early stages of the design process, including an industry day held in Tampa, Fla., on November 4, 2010. We anticipate that a draft Request for Proposal (RFP) will be released soon, with a pre-solicitation conference for industry to follow.²⁷

GAO Perspective

The July 2011 GAO report stated that:

Important decisions remain to be made regarding the OPC, the largest cost driver in the Deepwater program. DHS approved the OPC's requirements document in October 2010 despite unresolved concerns about three key performance parameters—seakeeping, speed, and range—that shape a substantial portion of the cutter's design. For example, DHS questioned the need for the cutter to conduct full operations during difficult sea conditions, which impact the weight of the cutter and ultimately its cost. The Coast Guard has stated that limiting the ability to conduct operations during difficult sea conditions would preclude operations in key mission areas. While it approved the OPC requirements document, DHS at the same time commissioned a study to further examine these three key performance parameters. According to Coast Guard officials, the study conducted by the Center for Naval Analysis found that the three key performance parameters were reasonable, accurate, and adequately documented. By approving the operational requirements document before these factors were resolved, DHS did not ensure that the cutter was affordable, feasible, and unambiguous and required no additional trade-off decisions, as outlined in the Major Systems Acquisition Manual. Our previous work on DHS acquisition management found that the department's inability to properly execute its oversight function has led to cost overruns, schedule delays, and assets that do not meet requirements.

In addition to the three performance parameters discussed above, other decisions, with substantial cost and capability implications for the OPC, remain unresolved. For example, it is not known which C4ISR system will be used for the OPC, whether the cutter will have a facility for processing classified information, and whether the cutter will have air search capabilities. The Coast Guard's requirements document addressed these capabilities but allowed them to be removed if design, cost, or technological limitations warrant. According to Coast Guard officials, remaining decisions must be made before the acquisition program baseline is approved as part of the program's combined acquisition decision event 2A/B and the request for proposals is issued, both of which are planned for the fall of 2011. In addition, following the approval of the requirements document, the Coast Guard formed a ship design team tasked with considering the affordability and feasibility of the OPC.

This team has met with Assistant Commandants from across the Coast Guard on several occasions to discuss issues that impact the affordability and feasibility of the cutter, including, among others, the size of the living quarters, the aviation fuel storage capacity, and the range of the cutter. The Coast Guard has stated that affordability is a very important aspect of the OPC project and that the request for proposal process will inform the project's efforts to balance affordability and capability.²⁸

The report also states:

²⁷ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, pp. 6-7.

²⁸ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 36-37.

Because DHS approved the OPC operational requirements document although significant uncertainties about the program's feasibility, capability, and affordability remained, we recommend that the Secretary of DHS take the following two actions:

- ensure that all subsequent Coast Guard decisions regarding feasibility, capability, and affordability of the OPC's design are thoroughly reviewed by DHS in advance of the program's next acquisition decision event (ADE 2A/B); and
- determine whether a revised operational requirements document is needed before the program's next acquisition decision event (ADE 2A/B).²⁹

Fast Response Cutter (FRC)

Coast Guard Perspective

The 154-foot Sentinel-class Fast Response Cutter (FRC) project will provide critically needed patrol boats, helping to close an existing patrol boat operational gap and replace the capabilities of the aging 110-foot Island-class patrol boat fleet.

The FRC project is using a proven, in-service parent craft design modified to meet Coast Guard specifications and mission requirements, and that meets American Bureau of Shipping design, build, and class standards. This allows the project to minimize cost and schedule risk as well as deliver these cutters to the fleet quickly, where they are needed to perform operations. Delivery of the first FRC is scheduled for the fall of 2011.³⁰

GAO Perspective

The July 2011 GAO report states:

The FRC program is planning to use the first cutter for initial operational test and evaluation. The original delivery date for the lead cutter was scheduled for January 2011, but that date has slipped to December 2011. Officials told us that the delay is due to a last minute design change, directed by the Coast Guard's engineering and logistics technical authority, to enhance the structure of the cutter. An early operational assessment that reviewed design plans for the FRC was completed in August 2009 and identified 74 design issues, 69 of which were corrected during the assessment. Officials explained that they are confident in the reliability of the FRC design and do not expect any major operational issues to arise during initial operational testing and evaluation. In addition, program officials explained that the Coast Guard has used a lead vessel for initial operational test and evaluation in the past and is now also planning to conduct an operational assessment on the lead FRC to reduce risk. Officials from the Navy's Commander Operational Test and Evaluation Force, however, stated that there are risks associated with using the first cutter for initial operational test and evaluation; operators are not as familiar with the system, the logistics enterprise may

²⁹ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, p. 50.

³⁰ [Statement of] Vice Admiral John P. Currier, Deputy Commandant for Mission Support, Before the [House] Committee [on] Transportation & Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, April 13, 2011, p. 7.

not be fully operational to support the asset, and enough time may not have passed to collect sufficient data on what operational issues need to be addressed prior to testing.³¹

June 2011 Press Report

A June 27, 2011, press report stated:

Structural modifications to the U.S. Coast Guard's new Fast Response Cutters (FRC) have pushed back delivery of the first units, but the service does not expect acquisition costs to rise.

"Final cost and schedule impact for the cutters currently under construction are being finalized," the Coast Guard said in a June 22 statement to Defense News. "The total acquisition cost of the FRC is not expected to increase. Funds set aside specifically for these kinds of purposes will be used to pay for the structural solution." The structural issues are not the result of construction problems, but rather are due to a reassessment of the stresses expected to be exerted on the cutters at certain speeds and sea states, the statement said.

Computer modeling performed by the Norwegian marine classification and analysis firm Det Norske Veritas identified specific locations on the main and 01 decks that could be susceptible to stress. In January, "the Coast Guard decided to modify the prescribed design safety margins of the FRC in these specific areas to achieve the prescribed 20-year service life of the hull," according to the service's statement.

The changes were "not a result of a weakness in the design," said Brian Olexy, a program analyst with the acquisition directorate.

"The Coast Guard wanted to achieve more safety margin," Olexy said. "The rest of the ship met or exceeded the safety margins." The fixes involve adding girders and bars to areas around the main deck and the 01 level—the first superstructure deck above the main deck—of the first six ships of the class, which are in various stages of completion. The changes will be built in from the beginning, starting with the seventh ship.

