



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

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Summary

The term Deepwater refers to a collection of more than a dozen 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 had pursued these programs as a single, integrated acquisition program that was known as the Integrated Deepwater System (IDS) program or Deepwater program for short. The now-separated 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 Coast Guard, which is part of the Department of Homeland Security (DHS), is requesting \$1,051.5 million in FY2010 acquisition funding for Deepwater programs, including \$305.5 million for aircraft, \$591.4 million for surface ships and boats, and \$154.6 million for other items.

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).

In April 2009, the Government Accountability Office (GAO) testified that:

At the individual Deepwater asset level, the Coast Guard has improved and begun to apply the disciplined management process found in its *Major Systems Acquisition Manual*, but did not meet its goal of complete adherence to this process for all Deepwater assets by the second quarter of fiscal year 2009. For example, key acquisition management activities—such as operational requirements documents and test plans—are not in place for assets with contracts recently awarded or in production, placing the Coast Guard at risk of cost overruns or schedule slips.

Due in part to the Coast Guard's increased insight into what it is buying, the anticipated cost, schedules, and capabilities of many of the Deepwater assets have changed since the establishment of the \$24.2 billion baseline in 2007. Coast Guard officials have stated that this baseline reflected not a traditional cost estimate but rather the anticipated contract costs as determined by ICGS. As the Coast Guard has developed its own cost baselines for some assets, it has become apparent that some of the assets it is procuring will likely cost more than anticipated. Information to date shows that the total cost of the program may grow by \$2.1 billion. As more cost baselines are developed and approved, further cost growth may become apparent. In addition, while the Coast Guard plans to update its annual budget requests with asset-based cost information, the current structure of its budget submission to Congress does not include certain details at the asset level, such as estimates of total costs and total numbers to be procured. The Coast Guard's reevaluation of baselines has also changed its understanding of the delivery schedules and capabilities of Deepwater assets.”

This report will be updated as events warrant.

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Introduction

The term Deepwater refers to a collection of more than a dozen 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 had pursued these programs as a single, integrated acquisition program that was known as the Integrated Deepwater System (IDS) program or Deepwater program for short. The now-separated 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 Coast Guard, which is part of the Department of Homeland Security (DHS), is requesting \$1,051.5 million in FY2010 acquisition funding for Deepwater programs, including \$305.5 million for aircraft, \$591.4 million for surface ships and boats, and \$154.6 million for other items.

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In April 2009, the Government Accountability Office (GAO) testified that:

The Coast Guard has assumed the role of systems integrator for the overall Deepwater Program by reducing the scope of work on contract with ICGS and assigning these functions to Coast Guard stakeholders. As part of its systems integration responsibilities, the Coast Guard has undertaken a fundamental reassessment of the capabilities, number, and mix of assets it needs; according to an official, it expects to complete this analysis by the summer of 2009. At the individual Deepwater asset level, the Coast Guard has improved and begun to apply the disciplined management process found in its *Major Systems Acquisition Manual*, but did not meet its goal of complete adherence to this process for all Deepwater assets by the second quarter of fiscal year 2009. For example, key acquisition management activities—such as operational requirements documents and test plans—are not in place for assets with contracts recently awarded or in production, placing the Coast Guard at risk of cost overruns or schedule slips.

Due in part to the Coast Guard's increased insight into what it is buying, the anticipated cost, schedules, and capabilities of many of the Deepwater assets have changed since the establishment of the \$24.2 billion baseline in 2007. Coast Guard officials have stated that this baseline reflected not a traditional cost estimate but rather the anticipated contract costs as determined by ICGS. As the Coast Guard has developed its own cost baselines for some assets, it has become apparent that some of the assets it is procuring will likely cost more than anticipated. Information to date shows that the total cost of the program may grow by \$2.1 billion. As more cost baselines are developed and approved, further cost growth may become apparent. In addition, while the Coast Guard plans to update its annual budget requests with asset-based cost information, the current structure of its budget submission to Congress does not include certain details at the asset level, such as estimates of total costs and total numbers to be procured. The Coast Guard's reevaluation of baselines has also changed its understanding of the delivery schedules and capabilities of Deepwater assets."

One reason the Coast Guard sought a systems integrator from outside the Coast Guard was because it recognized that it lacked the experience and depth in workforce to manage the acquisition internally. The Coast Guard acknowledges that it still faces challenges in hiring and retaining qualified acquisition personnel and that this situation poses a risk to the successful execution of its acquisition programs. According to human capital officials in the acquisition directorate, as of April 2009, the acquisition branch had 16 percent of positions unfilled, including key jobs such as contracting officers and systems engineers. Even as it attempts to fill its current vacancies, the Coast Guard plans to increase the size of its acquisition workforce significantly by the end of fiscal year 2011. While the Coast Guard may be hard-pressed to fill these positions, it has made progress in identifying the broader challenges it faces and is working to mitigate them. In the meantime, the Coast Guard has been increasing its use of support contractors.¹

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):

¹ Government Accountability Office, *Coast Guard: Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, summary page.

- **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, aircraft, along with associated C4ISR² 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.³ 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

² C4I stands for command, control, communications, computers, intelligence, surveillance, and reconnaissance.

³ 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.

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 still appear in the budget under the common heading IDS, the Coast Guard is now 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 has 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.

Deepwater Assets Planned for Acquisition⁴

Acquisition Program Baseline

Table 1 shows the 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 assets were 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.

⁴ Additional background information on Deepwater acquisition programs is available at the Coast Guard's acquisition website at <http://www.uscg.mil/acquisition/>.

Table I. Deepwater Assets Planned for Acquisition

(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		
—	System engineering and oversight	1,118
—	Government program management	1,518
—	Technology obsolescence prevention	345

Qty.	Item	Cost
—	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 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.

A version of the baseline approved by 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).⁵

2009 Fleet Mix Analysis

As a consequence of assuming the role of lead system integrator for Deepwater acquisition programs, the Coast Guard is currently performing a fleet mix analysis to review its requirements for Deepwater assets. The analysis, which is to be completed by summer 2009, could lead to changes in the planned mix of Deepwater assets.⁶

Examples of Deliveries of Deepwater Assets⁷

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

- The Coast Guard commissioned the first NSC, Bertholf, into service on August 4, 2008. The second, Waesche, was 78% complete as of March 20, 2009, and is scheduled for delivery in late 2009. The third, Stratton, has begun fabrication. It was 7% complete as of March 20, 2009, and its keel laying is scheduled for summer 2009.
- The first HC-144A Ocean Sentry MPA aircraft was accepted by the Coast Guard on March 10, 2008. As of April 2009, a total of seven had been delivered, and four more were on order. On February 6, 2009, an HC-144A officially stood

⁵ Government Accountability Office, *Coast Guard[.]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, p. 4.

⁶ Rebekah Gordon, "Coast Guard Conducting Fleet-Mix Analysis for Deepwater Assets," *Inside the Navy*, April 6, 2009.

⁷ 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>, and 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.

watch for the first time on a scheduled operational patrol. The aircraft achieved Initial Operational Capability (IOC) on April 2, 2009.

- The first missionized HC-130J LRS aircraft was accepted by the Coast Guard on February 29, 2008. As of April 2009, mission equipment had been installed on three HC-130Js, and two more were in modification.
- As of April 2009, new surface search radars had been installed on five HC-130H LRS aircraft.
- The Coast Guard's Helicopter Interdiction Tactical Squadron (HITRON) received its first MH-65C helicopter in October 2007. As of April 2009, the Coast Guard had configured and delivered 35 MH-65Cs, which include the installation of Airborne Use of Force (AUF) equipment kits.

Deepwater Acquisition Funding

Prior-Year Funding

Table 2 below shows prior-year acquisition funding for Deepwater acquisition programs. As can be seen in the table, the programs have received a net total of about \$6.1 billion in acquisition funding through FY2009, including \$1,034.0 million in FY2009.

Table 2. Prior-year Deepwater Acquisition Funding

(in millions of dollars, rounded to nearest tenth)

	Prior ^a	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Request	n/a	320.2	500.0	500.0	678	966.0	934.4	836.9	990.4
Appropriation	n/a	320.2	478.0	668.2	724.0	933.1	1065.9	783.3	1034.0
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
Cumulative total^b	117.0	437.2	912.1	1522.7	2257.5	3293.9	4438.5	5089.3	6123.3

Source: Prepared by CRS using Coast Guard data provided on January 29, 2007 (FY2007 and prior years), and FY2008 and FY2009 appropriations bills for FY2008 and FY2009. 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.

FY2010 Funding Request

Table 3 shows acquisition funding requested for the Deepwater program for FY2010, along with FY2009 funding. As shown in the table, the Coast Guard has requested \$1,051.5 million in FY2010 acquisition funding for Deepwater programs, including \$305.5 million for aircraft, \$591.4 million for surface ships and boats, and \$154.6 million for other items.

Table 3. FY2008-FY2013 Deepwater Acquisition Funding
(in millions of dollars, rounded to nearest tenth; as shown in FY2009 budget)

Program	FY09 enacted	FY10 requested
Maritime Patrol Aircraft (MPA)	86.6	175.0
HH-60 Conversion Projects	52.7	45.9
HH-65 Conversion/Sustainment Projects	64.5	38.0
HC-130H Conversion/Sustainment Projects	24.5	45.3
HC-130J Fleet Introduction	13.3	1.3
Unmanned aircraft system (UAS)	3.0	0
Subtotal aircraft	244.6	305.5
National Security Cutter (NSC)	353.7	281.5
Offshore Patrol Cutter (OPC)	3.0	9.8
Fast Response Cutter (FRC)	115.3	243.0
Deepwater small boats	2.4	3.0
Medium-endurance cutter sustainment	35.5	31.1
Patrol boats sustainment	30.8	23.0
Polar icebreaker sustainment	30.3 ^a	0
Subtotal surface ships	571.0	591.4
Government program management	58.0	45.0
Systems engineering and integration	33.1	35.0
C4ISR ^b	88.1	35.0
Deepwater logistics	37.7	37.7
Technology obsolescence prevention	1.5	1.9
Subtotal other	218.4	154.6
TOTAL	1,034.0	1,051.5

Source: U.S. Coast Guard Posture Statement With [FY] 2009 Budget in Brief, p. 49 (Table 4). Totals may not add due to rounding.

- a. The Coast Guard states that "Polar icebreaker sustainment is not a Deepwater program but is displayed to align with the FY2009 Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, P.L. 110-329."
- b. Command and control, communications, computers, intelligence, surveillance and reconnaissance.

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),⁸ GAO,⁹ the Defense Acquisition University (DAU)

⁸ 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 (continued...))

(whose analysis was requested by the Coast Guard),¹⁰ 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, as well as 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 B**.

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). For a more detailed discussion, see **Appendix C**.

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.¹¹

(...continued)

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).

⁹ 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.

¹⁰ Defense Acquisition University, *Quick Look Study, United States Coast Guard Deepwater Program*, February 2007.

¹¹ 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.

Oversight Issues for Congress

Potential oversight issues for Congress include but are not necessarily limited to the Coast Guard's overall management of Deepwater acquisition, potential cost growth, the status of certain individual Deepwater acquisition programs, and the so-called revolving door issue.

Overall Management

Coast Guard Perspective

The Coast Guard testified in April 2009 that:

Efforts to consolidate the Coast Guard Acquisition Directorate, assume Lead System Integrator responsibilities, and implement the [Coast Guard's] *Blueprint for Acquisition Reform* [document] have left us better equipped to manage costs, schedules and performance. These business improvements have led to a number of high profile project successes. Consider the recent award of the Fast Response Cutter (FRC) Sentinel-class patrol boat. Initially planned as part of the Deepwater program, to be delivered through Integrated Coast Guard Systems (ICGS), we took this project back within the Coast Guard to ensure full and open competition and responsible program management. We have followed our reformed acquisition processes, conducting a deliberative proposal review and award determination with integrated participation from technical authorities and the operational community. The FRC's proven parentcraft design will minimize cost and schedule risk and mitigate the patrol boat hour gap in the shortest time possible. Neither ICGS nor the Coast Guard's pre-modernized acquisition program could have accomplished this feat as efficiently or effectively, and I am confident we will build on this record of advances for future acquisitions programs as well....

Today, I am pleased to discuss our wholly reformed acquisition organization, an organization with processes and procedures in place to ensure successful program management and oversight. I expect further challenges, but I have the utmost confidence that the processes now in place allow us to address those challenges head-on and facilitate delivery of assets and systems with capabilities to meet the mission needs of today and tomorrow.

The most pointed example of the success of our reformed acquisition processes is Fast Response Cutter Sentinel-class patrol boat. With a total potential contract value of more than \$1 billion, it was a highly competitive process, and our selection survived two post-award protests, demonstrating that our robust acquisition process was beyond reproach.

As the yard stick by which to measure the success of our reformed acquisition enterprise, the Sentinel project provides a number of assurances - all built on the cornerstones for successful acquisition - for its own and future acquisition management successes, including:

- Establishment and maintenance of a direct Coast Guard relationship with the contractor, rather than through a separate lead systems integrator;
- Development of detailed technical requirements, and firm adherence to those requirements throughout the proposal design evaluation process and construction;
- Classification of cutters to established and recognized standards (i.e., American Bureau of Shipping and High Speed Naval Vessel Rules);

- Use of parent craft designs where applicable, with parent craft designer and builder co-located on engineering team;
- On-site government staff at production facilities;
- Fixed price contract structure;
- Extensive involvement of technical authority throughout acquisition and delivery process;
- Independent validation (i.e., independent cost estimates and design assessments);
- Leveraging Navy and other government partnerships; and,
- Ability to re-compete thru options for data and licensing.

The Sentinel project has become the model for all current and future Coast Guard acquisition programs. By adopting needed reforms, and guided by this Subcommittee, we've demonstrated the right way to develop and manage an acquisition project. With those reforms solidly in place, the foundation for continued success is firm....

As acquisition policy and process improvements have promoted project successes, one persistent set of challenges has been the recruitment, development, and retention of a highly qualified acquisition workforce. We have accomplished much in our reforms of contracting, business and financial management, program management, systems engineering and other key disciplines. But, like other federal agencies, we must work hard to attract and retain the best and brightest in a highly competitive market.

In the 1990s, the level of investment in Coast Guard acquisition was approximately \$200 million. In FY 2009, we were appropriated nearly \$1.5 billion for our recapitalization programs. This growth in investment has required our professional workforce to grow to ensure adequate program management and contractor oversight and management. We have worked hard to build capacity. Today the Acquisition Directorate has 855 military and government civilian personnel, and is continuing to grow—including 104 added positions in 2008 and another 65 positions in 2009.

With many agencies competing for qualified acquisition professionals, it is critically important for the Coast Guard to remain competitive in the labor market. The Coast Guard must be able to use all hiring and workforce management tools effectively and expeditiously.

Once hired, however, another challenge is ensuring the appropriate training, skills, and career progression for our workforce. As a government manager, I have an obligation to properly equip my personnel with the skills and tools they need to accomplish their missions.