The Bernard C. Webber, first of the FRCs, was launched by crane April 21 at Bollinger Marine in Lockport, La. Delivery of the Webber was scheduled under the original contract for April 2011, but the service has yet to establish a revised delivery date....

The FRCs are modified versions of the Damen 4708 design, a Dutch-built patrol boat that is in service with several foreign coast guards. The U.S. version features several changes from the basic Damen design, including the addition of a stern ramp to launch and recover a small boat, and other internal changes.³²

³¹ Government Accountability Office, *Coast Guard[:] Action Needed As Approved Deepwater Program Remains Unachievable*, GAO-11-743, July 2011, pp. 41-42.

³² Christopher P. Cavas, "Structural Changes Delay Cutter's Completion," *Defense Daily*, June 27, 2011: 19.

Potential Options for Congress

In addition to approving or modifying the Coast Guard's requests for acquisition funding Deepwater programs, potential options for Congress regarding the Deepwater program include but are not limited to the following:

- continue to track the Coast Guard's management and execution of Deepwater acquisition programs, including implementation of reform actions announced by the Coast Guard itself or recommended by GAO;
- modify reporting requirements for Deepwater acquisition programs;
- prohibit the obligation or expenditure of funding for Deepwater acquisition programs until the Coast Guard or DHS takes certain actions or makes certain certifications regarding the Deepwater program; and
- pass legislation to codify acquisition reforms for Deepwater programs that the Coast Guard has already announced, or to change acquisition policies and practices for Deepwater acquisition programs in other ways.

Legislative Activity in 112th Congress

Summary of Appropriations Action on FY2012 Funding Requests

Table 4 summarizes appropriations action on the FY2012 acquisition funding requests for Deepwater programs.

Table 4. Appropriations Action on FY2012 Acquisition Funding Requests

(in millions of dollars, rounded to nearest tenth)

Program	Request ^a	House Appropriations Committee	Senate Appropriations Committee	Conference
Maritime Patrol Aircraft (MPA)	129.5	129.5		
HH-60 Conversion Projects	74.4 ^b	74.4		
HH-65 Conversion/Sustainment Projects	24.0	61.0		
HC-130H Conversion/Sustainment Projects	62.0	62.0		
Cutter unmanned aircraft systems (UAS)	0	2.0		
Subtotal aircraft	289.9	328.9		
National Security Cutter (NSC)	77.0	0		
Offshore Patrol Cutter (OPC)	25.0	25.0		
Fast Response Cutter (FRC)	358.0	240.0		
Deepwater small boats	5.0	5.0		
Medium-endurance cutter sustainment	47.0	47.0		
Subtotal surface ships	512.0	317.0		
Government program management	35.0	30.0		
Systems engineering and integration	17.1	17.1		
C4ISR	34.5	44.5		
Deepwater logistics	87.0 ^c	Not clear ^d		
Subtotal other	173.6	Not clear		
TOTAL	975.5	Not clear		

Source: Table prepared by CRS based on Coast Guard FY2011 and FY2012 budget submissions and H.Rept. 112-91 on H.R. 2017. C4ISR means Command and control, communications, computers, intelligence, surveillance and reconnaissance.

- a. The Coast Guard's FY2012 budget submission states: "The Coast Guard FY 2012 budget proposes the elimination of the Integrated Deepwater System (IDS) sub-appropriation and disaggregation of the IDS construct from the Coast Guard's Acquisition, Construction and Improvement (AC&I) appropriation. Enacting this proposal will further enhance acquisition management and accountability by aligning the appropriations structure with how the projects are managed. This initiative also enhances accountability by establishing a stronger linkage between appropriations and specific asset acquisition projects, promotes better alignment with the authorized appropriation structure, and is a natural outcome of the Coast Guard's ongoing efforts to reform acquisition management and oversight.... Consistent with the dissolution of Integrated CG Systems and the disaggregation of the Deepwater Acquisition into asset-based Acquisition Program Baselines, the proposed changes align projects that were formerly grouped under Integrated Deepwater Systems (IDS) with the existing authorized structure for Vessels, Aviation, Shore, Other Equipment, and Personnel and Management." (*Department of Homeland Security, United States Coast Guard, Fiscal Year 2012 Congressional Justification*, pp. CG-AC&I-3 and CG-AC&I-13.)
- b. Includes \$56.1 million for HH-60 conversion projects and \$18.3 million for a project called CGNR 6017 to convert a retired Navy SH-60F helicopter into a Coast Guard MH-60T helicopter, so as to replace a Coast Guard MH-60T lost in a crash in 2010.
- c. The Coast Guard's FY2012 budget submission states: "This is the first submission for CG-LIMS under the post-Integrated Deepwater Systems construct. Previous work managed under this program was conducted under the Deepwater Logistics Acquisition Project. Deepwater Logistics was disaggregated into CG-LIMS within the "Other" sub-appropriation and Major Acquisition Systems Infrastructure (MASI) within the

'Shore and Aids to Navigation' subappropriation." The requested FY2012 figure shown in this table for Deepwater Logistics is the sum of the FY2012 funding requests for CG-LIMS (\$6.5 million) and for MASI projects relating to the NSC (\$18 million), the FRC (\$57 million), and the MPA (\$5.5 million).

- d. H.Rept. 112-91 does not present a funding figure for this line item; see footnote c above.

FY2012 DHS Appropriations Bill (H.R. 2017)

House

Bill Language

The text of H.R. 2017 as reported by the House Appropriations Committee states in part that funds are provided for the Coast Guard's Operating Expenses (OE) account,

... Provided further, That of the funds provided under this heading, \$75,000,000 shall be withheld from obligation for Coast Guard Headquarters Directorates until (1) a revised future-years capital investment plan for fiscal years 2012 through 2016, as specified under the heading 'Coast Guard, Acquisition, Construction, and Improvements' of this Act, that is reviewed by the Comptroller General of the United States; (2) the fiscal year 2012 second quarter acquisition report; and (3) the polar operations high latitude study are submitted to the Committees on Appropriations of the Senate and the House of Representatives:...

The bill also states in part that funds are provided for the Coast Guard's Acquisition, Construction, and Improvements (AC&I) account,

...Provided, That the Secretary of Homeland Security shall submit to the Committees on Appropriations of the Senate and the House of Representatives, at the time that the President's budget is submitted each year under section 1105(a) of title 31, United States Code, a future-years capital investment plan for the Coast Guard that identifies for each requested capital asset—

- (1) the proposed appropriations included in that budget;
- (2) the total estimated cost of completion, including and clearly delineating the costs of associated major acquisition systems infrastructure and transition to operations;
- (3) projected funding levels for each fiscal year for the next five fiscal years or until acquisition program baseline or project completion, whichever is earlier;
- (4) an estimated completion date at the projected funding levels; and
- (5) a current acquisition program baseline for each capital asset, as applicable, that—
 - (A) includes the total acquisition cost of each asset, subdivided by fiscal year and including a detailed description of the purpose of the proposed funding levels for each fiscal year, including for each fiscal year funds requested for design, pre-acquisition activities, production, structural modifications, missionization, post-delivery, and transition to operations costs;
 - (B) includes a detailed project schedule through completion, subdivided by fiscal year, that details—

(i) quantities planned for each fiscal year; and

(ii) major acquisition and project events, including development of operational requirements, contracting actions, design reviews, production, delivery, test and evaluation, and transition to operations, including necessary training, shore infrastructure, and logistics;

(C) notes and explains any deviations in cost, performance parameters, schedule, or estimated date of completion from the original acquisition program baseline and the most recent baseline approved by the Department of Homeland Security's Acquisition Review Board, if applicable;

(D) aligns the acquisition of each asset to mission requirements by defining existing capabilities of comparable legacy assets, identifying known capability gaps between such existing capabilities and stated mission requirements, and explaining how the acquisition of each asset will address such known capability gaps;

(E) defines life-cycle costs for each asset and the date of the estimate on which such costs are based, including all associated costs of major acquisitions systems infrastructure and transition to operations, delineated by purpose and fiscal year for the projected service life of the asset;

(F) includes the earned value management system summary schedule performance index and cost performance index for each asset, if applicable; and

(G) includes a phase-out and decommissioning schedule delineated by fiscal year for each existing legacy asset that each asset is intended to replace or recapitalize:

Provided further, That the Secretary shall ensure that amounts specified in the future-years capital investment plan are consistent, to the maximum extent practicable, with proposed appropriations necessary to support the programs, projects, and activities of the Coast Guard in the President's budget as submitted under section 1105(a) of title 31, United States Code, for that fiscal year: Provided further, That any inconsistencies between the capital investment plan and proposed appropriations shall be identified and justified:...

Section 517 of the bill states:

Sec. 517. Any funds appropriated to 'Coast Guard, Acquisition, Construction, and Improvements' for fiscal years 2002, 2003, 2004, 2005, and 2006 for the 110-123 foot patrol boat conversion that are recovered, collected, or otherwise received as the result of negotiation, mediation, or litigation, shall be available until expended for the Fast Response Cutter program.

Report Language

The House Appropriations Committee, in its report (H.Rept. 112-91 of May 26, 2011) on H.R. 2017, states:

Of the [operating expenses] funds recommended for the Coast Guard's Headquarters Directorates, \$75,000,000 is withheld from obligation until the Commandant of the Coast Guard submits the following to the Committees on Appropriations of the Senate and House of Representatives: (1) a revised future-years Capital Investment Plan for fiscal years 2012 through 2016 that has been reviewed by GAO, as specified under the "Coast Guard Acquisition, Construction, and Improvements" heading in this Act; (2) the fiscal year 2012

second quarter quarterly acquisition report; and (3) the polar operations high latitude study....

MISSION REQUIREMENTS

The Coast Guard has not formally updated its mission requirements to the Committee since the 2004 Mission Needs Study. The Coast Guard informed the Committee that it uses an annual Standard Operational Planning Process (SOPP) to update current requirements; however, a SOPP finding has never been submitted to the Committee nor has a change in an acquisition program baseline or an operational requirement been justified before the Committee as a result of a SOPP finding. Furthermore, the Coast Guard has stated that it has been conducting a Fleet Mix Analysis since 2004 and the results of this analysis will inform the fiscal year 2013 budget submission and fiscal years 2013 through 2017 Capital Investment Plan. The Committee finds this protracted delay in updating mission requirements for the Coast Guard's post-Deepwater era to be a major impediment to effective budget planning. The Coast Guard is directed to submit the most current Fleet Mix Analysis to the Committees on Appropriations of the Senate and House of Representatives and to brief the Committees on its process for formulating updated mission requirements no later than 30 days after the date of enactment of this Act. (Pages 72-73)

The report also states:

The Committee removes the annual requirement for a Revised Deepwater Implementation Plan due to the dissolution of the Deepwater initiative and directorate. The Committee modifies and strengthens the requirements for the annual capital investment plan (CIP) and requires the submittal of the CIP, as specified in the bill, in conjunction with the annual budget submission....

QUARTERLY REPORTS ON ACQUISITION PROJECTS AND MISSION EMPHASIS

The Commandant is directed to continue to submit to the Committee quarterly acquisition and mission emphasis reports consistent with deadlines articulated under section 360 of division I of Public Law 108-7. The Coast Guard shall continue submitting these reports in the same format as required in fiscal year 2010. In addition, for each asset covered, the reports should present the objective for operational hours the Coast Guard expects to achieve, the gap between that objective, current capabilities, and stated mission requirements, and how the acquisition of the specific asset closes the gap. The information shall also include a discussion of how the Coast Guard calculated the operational hours, an explanation on risks to mission performance associated with the current shortfall, and the operational strategy to mitigate such risks.

CAPITAL INVESTMENT PLAN

The Committee directs the Commandant of the Coast Guard to revise and resubmit the fiscal years 2012-2016 Capital Investment Plan as specified in the bill. The CIP submitted with the fiscal year 2012 budget request fails to align capital investments to mission requirements; does not include current acquisition program baselines for each capital asset; does not include the associated infrastructure costs essential to the operation of each capital asset; and contains no background information or justification regarding the future-years funding assumptions. The Coast Guard is further directed to submit a CIP in accordance with the specified requirements listed in the bill in conjunction with the budget submission for fiscal year 2013 and thereafter. The Committee believes the CIP serves as the primary means of oversight for tracking the Coast Guard's recapitalization efforts and therefore must be substantially improved.