One of the areas where we have placed enormous pressure is on our training and certification programs. A couple of years ago we had a lot of people who might have had the right experience but had not completed required training or certification, so it was difficult to see standardized skills across projects. We have addressed this challenge. Today, of the 14 Level I investments in our acquisition portfolio (valued at greater than \$1 billion total life cycle cost), 100 percent are led by DHS Level III (the highest level) certified program managers.

We have also developed a new Human Capital Strategic Plan that outlines several goals aimed at improving the skills of our workforce. An overarching objective is to raise the profile of Coast Guard acquisition as a profession with well-defined career paths for both uniformed and civilian employees. That strategy sets goals for training and educational opportunities, using internal resources as well as reaching out to third parties, such as the

Defense Acquisition University and the Naval Postgraduate School, to provide additional support.

The goal in these efforts is to improve the career path that can be followed by uniformed and civilian employees, ultimately narrowing the gap between the complexity of acquisition tasks and the availability of skilled workers to accomplish them....

With acquisition reform firmly taking root, the future of Coast Guard acquisition is bright. We have learned from the past, but our focus remains on the future. Reformed processes have already led to acquisition success, but I am confident our greatest successes lay ahead, if we remain committed to the foundational principles and acquisition cornerstones that have driven our reforms. As the Coast Guard's mission support organization is established fully, those principles will become further engrained in our mission support and acquisition culture.

The future will see new requirements for ever new assets and systems. In fact, we will soon begin the largest single acquisition project in our history—the Off-Shore Patrol Cutter. Now that our reforms are in place, I am confident that this and other future projects will be managed effectively and efficiently.¹²

GAO Perspective

GAO for several years has been assessing, providing reports and testimony on, and making recommendations for Coast Guard management of Deepwater acquisition. The Coast Guard has implemented many of GAO's recommendations. The extent to which the Coast Guard has implemented GAO recommendations has been a topic of congressional oversight for Deepwater acquisition.

GAO testified in April 2009 that:

In deciding to take over the systems integrator role from ICGS, the Coast Guard has taken steps to increase government control and accountability by, among other things, applying the disciplined program management processes in its *Major Systems Acquisition Manual* (MSAM) to Deepwater assets. The MSAM requires documentation and approval of acquisition decisions at key points in a program's life-cycle by designated officials at high levels. The Coast Guard has established a number of goals and deadlines for completing these activities in its *Blueprint for Acquisition Reform*, which was initially released in July 2007 and was last updated in July 2008.

The Coast Guard has taken three major steps to become the systems integrator for the Deepwater Program. It has defined and assigned systems integrator functions to Coast Guard stakeholders, begun to reassess the capabilities and mix of assets it requires, and significantly reduced the contractual responsibilities of ICGS. While the Coast Guard has made progress in applying the disciplined MSAM acquisition process to its Deepwater assets, it did not meet its goal of being fully compliant by the second quarter of fiscal year 2009. In the meantime, the Coast Guard continues with production of certain assets and award of new contracts in light of what it views as pressing operational needs....

¹² 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, pp. 2-3, 8-11.

In 2008, the Coast Guard acknowledged that in order to assume the role of systems integrator, it needed to define systems integrator functions and assign them to Coast Guard stakeholders. Through codified changes to internal relationships, policies, and contractual arrangements, the Coast Guard has done so. For example, the Coast Guard formally designated certain directorates as technical authorities to establish, monitor, and approve technical standards for Deepwater assets related to design, construction, maintenance, logistics, C4ISR, and life-cycle staffing and training. The Coast Guard's capabilities directorate determines operational requirements and the asset mix to satisfy those requirements and establishes priorities. This directorate is expected to collaborate with the technical authorities to ensure that the Coast Guard's technical standards are incorporated during the requirements development process. Further, the acquisition directorate's program and project managers are to be held accountable for ensuring that the assets it procures fulfill operational requirements and the technical authority standards....

When it contracted with ICGS, the Coast Guard had limited insight into how the contractor's proposed solution would meet overall mission needs, limiting its ability to justify the proposed solution and make informed decisions about possible trade-offs. To improve its insight, the capabilities directorate has initiated a fundamental reassessment of the capabilities and mix of assets the Coast Guard needs to fulfill its Deepwater missions. The goals of this fleet mix analysis include validating mission performance requirements and revisiting the number and mix of all assets that are part of the Deepwater Program. A specific part of the study will be to analyze alternatives and quantities for the Offshore Patrol Cutter, an asset which accounts for a projected \$8 billion of the total Deepwater costs. According to an official, the results of this analysis are expected in the summer of 2009. Coast Guard leadership plans to assess the results and make future procurement decisions based on the analysis.

In conjunction with its assuming the role of systems integrator, the Coast Guard has significantly reduced the scope of work on contract with ICGS. In March 2009, the Coast Guard issued a task order to ICGS limited to tasks such as data management and quality assurance for assets currently under contract with ICGS including C4ISR, the Maritime Patrol Aircraft (MPA), and the National Security Cutter (NSC). The Coast Guard is currently developing plans to transition these functions from ICGS to the Coast Guard or an independent third party by February 2011 when this task order expires. For assets procured or planned to be procured outside of the ICGS contract such as the Offshore Patrol Cutter, systems engineering and program management functions are expected to be carried out by the Coast Guard with support from third parties and contractors. According to officials, the Coast Guard has no plans to award additional orders to ICGS for systems integrator functions within the current award term or for any work after the award term expires in January 2011.

Since our June 2008 report on the Deepwater Program, and taking into account our recommendation, the Coast Guard has improved its MSAM process. For example, the process now dictates that the acquisition project and program managers work collaboratively with the technical authorities as described above. The MSAM process was revised to require acquisition planning and an analysis of alternatives for procurement to start at an earlier stage, which is intended to help inform the budget and planning processes. Other improvements include the adoption of our recommendation for a formal design review, Milestone 2A, before authorizing low-rate initial production.

Because the Coast Guard previously exempted Deepwater from the MSAM process, assets were procured without following a disciplined program management approach. Recognizing the importance of ensuring that each acquisition project is managed through sustainable and repeatable processes and wanting to adhere to proven acquisition procedures, in July 2008, the Coast Guard set a goal of completing the MSAM acquisition management activities for

all Deepwater assets by the second quarter of fiscal year 2009. However, of the 12 Deepwater assets in the concept and technology development phase or later, 9 are behind plan in terms of MSAM compliance. In the meantime, the Coast Guard has proceeded with production and awarded new contracts without all of the knowledge it needs to ensure that the capabilities it is buying will meet Coast Guard needs within cost and schedule constraints.

For assets already in production, such as the MPA and the NSC, the Coast Guard has made some progress in the past year in retroactively developing acquisition documentation with the intent of providing the traceability from mission needs to operational performance that was previously lacking. For example, the Coast Guard approved an operational requirements document for the MPA in October 2008 to establish a formal performance baseline and identify attributes for testing. Through this process, the Coast Guard discovered that ICGS's requirement for operational availability (the amount of time that an aircraft is available to perform missions) was excessive compared to the Coast Guard's own standards. According to a Coast Guard official, the ICGS requirement would have needlessly increased costs to maintain and operate the aircraft.

Even as the Coast Guard gains this additional knowledge about MPA requirements, it is continuing with this procurement despite not having completed operational testing. According to the MSAM, testing in an operational environment should be completed with the initial production variants of an asset to demonstrate that capabilities meet requirements before committing to larger purchases. An approved test plan helps ensure that the tests conducted are clearly linked to requirements and mission needs. While the MPA began an operational assessment in July 2008, the Coast Guard still lacked, as of March 2009, a test plan approved by DHS and endorsed by its independent test authority, the Navy's Commander Operational Testing and Evaluation Force. With 11 of 36 MPAs already on contract, the Coast Guard has completed the operational assessment but does not plan to complete operational testing until the fiscal year 2011 time frame. Similarly, according to Coast Guard officials, operational testing of the NSC, also conducted by the Coast Guard's independent test authority, has begun in the absence of an approved test plan, which is now expected in July 2009. By the time testing is scheduled to be completed in 2011, the Coast Guard plans to have six of eight NSCs either built or on contract.