REVISED BUDGET STRUCTURE

The Committee has revised the Coast Guard's budget structure for the Acquisition, Construction, and Improvements account due to the dissolution of the Deepwater initiative and directorate. The Committee appreciates the Coast Guard's cooperation in aligning previously appropriated funds with this new PPA structure and directs the Coast Guard to submit both its fiscal year 2013 budget submission and revised and future CIPs in accordance with this new budgetary display. The Committee's standing reprogramming and transfer guidelines contained in section 503 of this Act shall be applied to these new PPAs.

NATIONAL SECURITY CUTTER

The Committee denies the request for \$77,000,000 for the closeout costs of the fifth National Security Cutter (NSC) because these funds were provided in fiscal year 2011 along with funding for the full production costs of the fifth NSC. The Coast Guard has not submitted a budget amendment proposing to re-purpose these requested funds towards the pre-acquisition and long-long material costs of the sixth NSC; has currently budgeted for the full cost of the sixth NSC in fiscal year 2013, as per the capital investment plan submitted with the fiscal year 2012 budget submission; and has not informed the Committee on whether the Office of Management and Budget (OMB) would grant an exception from the full funding policy contained in OMB Circular A-11 and allow for the application of incremental funding (as has been done for the previous five NSCs).

Due to OMB's application of this Circular A-11 full funding policy upon the acquisition of NSCs five through eight, the entire NSC acquisition program baseline will be extended by several years and the unit cost for NSCs six through eight will increase by an estimated \$45,000,000 to \$60,000,000 per cutter (an estimated increase of six to eight percent to total acquisition cost per cutter). The Committee believes the application of a policy that results in higher costs and in the undue delay of critical operational capabilities to be illogical and counterproductive to our Nation's security needs as well as current budgetary realities. Furthermore, delays in the acquisition of the NSC will exacerbate the already escalating operating and maintenance costs of the Coast Guard's aging High Endurance Cutter fleet. Due to these undisputed adverse impacts, the Committee believes the Administration's management of the NSC acquisition program baseline to be failing in its responsibility to deliver a cost-effective capability for maritime safety and security. The Committee directs the Department's Office of the Chief Financial Officer and the Coast Guard to brief the Committee within 30 days of the date of enactment of this Act on a revised NSC acquisition strategy that addresses all known adverse impacts resulting from the application of OMB's full funding requirements for the NSC pursuant to OMB Circular A-11.

FAST RESPONSE CUTTER

The Committee recommends \$240,000,000 for the acquisition of four Fast Response Cutters (FRCs), \$118,000,000 below the amount requested and the same as the amount provided in fiscal year 2011. Funding for two, additional FRCs is denied due to concerns regarding structural deficiencies found during the production of the first FRC and the resulting delay in delivery of the first FRC due to the required structural modifications. The Committee is also very concerned that the Coast Guard is applying funds reserved for FRC antecedent liabilities to address the costs of these structural modifications and that this decision will likely result in future, unfunded liabilities. Because the Coast Guard has yet to conduct its operational test and evaluation (OT&E) of the first FRC, the Committee believes it is prudent to examine the empirical OT&E results before accelerating the acquisition of FRCs from four to six per year. The Committee also denies the request for the re-procurement package and data rights (RDLP) at this time because, according to the Coast Guard's fiscal year 2012 budget submission, the RDLP option of the contract is not scheduled to be

executed until fiscal year 2013 and the current contract for FRC production does not expire until the end of fiscal year 2014. The Committee remains committed to the FRC acquisition, and believes replacement of the Coast Guard's aging, 110-foot Island Class patrol boat fleet to be among the Department's highest acquisition priorities. The Committee will re-consider the request for funding to support an increase in the annual production rate of FRCs and the purchase of the RDLP once outstanding issues have been fully resolved....

MAJOR ACQUISITION SYSTEMS INFRASTRUCTURE

The Committee recommends \$66,000,000 for major acquisition systems infrastructure, \$28,500,000 below the amount requested and \$10,000,000 above the amount provided in fiscal year 2011. The Committee denies the request for two of the FRC port upgrades due to an insufficient budget justification; projected delays in FRC deliveries; the protracted delay in the Coast Guard's delivery of a revised FRC master schedule to the Committee; and due to serious concerns regarding the significant cost per port upgrade that amount to nearly a 24 percent increase in the cost of each FRC. As previously stated and directed, the Coast Guard shall include the associated costs of major acquisition systems infrastructure with each capital asset, as applicable, in the CIP. Furthermore, the Coast Guard is directed to brief the Committee no later than 45 days after the date of enactment of this Act on the cost control and estimation tools it is employing to contain the costs of infrastructure modifications needed to accommodate re-capitalized and new assets.

GOVERNMENT PROGRAM MANAGEMENT

The Committee recommends \$30,000,000 for government program management, \$5,000,000 below the amount requested and \$15,000,000 below the amount provided in fiscal year 2011. The Committee recommends this reduction due to the complete lack of detail provided by the Coast Guard in their fiscal year 2012 Congressional budget justification for this function. While Committee strongly supports the activities carried out within this function, the lack of detail provided in the budget request is inadequate to warrant a recommendation for funding the amount requested. The Coast Guard is directed to provide a detailed subdivision of funding requested for government program management in its justification materials accompanying the fiscal year 2013 budget submission.

COMMUNICATION UPGRADES OF LEGACY CUTTERS

The Committee recommends an additional \$10,000,000 above the amount requested to support the costs of installation of communications systems on legacy cutters. These enhancements will improve surveillance, secure networking, and operational coordination among Coast Guard and other blue force assets. Furthermore, this increase in funding is consistent with recent DHS OIG recommendations to upgrade current maritime satellite communication equipment to provide high-speed transmission capabilities to enable cutters that interdict migrants to collect and screen certain biometric data.

HH-65 HELICOPTER RESET

The Committee recommends an additional \$37,000,000 above the amount requested for the acquisition of two, replacement HH-65 helicopters that were lost in the line of duty over the past two years. The Coast Guard is directed to brief the Committee within 60 days of the date of enactment of this Act on its reset plans for irrecoverable assets lost in the line of duty.

CUTTER-BASED UNMANNED AIRCRAFT SYSTEMS

The Committee recommends an additional \$2,000,000 above the amount requested for the pre-acquisition activities for cutter-based unmanned aircraft systems (UAS). The Committee

supports the use of cutter-based UAS to maximize the surveillance and interdiction capabilities of the Coast Guard's cutters, but is concerned that the fiscal years 2012 through 2016 CIP submitted with the fiscal year 2012 budget request contains no funding for UAS. In the justification materials accompanying the fiscal year 2013 budget submission, the Coast Guard shall clearly outline its plans for further investment in the acquisition and deployment of a cutter-based UAS, to include estimated acquisition costs and delivery schedule. The Committee advises that any such plan should align with the Coast Guard's CIP and should clearly identify the costs of acquisition, cutter integration, and missionization per asset, as well as a delivery and activation schedule of UAS capability per cutter. The Coast Guard shall also include with its fiscal year 2013 budget submission a report to the Committee on the impact of the absence of deployed UAS upon NSC capability and mission performance.

LAND-BASED MARITIME UNMANNED AIRCRAFT SYSTEMS

The Committee commends CBP and the Coast Guard for its collaboration on the development and deployment of a land-based, maritime unmanned aircraft system. However, the Committee notes with concern the lack of progress on this interagency coordination or subsequent acquisition of additional land-based, maritime UAS. In fact, the Coast Guard's fiscal years 2012 through 2016 Capital Investment Plan submitted with the fiscal year 2012 budget request includes no funding for land-based UAS. The Committee believes there is considerable potential in the use of persistent surveillance tools in the maritime approaches to the continental United States, namely in the Eastern Pacific and Caribbean basin. In the justification materials accompanying the fiscal year 2013 budget submission, the Coast Guard shall clearly outline its plans for further investment in the acquisition and deployment of a land-based UAS in collaboration with CBP, to include estimated acquisition costs and delivery schedule. The Committee advises that any such plan should align with the Coast Guard's CIP and should clearly identify the costs of acquisition, integration, and missionization per asset, as well as a delivery and activation schedule of UAS capability.

LONG-RANGE SURVEILLANCE AIRCRAFT

The Committee has renamed and combined the PPAs for HC-130J introduction and HC-130H refurbishment in order to allow the Coast Guard to leverage its limited funding for these activities for the most cost-effective budgeting for Long Range Surveillance (LRS) Aircraft. The Coast Guard is directed to brief the Committee no later than 45 days after the date of enactment of this Act on its evaluation of options presented in the recently completed Naval Air Systems Command business case analysis of the optimal mix of refurbished HC-130Hs and new HC-130Js. (Pages 79-84)

Appendix A. Criticism of Deepwater Management in 2007

Overall Management of Program

Many observers in 2007 believed the problems experienced in the three Deepwater cutter acquisition efforts were the product of broader problems in the Coast Guard's overall management of the Deepwater program. Reports and testimony in 2007 and prior years from the DHS IG and GAO, as well as a February 2007 DAU "quick look study" requested by the Coast Guard³³ expressed serious concerns about the Coast Guard's overall management of the Deepwater program.

Some observers expressed the view that using a private-sector LSI to implement the Deepwater program made a complex program more complex, and set the stage for waste, fraud, and abuse by effectively outsourcing oversight of the program to the private sector and by creating a conflict of interest for the private sector in executing the program. Other observers, including GAO and the DAU, expressed the view that using a private-sector LSI is a basically valid approach, but that the contract the Coast Guard used to implement the approach for the Deepwater program was flawed in various ways, undermining the Coast Guard's ability to assess contractor performance, control costs, ensure accountability, and conduct general oversight of the program.

Observers raised various issues about the Deepwater contract. Among other things, they expressed concern that the contract was an indefinite delivery, indefinite quantity (ID/IQ) contract, which, they said, can be an inappropriate kind of contract for a program like the Deepwater program. Observers also expressed concern that the contract

- transferred too much authority to the private-sector LSI for defining performance specifications, for subsequently modifying them, and for making technical judgements;
- permitted the private-sector LSI to certify that certain performance goals had been met—so-called self-certification, which, critics argue, can equate to no meaningful certification;
- provided the Coast Guard with insufficient authority over the private-sector LSI for resolving technical disputes between the Coast Guard and the private-sector LSI;
- was vaguely worded with regard to certain operational requirements and technical specifications, reducing the Coast Guard's ability to assess performance and ensure that the program would achieve Coast Guard goals;
- permitted the firms making up the private-sector LSI to make little use of competition between suppliers in selecting products to be used in the Deepwater program, to tailor requirements to fit their own products, and consequently to rely too much on their own products, as opposed to products available from other manufacturers;

³³ Defense Acquisition University, *Quick Look Study, United States Coast Guard Deepwater Program*, February 2007.

- permitted the private-sector LSI's performance during the first five-year period to be scored in a way that did not sufficiently take into account recent problems in the cutter acquisition efforts;
- permitted award fees and incentive fees (i.e., bonuses) to be paid to the private-sector LSI on the basis of "attitude and effort" rather than successful outcomes; and
- lacked sufficient penalties and exit clauses.

Observers also expressed concern that the Coast Guard did not have enough in-house staff and in-house expertise in areas such as program management, financial management, and system integration to properly oversee and manage an acquisition effort as large and complex as the Deepwater program, and that the Coast Guard did not make sufficient use of the Navy or other third-party, independent sources of technical expertise, advice, and assessments. They also expressed concern that the Coast Guard, in implementing the Deepwater program, placed a higher priority on meeting a schedule as opposed to ensuring performance.

In response to criticisms of the management and execution of the Deepwater program, Coast Guard and industry officials acknowledged certain problems in the program's management and execution and defended the program's management execution in other respects.³⁴

National Security Cutter (NSC)

A DHS IG report released in January 2007 strongly criticized the NSC program, citing design flaws in the ship and the Coast Guard's decision to start construction of NSCs in spite of early internal notifications about these flaws. The design flaws involved, among other things, areas in the hull with insufficient fatigue life—that is, with insufficient strength to withstand the stresses of at-sea operations for a full 30-year service life. The DHS IG report also noted considerable growth in the cost to build the first two NSCs, and other issues.³⁵

Observers in 2007 stated that the Coast Guard failed to report problems about the NSC effort to Congress on a timely basis, resisted efforts by the DHS IG to investigate the NSC effort, and appeared to have altered briefing slides on the NSC effort so as to downplay the design flaws to certain audiences. On May 17, 2007, the DHS IG testified that the Coast Guard's cooperation with the DHS IG had substantially improved (though some issues remained), but that Deepwater

³⁴ For examples of Coast Guard testimony, see Department of Homeland Security, U.S. Coast Guard, Statement of Admiral Thad W. Allen, Commandant, on Deepwater: 120-Days Later, Before the Subcommittee on Coast Guard & Maritime Transportation, Committee on Transportation & Infrastructure, U.S. House of Representatives, June 12, 2007; and Department of Homeland Security, U.S. Coast Guard, Statement of Rear Admiral Gary T. Blore and Captain Steven Baynes on Deepwater: Charting a Course For Safer Waters, Before the Committee on Homeland Security, U.S. House of Representatives, Subcommittees on Management, Investigations, and Oversight and Border, Maritime and Global Counterterrorism, May 17, 2007.