According to the MSAM process, operational requirements must be approved before procuring an asset. However, since committing to the MSAM process, the Coast Guard has awarded new contracts for assets without having all required acquisition documentation in place, due to its determination that the need for these capabilities is pressing. This situation puts the Coast Guard at risk of cost overruns and schedule slips if it turns out that what it is buying does not meet requirements.

- In September 2008, after conducting a full and open competition, the Coast Guard awarded an \$88.2 million contract for the design and construction of a lead Fast Response Cutter. However, the Coast Guard does not have an approved operational requirements document or test plan for this asset. Recognizing the risks inherent in this approach, the Coast Guard developed a basic requirements document and an acquisition strategy based on procuring a proven design. These documents were reviewed and approved by the Coast Guard's capabilities directorate, the engineering and logistics directorate, and chief of staff before the procurement began. According to a Coast Guard official, the Coast Guard intends to have an approved operational requirements document before procuring additional ships.

- In February 2009, the Coast Guard issued a \$77.7 million task order to ICGS for a second segment of C4SIR design and development, before developing its requirements for performance. Design and development costs for the first segment increased from \$55.5 million to \$141.3 million. According to Coast Guard officials, this increase was due in part

to the structure of the ICGS contract under which the Coast Guard lacked visibility into the software development processes and requirements. Furthermore, ICGS's C4ISR solution for the Deepwater Program contains proprietary software. The Coast Guard has acquired data rights to the software and, according to Coast Guard officials, has determined that the capabilities it is buying meet Coast Guard technical standards for maintenance, logistics, and interoperability.¹³

Regarding the Coast Guard's acquisition workforce, GAO testified in April 2009 that:

One reason the Coast Guard originally sought a systems integrator was because it recognized that it lacked the experience and depth in its workforce to manage the acquisition internally. Now that the Coast Guard has taken control of the Deepwater acquisition, it acknowledges that it faces challenges in hiring and retaining qualified acquisition personnel and that this situation poses a risk to the successful execution of its acquisition programs. According to human capital officials in the acquisition directorate, as of April 2009, the acquisition branch had funding for 855 military and civilian personnel and had filled 717 of these positions—leaving 16 percent unfilled. The Coast Guard has identified some of these unfilled positions as core to the acquisition workforce, such as contracting officers and specialists, program management support staff, and engineering and technical specialists. Even as it attempts to fill its current vacancies, the Coast Guard plans to increase the size of its acquisition workforce significantly by the end of fiscal year 2011.

To supplement and enhance the use of its internal expertise, the Coast Guard has increased its use of third-party, independent experts outside of both the Coast Guard and existing Deepwater contractors. For example, a number of organizations within the Navy provided independent views and expertise on a wide range of issues, including testing and safety. In addition, the Coast Guard will use the American Bureau of Shipping, an independent organization that establishes and applies standards for the design and construction of ship and other marine equipment, as an advisor and independent reviewer on the design and construction of the Fast Response Cutter. The Coast Guard has also begun a relationship with a university-affiliated research center to augment its expertise as it executes its fleet mix analysis.

In addition to third party experts, the Coast Guard has been increasing its use of support contractors. Currently, there are approximately 200 contractor employees in support of the acquisition directorate—representing 24 percent of its total acquisition workforce—a number that has steadily increased in recent years. These contractors are performing a variety of services—some of which support functions the Coast Guard has identified as core to the government acquisition workforce—including project management support, engineering, contract administration, and business analysis and management. While support contractors can provide a variety of essential services, their use must be carefully overseen to ensure that they do not perform inherently governmental roles. The Coast Guard acknowledges this risk and is monitoring its use of support contractors to properly identify the functions they perform, as well as developing a policy to define what is and what is not inherently governmental.

While the Coast Guard may be hard-pressed to fill the government acquisition positions it has identified both now and in the future, it has made progress in identifying the broader challenges it faces and is working to mitigate them. The Coast Guard has updated two documents key to this effort, the Blueprint for Acquisition Reform, now in its third iteration,

¹³ Government Accountability Office, *Coast Guard[:J]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 4-10.

and the Acquisition Human Capital Strategic Plan, which is in its second iteration. Each document identifies challenges the Coast Guard faces in developing and managing its acquisition workforce and outlines initiatives and policies to meet these challenges. For example, the Acquisition Human Capital Strategic Plan lays out three overall challenges and outlines over a dozen strategies the Coast Guard is pursuing to address them in building and maintaining an acquisition workforce. The discussion of strategies includes status indicators and milestones to monitor progress, as well as supporting actions such as the formation of partnerships with the Defense Acquisition University and continually monitoring turnover in critical occupations. The Blueprint for Acquisition Reform supports many these initiatives and provides deadlines for their completion. In fact, the Coast Guard has already completed a number of initiatives including

- achieving and maintaining Level III program manager certifications,
- adopting a model to assess future workforce needs,
- incorporating requests for additional staff into the budget cycle,
- initiating tracking of workforce trends and metrics,
- expanding use of merit-based rewards and recognitions, and
- initiating training on interactions and relationships with contractors.¹⁴

The Coast Guard stated the following in concluding its April 2009 testimony:

In conclusion, I'd like to emphasize several key points as we continue to oversee the various Coast Guard initiatives discussed today. It is important to recognize that Coast Guard leadership has made significant progress in identifying and addressing the challenges in taking on the role of systems integrator for the Deepwater Program. The Coast Guard is continuing to build on this progress by starting to follow a disciplined program management approach that improves its knowledge of what is required to meet its goals. An important component of this approach is gaining realistic assessments of needed capabilities and associated costs to enable the Coast Guard and Congress to better execute decision making and oversight. The Coast Guard's ability to build an adequate acquisition workforce is critical, and over time the right balance must be struck between numbers of government and contractor personnel. Until the Coast Guard gains a thorough understanding of what it is buying and how much it will cost, and is able to put in place the necessary workforce to manage the Deepwater Program, it will continue to face risks in carrying out this multibillion dollar acquisition.¹⁵

Potential for Cost Growth

Coast Guard Perspective

The Coast Guard testified in April 2009 that:

¹⁴ Government Accountability Office, *Coast Guard[:J]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 13-15.

¹⁵ Government Accountability Office, *Coast Guard[:J]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 15.

[a] persistent challenge is controlling costs in complex, multiple-year projects – especially those costs driven by economic factors outside the Coast Guard’s control, more specifically, those types of cost increases recently impacting the National Security Cutter and Maritime Patrol Aircraft projects. Current economic conditions have seen a steady six-month decline in the cost of commodities such as nickel, steel and copper. However, when we award production contracts, our contract price reflects commodity prices at the time of award.

In the case of the National Security Cutter we are executing production contracts for NSCs two and three and the long lead time materials contract for NSC four that were priced based on historically high commodity and fuel prices in effect during the summer of 2008. Likewise, when current NSC and MPA contracts were awarded, the value of the U.S. dollar was at a record low when compared to other foreign currencies, meaning all foreign components necessary for production were more expensive.