For examples of industry testimony, see Statement for the Record, Mr. James E. Anton, Vice President Deepwater Program, Northrop Grumman Ship Systems (NGSS), Testimony Before: The House Maritime and Global Counterterrorism Subcommittee And The House Management, Investigations and Oversight Subcommittee, May 17, 2007; and Testimony of Fred P. Moosally, President, Lockheed Martin Maritime Systems and Sensors, to The House Committee on Homeland Security Subcommittee on Border, Maritime and Global Counterterrorism, May 17, 2007.

³⁵ Department of Homeland Security, Office of Inspector General, *Acquisition of the National Security Cutter*, OIG - 07-23, January 2007. The report is available online at http://www.dhs.gov/xoig/assets/mgmttrpts/OIG_07-23_Jan07.pdf.

contractors had establishing unacceptable conditions for DHS IG to interview contractor personnel about the program.

110/123-Foot Patrol Boat Modernization

The Coast Guard originally planned to modernize and lengthen its 49 existing Island-class 110-foot patrol boats so as to improve their capabilities and extend their lives until their planned eventual replacement with FRCs starting in 2018. The work lengthened the boats to 123 feet. The program consequently is referred to as the 110-foot or 123-foot or 110/123 modernization program.

Eight of the boats were modernized at a total cost of about \$96 million. The first of the eight modernized boats was delivered in March 2004. Structural problems were soon discovered in them. In June 2005, the Coast Guard stopped the modernization effort at eight boats after determining that they lacked capabilities needed for meeting post-9/11 Coast Guard operational requirements.

In August 2006, a former Lockheed engineer posted on the Internet a video alleging four other problems with the 110-foot patrol boat modernization effort.³⁶ The engineer had previously presented these problems to the DHS IG, and a February 2007 report from the DHS IG confirmed two of the four problems.³⁷

On November 30, 2006, the Coast Guard announced that it was suspending operations of the eight modernized boats (which were assigned to Coast Guard Sector Key West, FL) because of the discovery of additional structural damage to their hulls. The suspension prompted expressions of concern that the action could reduce the Coast Guard's border-enforcement capabilities in the Caribbean. The Coast Guard said it was exploring options for addressing operational gaps resulting from the decision.³⁸

On April 17, 2007, the Coast Guard announced that it would permanently decommission the eight converted boats and strip them of equipment and components that might be reused on other Coast Guard platforms.³⁹ The Coast Guard acknowledged in 2007 that the program was a failure.

³⁶ Patricia Kime, "Video Alleges Security Problems With Converted U.S. Coast Guard Cutters," *DefenseNews.com*, August 7, 2006. See also Griff Witte, "On YouTube, Charges Of Security Flaws," *Washington Post*, August 29, 2006. The video is posted on the Internet at <http://www.youtube.com/watch?v=qd3VV8Za04g>.

³⁷ Department of Homeland Security, Office of Inspector General, *110'/123' Maritime Patrol Boat Modernization Project*, OIG -07-27, January 2007. The report is available online at http://www.dhs.gov/xoig/assets/mgmttrpts/OIG_07-27_Feb07.pdf.

³⁸ "Coast Guard Statement on Suspension of Converted Patrol Boat Operations," *InsideDefense.com*, November 30, 2006; Patricia Kime, "U.S. Coast Guard Pulls 123s Out of Service," *DefenseNews.com*, November 30, 2006; Calvin Biesecker, "Coast Guard Suspends 123-Foot Patrol Boat Operations," *DefenseDaily*, December 1, 2006; Robert Block, "Coast Guard Fleet Cuts Could Hurt Border Patrols," *Wall Street Journal*, December 1, 2006; Renae Merle, "Coast Guard Finds Flaws In Converted Patrol Boats," *Washington Post*, December 2, 2006; Renae Merle and Spencer S. Hsu, "Costly Fleet Update Falts," *Washington Post*, December 8, 2006.

³⁹ Coast Guard Press Release dated April 17, 2007, entitled "Statement by Adm. Thad Allen on the Converted 123-Foot Patrol Boats and Changes to the Deepwater Acquisition Program." See also Geoff Fein, "Coast Guard Nixes 123-Foot Patrol Boat, Assumes Lead of Deepwater Effort," *Defense Daily*, April 18, 2007; Patricia Kime, "Coast Guard To Decommission Troubled 123s," *NavyTimes.com*, April 18, 2007.

Fast Response Cutter (FRC)

As a result of the problems in the 110-foot patrol boat modernization project, the Coast Guard accelerated the FRC design and construction effort by 10 years. Problems, however, were discovered in the FRC design. The Coast Guard suspended work on the design in February 2006, and then divided the FRC effort into two classes—the FRC-Bs, which are to be procured in the near term, using an existing patrol boat design (which the Coast Guard calls a “parent craft” design), and the subsequent FRC-As, which are to be based on a fixed version of the new FRC design.

As mentioned earlier, although the November 2006 Deepwater APB calls for 12 FRCs and 46 FRC-Bs, the Coast Guard’s Request for Proposals (RFP) for the FRC-B program includes options for building up to 34 FRC-Bs (which, if exercised, would reduce the number of FRC-As to as few as 24). The Coast Guard has also stated that if the FRC-Bs fully meet the requirements for the FRC, all 58 of the FRCs might be built to the FRC-B design.

Appendix B. Coast Guard Reform Actions in 2007

Actions Announced in April 2007

On April 17, 2007, the Coast Guard announced six changes intended to reform management of the Deepwater program. In announcing the actions, Admiral Thad Allen, the Commandant of the Coast Guard, stated in part:

Working together with industry, the Coast Guard will make the following six [6] fundamental changes in the management of our Deepwater program:

[1] The Coast Guard will assume the lead role as systems integrator for all Coast Guard Deepwater assets, as well as other major acquisitions as appropriate....

[2] The Coast Guard will take full responsibility for leading the management of all life cycle logistics functions within the Deepwater program under an improved logistics architecture established with the new mission support organization.

[3] The Coast Guard will expand the role of the American Bureau of Shipping, or other third-parties as appropriate, for Deepwater vessels to increase assurances that Deepwater assets are properly designed and constructed in accordance with established standards.

[4] The Coast Guard will work collaboratively with Integrated Coast Guard Systems to identify and implement an expeditious resolution to all outstanding issues regarding the national security cutters.

[5] The Coast Guard will consider placing contract responsibilities for continued production of an asset class on a case-by-case basis directly with the prime vendor consistent with competition requirements if: (1) deemed to be in the best interest of the government and (2) only after we verify lead asset performance with established mission requirements.

[6] Finally, I will meet no less than quarterly with my counterparts from industry until any and all Deepwater program issues are fully adjudicated and resolved. Our next meeting is to be scheduled within a month.

These improvements in program management and oversight going forward will change the course of Deepwater.

By redefining our roles and responsibilities, redefining our relationships with our industry partners, and redefining how we assess the success of government and industry management and performance, the Deepwater program of tomorrow will be fundamentally better than the Deepwater program of today....

As many of you know, I have directed a number of significant organizational changes [to the Coast Guard], embedded within direction and orders, to better prepare the Coast Guard to meet and sustain mission performance long into the future as we confront a broad range of converging threats and challenges to the safety, security and stewardship of America's vital maritime interests.

What's important to understand here is that these proposed changes in organizational structure, alignment and business processes, intended to make the Coast Guard more

adaptable, responsive and accountable, are not separate and distinct from what we have been doing over the past year to improve Deepwater.

In fact, many of these initiatives can be traced directly to challenges we've faced, in part, in our Deepwater program. Consequently, we will be better organized, better trained, and better equipped to manage large, complex acquisitions like Deepwater in the coming days, weeks, months and years as we complete these service-wide enhancements to our mission support systems, specifically our acquisition, financial and logistics functions. That is the future of the Coast Guard, and that is the future of Deepwater.

To be frank, I am tired of looking in the rearview mirror - conducting what has been the equivalent of an archaeological dig into Deepwater. We already understand all too well what has been ailing us within Deepwater in the past five years:

We've relied too much on contractors to do the work of government as a result of tightening AC&I budgets, a dearth of contracting personnel in the federal government, and a loss of focus on critical governmental roles and responsibilities in the management and oversight of the program.

We struggle with balancing the benefits of innovation and technology offered through the private sector against the government's fundamental reliance on robust competition.

Both industry and government have failed to fully understand each other's needs and requirements, all too often resulting in both organizations operating at counter-odds to one another that have benefited neither industry nor government.

And both industry and government have failed to accurately predict and control costs.

While we can—and are—certainly learning from the past, we ought to be about the business of looking forward—with binoculars even—as we seek to see what is out over the horizon so we can better prepare to anticipate challenges and develop solutions with full transparency and accountability. That is the business of government. And it's the same principle that needs to govern business as well.

And it's precisely what I intend to do: with the changes in management and oversight I outlined for you here today, with the changes we are making in the terms and conditions of the Deepwater contract, and with the changes we will make in our acquisition and logistics support systems throughout the Coast Guard. If we do, I have no doubt in my mind that we will exceed all expectations for Deepwater....

The Deepwater program of tomorrow will be fundamentally better than the Deepwater program of today.

The Coast Guard has a long history of demonstrating exceptional stewardship and care of the ships, aircraft and resources provided it by the public, routinely extending the life of our assets far beyond original design specifications to meet the vital maritime safety, security and stewardship needs of the nation....

Knowing that to be the case, I am personally committed to ensuring that our newest ships, aircraft and systems acquired through the Coast Guard's Integrated Deepwater System are capable of meeting our mission requirements from the moment they enter service until they are taken out of service many, many years into the future....

As I've said many times in the past, the safety and security of all Americans depends on a ready and capable Coast Guard, and the Coast Guard depends on our Deepwater program to keep us ready long into the future.

The changes to Deepwater management and oversight I outlined here for you today reflect a significant change in the course of Deepwater. I will vigorously implement these and other changes that may be necessary to ensure that our Coast Guard men and women have the most capable fleet of ships, aircraft and systems they need to do the job I ask them to do each and every day on behalf of the American people.⁴⁰

Other Actions Announced in 2007

The Coast Guard in 2007 also did the following:

- announced a reorganization of certain Coast Guard commands—including the creation of a unified Coast Guard acquisition office—that is intended in part to strengthen the Coast Guard's ability to manage acquisition projects, including the Deepwater program;
- stated that would alter the terms of the Deepwater contract for the 43-month award term that commenced in June 2007 so as to address concerns raised about the current Deepwater contract;
- announced that it intended to procure the 12 FRC-B cutters directly from the manufacturer, rather than through ICGS;
- stated that it was hiring additional people with acquisition experience, so as to strengthen its in-house capability for managing the Deepwater program and other Coast Guard acquisition efforts;
- stated that it concurred with many of the recommendations made in the DHS IG reports, and was moving to implement them;
- stated that it was weighing the recommendations of the DAU quick look study; and
- stated that it had also implemented many recommendations regarding Deepwater program management that have been made by GAO.

⁴⁰ Coast Guard Press Release dated April 17, 2007, entitled "Statement by Adm. Thad Allen on the Converted 123-Foot Patrol Boats and Changes to the Deepwater Acquisition Program."

Appendix C. 110/123-Foot Patrol Boat Modernization

As an earlier part of the Deepwater program, the Coast Guard initiated an effort to modernize its existing 110-foot Island class patrol boats, so that they could remain in service pending the delivery of replacement Deepwater craft. Among other things, the modernization increased the length of the boats to 123 feet. The effort is thus referred to variously as the 110-foot modernization program, the 123-foot modernization program, or the 110/123-foot modernization program.