While the government will never be able to eliminate these types of cost changes completely, we have taken steps to minimize their impact within Coast Guard acquisitions. Once again, by building on the cornerstones for acquisition success, we have established a firm commitment to independent cost estimates within each project to validate projected program costs. We have initiated more rigorous government oversight of contractor performance and cost accounting, including renewed emphasis on Earned Value Management data. And we continue to work with industry to balance risk and ensure affordable acquisition programs at best value for the government.¹⁶

GAO Perspective

Regarding the potential for cost growth in Deepwater acquisition programs, GAO testified in April 2009 that:

Since the establishment of the \$24.2 billion baseline for the Deepwater program in 2007, the anticipated cost, schedules, and capabilities of many of the Deepwater assets have changed, in part due to the Coast Guard’s increased insight into what it is buying. The purpose of the 2007 baseline was to establish cost, schedule, and operational requirements for the Deepwater system as a whole; these were then allocated to the major assets. Coast Guard officials have stated that this baseline reflected not a traditional cost estimate but rather the anticipated contract costs as determined by ICGS. Furthermore, the Coast Guard lacked insight into how ICGS arrived at some of the costs for Deepwater assets.

As the Coast Guard has assumed greater responsibility for management of the Deepwater Program, it has begun to improve its understanding of costs by establishing new baselines for individual assets based on its own cost estimates. These baselines begin at the asset level and are developed by Coast Guard project managers, validated by a separate office within the acquisition branch and, in most cases, are reviewed and approved by DHS. The estimates use common cost estimating procedures and assumptions, and may account for costs not previously captured. Beginning in September 2008 the Coast Guard began submitting new baselines to DHS. To date, 10 asset baselines have been submitted to DHS and 4 have been approved. These new baselines are formulated using various sources of information depending on the acquisition phase of the asset. For example, the baseline for the NSC was updated using the actual costs of material, labor, and other considerations already in effect at the shipyards. The baselines for other assets, like the MPA, were updated using independent

¹⁶ 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, pp. 17-18.

cost estimates. As the Coast Guard approaches major milestones, such as the decision to enter low-rate initial production or begin system development, officials have stated that the cost estimates for all assets will be reassessed and revalidated.

As the Coast Guard has developed its own cost baselines for Deepwater assets, it has become apparent that some of the assets it is procuring will likely cost more than anticipated. While the Coast Guard is still in the process of communicating the effect and origin of these cost issues to DHS, information available to date for assets shows that the total cost of the program will likely exceed \$24.2 billion, with potential cost growth of approximately \$2.1 billion through the life of the Deepwater Program. As more baselines are approved by DHS, further cost growth may become apparent. Table 2 provides the estimates of asset costs available as of April 2009. It does not reflect the roughly \$3.6 billion in other Deepwater costs, such as program management, that the Coast Guard states do not require a new baseline.¹⁷

GAO testified that the cost of the NSC program was estimated in April 2009 at \$4,749 million in then-year dollars – an increase of \$1,299 million, or about 38%, from the 2007 baseline estimate of \$3,450 million, and that the cost of the MPA program was estimated in April 2009 at \$2,223 million in then-year dollars – an increase of \$517 million, or about 30%, from the 2007 baseline estimate of \$1,706 million. Cost growth on the NSC and MPA programs accounts for \$1,816 million of the \$2,053 million in cost growth identified by GAO as of April 2009. GAO testified that

The effort by the Coast Guard to develop new baselines provides not only a better understanding of the costs of the Deepwater assets, but also insight into the drivers of any cost growth. For example, the new NSC baseline attributes a \$1.3 billion rise in cost to a range of factors, from the additional costs to correct fatigue issues on the first three cutters to the rise in commodity and labor prices. The additional \$517 million needed to procure all 36 MPA is attributed primarily to items that were not accounted for in the previous baseline, including a simulator to train aircrews, facility improvements, and adequate spare parts. By understanding the reasons for cost growth, the Coast Guard may be able to better anticipate and control costs in the future.

The Coast Guard has structured some of the new baselines to show how cost growth could be controlled by making trade-offs in asset quantities and/or capabilities. For example, the new MPA baseline provides cost increments that show the acquisition may be able to remain within its initial allotment of the overall \$24.2 billion if 8 fewer aircraft are acquired. Coast Guard officials have stated that other baselines currently under review by DHS present similar cost increments. This information, if combined with data from the fleet mix study to show the effect of quantity or capability reductions on the system-of-systems as a whole, offers a unique opportunity to the Coast Guard for serious discussions of trade-offs.

The Coast Guard's reevaluation of baselines has also changed its understanding of the delivery schedules and capabilities of Deepwater assets. According to the new baselines, a number of assets will be available for operational use later than originally anticipated. This includes a 12-month delay for the NSC to reach its initial operating capability and an 18-month delay for the MPA. Coast Guard officials stated that the restructuring of the unmanned aircraft and small boat projects has delayed the deployment of these assets with

¹⁷ Government Accountability Office, *Coast Guard: Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 10-11.

the NSC and affects the ship's anticipated capabilities in the near term. We plan to report later this summer on the operational effect of the delays in the NSC project.¹⁸

Reporting of Costs and Planned Procurement Quantities

Regarding Coast Guard reporting of costs and planned procurement quantities for Deepwater acquisition programs, GAO testified in April 2009 that:

While the Coast Guard plans to update its annual budget requests with asset-based cost information, the current structure of its budget submission could limit Congress's understanding of details at the asset level. The budget submission presents total acquisition costs only at the overall Deepwater system level (\$24.2 billion), and the description of funding for individual assets does not include key information such as costs beyond the current 5-year capital investment plan, i.e., life-cycle costs, or the total quantities of assets planned. For example, while the justification of the NSC request includes an account of the capabilities the asset is expected to provide, how these capabilities link to the Coast Guard's missions, and details on what activities past appropriations have funded, it does not include estimates of total program cost, future award or delivery dates of remaining assets, or even the total number of assets to be procured.

Our past work has emphasized that one of the keys to a successful capital acquisition, such as the multibillion-dollar ships and aircraft the Coast Guard is procuring, is budget submissions that clearly communicate needs. A key part of this communication is to provide decision makers with information about cost estimates, risks, and the scope of a planned project before committing substantial resources to it. Good budgeting also requires that the full costs of a project be considered upfront when decisions are made. Other agencies within the federal government that acquire systems similar to those of the Coast Guard capture these elements in justifications of their requests....

While the Coast Guard does include some of this information in its asset-level Quarterly Acquisition Reports to Congress and the Deepwater Program Expenditure Report, these documents are provided only to the appropriations committees, and the information is restricted due to acquisition sensitive material.¹⁹

National Security Cutter (NSC)

Oversight issues concerning the NSC program include 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.

¹⁸ Government Accountability Office, *Coast Guard[]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 11-12. See also Rebekah Gordon, "Blore: Deepwater Costs Rise by \$2 Billion, Greater Growth Possible," *Inside the Navy*, March 30, 2009; Calvin Biesecker, "Deepwater Asset Costs Exceed \$24 Billion Program Baseline By \$2 Billion, Rep. Cummings Says," *Defense Daily*, March 25, 2009: 7-8.

¹⁹ Government Accountability Office, *Coast Guard[]Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, pp. 12-13.

Coast Guard Perspective

The Coast Guard testified in April 2009 that:

We have been actively running *Bertholf* through her paces during the operational test and evaluation process now underway and have received very positive feedback from her crew and the Coast Guard's operational community. Of particular note, *Bertholf* has conducted her first operational patrols and completed flight deck dynamic interface testing and attained interim flight deck certification. Additionally, *Bertholf* recently conducted towing exercises with CGC [Coast Guard cutter] *Morgenthau*, a fueling at sea evolution with USNS [U.S. naval ship] *Kaiser*, and testing of the 57mm deck gun and close-in weapon system against high-speed maneuvering surface targets and unmanned aerial vehicles....