The initial eight boats in the program began to develop significant structural problems soon after completing their modernizations. The Coast Guard removed the boats from service and canceled the program, having spent close to \$100 million on it. On May 17, 2007, the Coast Guard issued a letter to ICGS revoking its previous acceptance of the eight modernized boats—an action intended to facilitate Coast Guard attempts to recover from ICGS funds that were spent on the eight converted boats.⁴¹ On January 7 and 8, 2008, it was reported that the Coast Guard was seeking a repayment of \$96.1 million from ICGS for the patrol boats and had sent a letter to ICGS on December 28, 2007, inviting ICGS to a negotiation for a settlement of the issue.⁴² Some observers questioned the strength of the government’s legal case, and thus its prospects for recovering the \$96.1 million or some figure close to that.⁴³

The Coast Guard testified in April 2009 that:

With regard to the 123-foot patrol boats, the Department of Justice and the DHS-OIG [the DHS Office of the Inspector General] continue their investigation into the project. The qui tam [legal] action involving the patrol boats is still on-going. The Department of Justice has not yet made a determination whether it will intervene in that action. The Coast Guard continues its support of the DOJ and DHS-OIG investigation.

Simultaneous to our support of the DOJ investigation, we have also undertaken an independent engineering analysis through the Navy’s Naval Sea Systems Command, which we expect to be completed sometime this summer. Additionally, we are working with the Department of Justice to release five of the eight patrol boats to salvage systems, equipment and parts still of value to the Coast Guard. The remaining three cutters would remain untouched for evidence purposes in support of the ongoing investigations.⁴⁴

⁴¹ Dan Caterinicchia, “Coast Guard Wants Refund For Ships,” *Associated Press*, May 17, 2007; Renae Merle, “Coast Guard Seeks Deepwater Refund,” *Washington Post*, May 18, 2007: D3.

⁴² See Andrea Shalal-Esa, “Lockheed, Northrop Asked To Pay \$96 Mln For Bad Boats,” *Reuters*, January 7, 2008; Geoff Fein, “Coast Guard Invites ICGS To Negotiate A Settlement Over 123-Foot Boat Issue,” *Defense Daily*, January 8, 2008; Dan Caterinicchia, “Gov’t Wants \$96M Refund For Faulty Ships,” *Business Week*, January 8, 2008. See also Emelie Rutherford, “Coast Guard Wants \$96 Million From Deepwater Team For Bad Ships,” *Inside the Navy*, January 14, 2008.

⁴³ See, for example, Geoff Fein, “Coast Guard Invites ICGS To Negotiate A Settlement Over 123-Foot Boat Issue,” *Defense Daily*, January 8, 2008. See also Geoff Fein, “Rep. Taylor Chides Coast Guard Over Effort To Recoup Cutter Conversion Funds,” *Defense Daily*, February 27, 2008.

⁴⁴ Statement of Admiral Thad W. Allen, Commandant [of the Coast Guard], on the Coast Guard and Acquisitions before the Committee on Appropriations Subcommittee on Homeland Security, U.S. House of Representatives, 22 April 2009, p. 18. See also Bettina H. Chavanne, “Lawmakers Still Pressing USCG On Patrol Boat Conversion,” *Aerospace Daily & Defense Report*, March 25, 2009: 3.

Appendix D. Justice Department Investigation

On April 18, 2007, it was reported that the Justice Department was conducting an investigation of the Deepwater program. Press reports at the time stated that investigation centered on communications systems, the conversion of the Coast Guard's 110-foot patrol boats, and the National Security Cutter (NSC). The Justice Department reportedly notified Lockheed, Northrop, and certain other firms involved in the Deepwater program of the investigation on December 13, 2006, and directed the firms to preserve all documents relating to the program.⁴⁵

⁴⁵ Ana Radelat, "Justice Investigating Deepwater Contractors," *NavyTimes.com*, April 18, 2007; Chris Strohm, "Deepwater Contractors Face Justice Probe" *GovExec.com*, April 19, 2007; Patricia Kime, "Justice Investigating Deepwater Contract," *NavyTimes.com*, April 20, 2007.

Appendix E. Revolving Door and Potential for Conflicts of Interest

The so-called revolving door, which refers to the movement of officials between positions in government and industry, can create benefits for government and industry in terms of allowing each side to understand the other's needs and concerns, and in terms of spreading best practices from one sector to the other. At the same time, some observers have long been concerned that the revolving door might create conflicts of interest for officials carrying out their duties while in government positions. A March 25, 2007, news article stated in part:

Four of the seven top U.S. Coast Guard officers who retired since 1998 took positions with private firms involved in the Coast Guard's troubled \$24 billion fleet replacement program, an effort that government investigators have criticized for putting contractors' interests ahead of taxpayers'.

They weren't the only officials to oversee one of the federal government's most complex experiments at privatization, known as Deepwater, who had past or subsequent business ties to the contract consortium led by industry giants Northrop Grumman and Lockheed Martin.

The secretary of transportation, Norman Y. Mineta, whose department included the Coast Guard when the contract was awarded in 2002, was a former Lockheed executive. Two deputy secretaries of the Department of Homeland Security, which the Coast Guard became part of in 2003, were former Lockheed executives, and a third later served on its board.

Washington's revolving-door laws have long allowed officials from industry giants such as Lockheed, the nation's largest defense contractor, to spend parts of their careers working for U.S. security agencies that make huge purchases from those companies, though there are limits.

But Deepwater dramatizes a new concern, current and former U.S. officials said: how dwindling competition in the private sector, mushrooming federal defense spending and the government's diminished contract management skills raise the stakes for potential conflicts of interest.

Deepwater also illustrates how federal ethics rules carve out loopholes for senior policymakers to oversee decisions that may benefit former or prospective employers. These include outsourcing strategies under which taxpayers bear most of the risks for failure, analysts said.

There is no sign that any of the retired admirals or former Lockheed officials did anything illegal.

But the connections between the agencies and the contractors have drawn the attention of the DHS inspector general, Richard L. Skinner. "That is on our radar screen," he said. "It's something we are very sensitive to."⁴⁶

⁴⁶ Spencer S. Hsu and Renae Merle, "Coast Guard's Purchasing Raises Conflict-Of-Interest Flags," *Washington Post*, March 25, 2007.

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