We continue to see real progress in the areas of Information Assurance, which includes TEMPEST, on the NSC. Our technical authority, with support from the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and NSC project managers, conducted TEMPEST certification inspections prior to preliminary acceptance of *Bertholf* in May 2008. Those pre-delivery inspections have contributed to building a TEMPEST baseline, which will serve as a reference point for all future TEMPEST-related activities. Using the test-fix-test methodology, we now have resolved all 122 visual TEMPEST discrepancies identified during that pre-acceptance process. We are conducting additional instrumented TEMPEST surveys using a National Security Agency (NSA) approved contractor to prepare for final TEMPEST testing, which is scheduled to be conducted by SPAWAR [the Navy's Space and Naval Warfare Systems Command] and in April 2009.

We continue to build on lessons learned and are making some significant improvements to the *Stratton*, including construction process efficiencies, enhanced functionality and better hull design. One of the most notable process improvements is a significant reduction in the number of grand blocks—multiple units stacked together in large assembly halls away from the waterfront—used to assemble the ships hull. We used 29 grand blocks to assemble *Bertholf*, but expect to use as few as 14 to assemble *Stratton*. This will enable more sub-assembly work in each grand block in a controlled environment and potentially lead to fewer construction hours compared to the process for *Bertholf*.

Other improvements include an enhanced replenishment at sea station, which incorporates a redesigned refueling area that will be more efficient and ergonomic for cutter personnel. We are also improving the gas turbine removal route, which will make it easier to remove and repair the gas turbine modules that power the cutter. And we have enhanced the hull fatigue design on *Stratton*, ensuring she will achieve a 30-year fatigue life.

We are currently working toward production award for the fourth NSC, *Hamilton*. In line with accomplished acquisition reforms and our efforts to become the lead systems integrator, the production award for *Hamilton* will occur outside the Integrated Coast Guard Systems (ICGS) LSI construct and include a fixed price contract structure.²⁰

The Coast Guard also testified in April 2009 that:

²⁰ 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, pp. 13-14.

our reform efforts are facilitating the successful resolution of past and current project challenges.

One such challenge is the fatigue lifespan of the National Security Cutter—which the Coast Guard insists be at least 30 years—meaning at least 30 years before the onset of major repairs due to normal mission use. In 2007, in accordance with the acquisition success cornerstones and working through our technical authority for engineering and logistics, the Coast Guard arranged to work with the Navy’s Naval Surface Warfare Center, Carderock Division to provide independent third party analysis of fatigue design solutions developed by Coast Guard naval engineers. Using the newest available computer fatigue modeling software, Carderock reached two main conclusions in its final report, presented to the Coast Guard earlier this year.

First, Carderock determined Coast Guard-developed design fatigue enhancements for the hulls of NSCs three through eight will achieve the desired 30-year fatigue life, while also recommending monitoring of localized stress in several structural details. Second, the report identifies major improvements with fatigue life after completing identified modifications to hulls one and two, but the Carderock transmittal letter recommends more data be gathered for several areas which are still modeling a less-than 30-year fatigue life.

We agree with Carderock’s assessments. In fact, we have already outfitted CGC Bertholf with strain gauge sensors to measure actual encountered stresses and collect data to enable more precise design modeling. Our technical authority is also reviewing each area identified by Carderock, based on Coast Guard missions and the planned operational profile of the NSC, and will develop a plan to address those concerns prior to implementing any related design fix. Plans are to gather data and modify design enhancements over a span of multiple years, even after NSCs one and two transition to full operations, as the upgrades are completed over potentially several future yard availabilities. We plan to continue to collaborate with Carderock to conduct further analysis, including possible re-validation of changes to the proposed design as a result of the recommendations in their report.

Another persistent challenge is controlling costs in complex, multiple-year projects – especially those costs driven by economic factors outside the Coast Guard’s control, more specifically, those types of cost increases recently impacting the National Security Cutter and Maritime Patrol Aircraft projects. Current economic conditions have seen a steady six-month decline in the cost of commodities such as nickel, steel and copper. However, when we award production contracts, our contract price reflects commodity prices at the time of award.

In the case of the National Security Cutter we are executing production contracts for NSCs two and three and the long lead time materials contract for NSC four that were priced based on historically high commodity and fuel prices in effect during the summer of 2008. Likewise, when current NSC and MPA contracts were awarded, the value of the U.S. dollar was at a record low when compared to other foreign currencies, meaning all foreign components necessary for production were more expensive.²¹

²¹ 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, pp. 17-18. See also Calvin Biesecker, “Coast Guard’s NSC Fleet Cost Estimates Rise Due To Labor, Commodity Issues,” *Defense Daily*, February 6, 2009: 2-3; Bettina H. Chavanne, “National Security Cutter Hulls Below Fatigue Life Requirements,” *Aerospace Daily & Defense Report*, February 10, 2009: 1-2; Rebekah Gordon, “First Two National Security Cutters Still Face Fatigue-Life Issues,” *Inside the Navy*, February 9, 2009.

GAO Perspective

As mentioned earlier, the Coast Guard testified in April 2009 that the cost of the NSC program was estimated in April 2009 at \$4,749 million in then-year dollars—an increase of \$1,299 million, or about 38%, from the 2007 baseline estimate of \$3,450 million, and that the Coast Guard attributes the increase “to a range of factors, from the additional costs to correct fatigue issues on the first three cutters to the rise in commodity and labor prices.”²²

In June 2008, GAO reported the following regarding the status of the NSC program:

The NSC’s projected costs have increased greatly compared to the initial baseline. Requirements changes to address post-9/11 needs are one of the main reasons for the cost increases. Hurricane Katrina was another contributing factor, but Coast Guard actions also contributed to the increases, such as the decision to proceed with production before resolving fatigue life concerns. Fatigue is physical weakening because of age, stress, or vibration. A U.S. Navy analysis done for the Coast Guard determined that the ship’s design was unlikely to meet fatigue life expectations. The Coast Guard ultimately decided to correct the structural deficiencies for the first two National Security Cutters at scheduled points after construction is completed to avoid stopping the production lines, and to incorporate structural enhancements into the design and production for future ships. In August 2007, the Coast Guard and ICGS agreed to a consolidated contracting action to resolve the contractor’s request for equitable adjustment of \$300 million, stemming from ICGS’s contention that the Coast Guard had deviated from a very detailed contractor implementation plan on which pricing was based. This negotiation also converted the second NSC from a fixed-price to a cost plus incentive fee contract.

A Coast Guard official stated that the first NSC is nearing completion with more than 98 percent of the ship constructed and machinery, builders, and acceptance trials have been completed. Delivery of the ship to the Coast Guard occurred on May 8, 2008; however, the contractor is still in the process of submitting certifications and resolving issues found in testing including these with the propulsion system and communications equipment. A Coast Guard official stated that the second NSC is 50 percent complete and long lead materials and production contracts have been awarded for the third ship. The Coast Guard plans to award the production contract for the fourth NSC in fiscal year 2009, with a contract for long lead materials for that ship planned for the summer of 2008.

A Coast Guard official stated that some issues with the first NSC will remain at delivery, including issues with classified communications systems. Officials told us that they are in the process of determining how to most cost effectively address these issues. ICGS will continue to perform work on the first NSC after it leaves the shipyard, including certain repairs that fall under the ship’s warranty.²³

In March 2008, GAO reported the following regarding the status of the NSC program:

Changes to the NSC have had cost, schedule, and performance ramifications.

²² Government Accountability Office, *Coast Guard[:]
Update on Deepwater Program Management, Cost, and Acquisition Workforce*, GAO-09-620T, April 22, 2009, p. 11.

²³ Government Accountability Office, *Coast Guard[:]
Change in Course Improves Deepwater Management and Oversight, but Outcome Still Uncertain*, GAO-08-745, June 2008, p. 36.

The estimated costs for the first three ships have generally doubled from the initial projected costs due to a number of contributing factors, including requirements changes as a result of September 11, Hurricane Katrina damages, and some program management actions by the Coast Guard.

Delivery of the ship could be delayed. An aggressive trial schedule leaves little time for dealing with the unexpected, and most certifications have yet to be completed.

Coast Guard officials expect the ship to meet all performance parameters, but will not know for certain until the ship undergoes trials. Further, Coast Guard engineers have concerns that most of the ship’s available weight margin has been consumed during construction, meaning that subsequent changes to the ship will require additional redesign and engineering to offset the additional weight.²⁴

The GAO report also stated:

The NSC’s projected costs have increased compared to the initial baseline, as shown in [GAO Report] Table [No.] 1.

[GAO Report] Table 4.No.] 1: Cost Growth for NSC 1 -3 (Dollars in millions)

	NSC 1	NSC 2	NSC 3
Design	\$67.7	—	—
Build	264.4	\$200.7	\$189.2
Govt. Furnished equipment (GFE)	52.8	50.0	40.0
Initial projected costs (2002)	\$384.9	\$250.7	\$229.2
Requirements changes	75.9	60.0	60.0
Hurricane Katrina	40.0	44.4	38.7
Economic changes	58.3	69.9	86.8
Structural enhancements	40.0	30.0	16.0
Other GFE	41.5	40.7	73.9
Current projected costs (2008)	\$640.7	\$495.7	\$504.6

Source: Coast Guard.

Note: Economic changes include, for example, escalation of material/labor and some costs associated with settling the REA. Other GFE includes certifications, tests, and training. For NSC 3, other GFE also includes additional government oversight.

Requirements changes to address post-9/11 needs are one of the main reasons for the cost increases. The new requirements include

- expanded interoperability with the Department of Defense, DHS, and local first responders;
- increased self-defense and survivability, including chemical, biological, and radiological measures;

²⁴ Government Accountability Office, *Status of Selected Aspects of the Coast Guard’s Deepwater Program*, GAO-08-270R, March 11, 2008, pp. 2-3.

- increased flight capability via longer and enhanced flight deck;
- upgraded weapon systems; and
- improved classified communication capabilities.

Another contributing factor was Hurricane Katrina, which not only caused considerable damage to the shipyard, including tooling, equipment, shops, and other facilities, but also caused an exodus of the experienced workforce. The overall number of shipworkers declined significantly, causing the contractor to use more overtime hours. The loss of workers, in turn, considerably disrupted the ship's learning curve, which normally results in greater efficiencies in production of subsequent ships.

However, some of the increase can be attributed to Coast Guard actions. For example, the contractor used the Coast Guard's failure to precisely execute the contract according to the implementation plan as basis for requesting an equitable adjustment. Furthermore, even though the Coast Guard's own technical staff raised fatigue life concerns—later confirmed by a U.S. Navy study—during the design phase, the decision was made to proceed with production of the first two NSCs and enhance the structure later.²⁵

With regard to the delivery schedule for NSC-1, the same GAO report stated:

The first NSC was initially projected for delivery in 2006, but slipped to August 2007 after the 9/11 requirements changes. However, delivery was again delayed until April 2008. It is uncertain at this time whether the new delivery date will be met due to several factors involving testing, certifications, and other areas of technical risk.

Machinery trials occurred in early December and builder's trials occurred February 8 -11, 2008. The current schedule leaves little margin for delay. Acceptance trials are scheduled to begin April 7, 2008. The contract requires 30 days between acceptance trials and ship delivery, but the scheduled dates for these events are about 3 weeks apart. The Coast Guard and the contractor are aware of the discrepancy; however, no decision has been made on how to resolve this issue. The Coast Guard will have to either extend the delivery date of the ship to meet the requirement or waive it. Our prior work has shown that event-driven rather than schedule-driven decisions are preferable, thus it may be in the best interest of the Coast Guard to delay acceptance of the first NSC until a number of these issues are resolved.

Of the 987 certification standards, ICGS was to submit documentation on 892 for review and acceptance by the Coast Guard Technical Authority. Almost all remain outstanding. In addition, the Coast Guard and contractor differed in their understanding of the number of certifications for which ABS was responsible. Northrop Grumman had contracted with ABS to certify 60 standards; however, the Coast Guard believed ABS was responsible for 84. According to Coast Guard officials, the issue has been resolved and ABS will now be responsible for 86 certifications. Further, for NSC 3 and later ships, ABS will be responsible for about 200 certifications. Other third parties will certify 11 of the standards.

The Coast Guard has identified 13 issues pertaining to C4ISR and Hull, Mechanical, and Electrical as risk areas, 8 of which have moderate to high risk of occurrence or impact if not resolved. One of these relates to the results of the July 2007 visual TEMPEST inspection, conducted by a team of Coast Guard officials. The team reported hundreds of discrepancies, over 40 percent of which pertain to cable grounding and separation, such as cables intended

²⁵ Ibid, Objective #3 (page 4).

for classified information not being adequately separated from those intended for nonclassified information. Coast Guard officials told us that they requested the test be done earlier than usual so that issues could be identified and corrected sooner.

Coast Guard and Navy personnel noted that having open issues with a ship—particularly for the first in class—at the time of delivery is normal. After acceptance, the Coast Guard plans to conduct operational testing at sea for approximately 2 years, during which time open issues can be resolved. The ship will officially become operational thereafter, which, based on the current schedule, will be March 2010.²⁶

With regard to performance parameters for the NSC, the same GAO report stated:

Key performance parameters for the NSC were first defined in the Acquisition Program Baseline submitted for DHS approval in November 2006. Coast Guard officials explained that the key performance parameters were derived from performance specification requirements that had been in place before contract award....

The key performance parameters have not been changed due to post-9/11 mission requirements. Coast Guard officials expect the NSC to meet the current threshold parameters, but they will not know for certain until the ship undergoes sea trials.

However, the Coast Guard's Engineering Logistics Center officials expressed concern about the ship's weight margin. Ship designs typically include a margin for additional weight to accommodate service enhancements during the ship's service life. The officials noted that most of the available weight margin has already been consumed during construction—not including the fatigue life structural enhancements. The officials further noted that subsequent changes to the ship will cost more than they would have otherwise due to additional redesign and engineering that may be necessary to offset the additional weight. Coast Guard officials noted, however, that a mitigation strategy is in place and adjustments are being made that will increase the service life weight margin.²⁷

Sentinel Class Fast Response Cutter (FRC)

On March 14, 2007, the Coast Guard announced that it intended to procure the 12 FRC-B cutters, also known as the Sentinel class, directly from the manufacturer, rather than through ICGS.²⁸ On June 22, 2007, the Coast Guard issued a Request for Proposals (RFP) for the FRC-B, with submissions from industry due November 19, 2007. In February 2008, it was reported that the contract to be awarded by the Coast Guard could be valued at up to \$1.7 billion for 34 FRC-Bs, if all options are executed.²⁹ On September 26, 2008, the Coast Guard announced that it had awarded an \$88-million contract to Bollinger Shipyards for the design and construction of the FRC-B, which the Coast Guard now refers to as the Sentinel class. On October 7, 2008, the

²⁶ Ibid, Objective #3 (page 5).

²⁷ Ibid, Objective #3 (page 6).

²⁸ Coast Guard press release, "Coast Guard Reassigns Deepwater Replacement Patrol Boat Acquisition Project," March 14, 2007; Calvin Biesecker, "Coast Guard Strips FRC-B Patrol Boat Acquisition From ICGS," *Defense Daily*, March 15, 2007; Renae Merle, "Coast Guard Cancels Contract," *Washington Post*, March 15, 2007; and David Stout, "Coast Guard Cancels Contract For Vessel," *New York Times*, March 15, 2007.

²⁹ Andrea Shalal-Esa, "US Coast Guard Sees Patrol Boat Award in May or June," *Reuters*, February 11, 2008. See also Stew Magnuson, "Not So Fast on Fast Response Cutters, Coast Guard Says," *National Defense Magazine*, February 2008.

shipbuilding firm Marinette Marine filed a protest with GAO of the Coast Guard's contract award to Bollinger.³⁰ On January 12, 2009, GAO denied the protest.³¹ On February 9, 2009, Marinette Marine notified the Justice Department of its intent to file a second protest, but on February 17, 2009, it was reported that Marinette had withdrawn the second protest.³²

Coast Guard Perspective

As stated earlier, the Coast Guard testified in April 2009 that:

business improvements have led to a number of high profile project successes. Consider the recent award of the Fast Response Cutter (FRC) Sentinel-class patrol boat. Initially planned as part of the Deepwater program, to be delivered through Integrated Coast Guard Systems (ICGS), we took this project back within the Coast Guard to ensure full and open competition and responsible program management. We have followed our reformed acquisition processes, conducting a deliberative proposal review and award determination with integrated participation from technical authorities and the operational community. The FRC's proven parentcraft design will minimize cost and schedule risk and mitigate the patrol boat hour gap in the shortest time possible. Neither ICGS nor the Coast Guard's pre-modernized acquisition program could have accomplished this feat as efficiently or effectively, and I am confident we will build on this record of advances for future acquisitions programs as well....

The most pointed example of the success of our reformed acquisition processes is Fast Response Cutter Sentinel-class patrol boat. With a total potential contract value of more than \$1 billion, it was a highly competitive process, and our selection survived two post-award protests, demonstrating that our robust acquisition process was beyond reproach.

As the yard stick by which to measure the success of our reformed acquisition enterprise, the Sentinel project provides a number of assurances - all built on the cornerstones for successful acquisition - for its own and future acquisition management successes, including:

- Establishment and maintenance of a direct Coast Guard relationship with the contractor, rather than through a separate lead systems integrator;
- Development of detailed technical requirements, and firm adherence to those requirements throughout the proposal design evaluation process and construction;
- Classification of cutters to established and recognized standards (i.e., American Bureau of Shipping and High Speed Naval Vessel Rules);
- Use of parent craft designs where applicable, with parent craft designer and builder co-located on engineering team;
- On-site government staff at production facilities;
- Fixed price contract structure;

³⁰ Rebekah Gordon, "Marinette Marine Files Protest Over Coast Guard's FRC Award," *Inside the Navy*, October 13, 2009.

³¹ Rebekah Gordon, "GAO Denies Protest of Coast Guard Award to Bollinger for FRC," *Inside the Navy*, January 19, 2009.

³² Amy McCullough, "Marinette Withdraws Patrol Boat Protest," *NavyTimes.com*, February 17, 2009.

- Extensive involvement of technical authority throughout acquisition and delivery process;
- Independent validation (i.e., independent cost estimates and design assessments);
- Leveraging Navy and other government partnerships; and,
- Ability to re-compete thru options for data and licensing.

The Sentinel project has become the model for all current and future Coast Guard acquisition programs.³³

The Coast Guard also testified in April 2009 that:

our reform efforts are directly measured in the recent contract award for the critically needed Fast Response Cutter Sentinel-class patrol boat. Initially planned as part of the Deepwater program, to be delivered through Integrated Coast Guard Systems, we took this project back within the Coast Guard to ensure full and open competition and responsible program management. We have abided strictly to our reformed acquisition processes, conducting a deliberative proposal review and award determination with integrated participation from technical authorities and the operational community. Based on the cornerstones for successful acquisition, this project also adheres to MSAM guidelines, full reporting, independent assessment and validation, leveraging internal and external partnerships, and robust departmental oversight.³⁴

GAO Perspective

In June 2008, GAO reported the following regarding the status of the FRC-B program:

In February 2006, the Coast Guard suspended work on the FRC design proposed by the system integrator to assess and mitigate technical risks. This design was known as the FRC-A. The Commandant of the Coast Guard officially terminated FRC-A design efforts in February 2008 after approximately \$35 million had been obligated to ICGS. To meet an aggressive schedule, the FRC-A was initiated as an undefinitized contract action (UCA), meaning that the contractor was authorized to begin work and incur costs before a final agreement on contract terms and conditions, including price, was reached. Under UCAs, the government risks paying increased costs because the contractor has little incentive to control costs. The UCA was expected to be definitized in January 2006, but this has not yet occurred; Coast Guard officials anticipate its happening soon.

Over the past 2 years, the Coast Guard has pursued acquisition of a modified commercially available patrol boat with similar performance capabilities to the FRC-A, termed the FRC-B. The Coast Guard issued a request for proposals for the FRC-B and is currently reviewing contractor responses. Coast Guard officials told us there was sufficient competition, and they plan to award the contract in July 2008. The first FRC-B is scheduled to be delivered in 2010. The contract is for the design and production of up to 34 cutters. The Coast Guard intends to acquire 12 FRCs by 2012 for an estimated cost of \$593 million, or \$49.4 million

³³ 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, pp. 2-3, 8-9.

³⁴ 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, pp. 15-16.

per cutter. Coast Guard officials told us they are pursuing this 12-boat acquisition strategy to help fill the current patrol boat operational gap. They plan to assess the capabilities of the FRC-B before exercising options for additional cutters. The officials told us they have not updated the acquisition program baseline for this asset, and they do not plan to update cost estimates until the contract is awarded.³⁵

In March 2008, GAO reported that:

The Coast Guard obligated approximately \$35 million on the ICGS design for the FRC, but concerns prompted officials to put the acquisition on hold. To fill its urgent need for patrol boats, the Coast Guard plans to award a contract for a commercially available design of the FRC. Coast Guard officials said this approach will help ensure competition and meet their tight time frames. The new requirements for this design of the FRC have some differences. These include a top speed that is 2 knots slower—28 instead of 30 knots—and allowance of a manual small-boat launch and recovery system that Coast Guard officials said is not as safe and requires more crew to operate than the preferred stern ramp system.³⁶

The same GAO report also stated:

FRC-A Design Efforts Remain Suspended

Since the FRC-A acquisition effort began, the Coast Guard obligated approximately \$35 million to ICGS for the design of this asset, but a viable design has not been produced. Coast Guard officials told us that at this time design efforts remain suspended; they do not expect to incur any additional costs related to the FRC-A. The original estimate for the fleet of 58 FRC-As was approximately \$3.2 billion.

Due to high risk and uncertain cost savings, Coast Guard officials recommended to the Commandant that the Coast Guard not pursue acquisition of an FRC-A design that includes unproven composite hull technology. The officials told us this recommendation was largely based on a third-party analysis that found the composite technology unlikely to meet the desired 35-year service life under the Coast Guard's operational conditions. Therefore, officials believe that the use of the proposed composite materials would not offset high initial acquisition costs, as ICGS had initially proposed.

Cost, Schedule, and Performance of FRC-B

In June 2007, the Coast Guard issued an RFP for the design, construction, and delivery of a modified commercially available patrol boat for the FRC-B. The Coast Guard estimated, in late 2006, that the total acquisition cost for 12 FRC-Bs would be \$593 million. Coast Guard officials do not plan to update cost estimates for the FRC-B until after the contract is awarded. The Coast Guard is currently evaluating proposals and expects to award the FRC-B contract in the third quarter of fiscal year 2008, with the lead cutter to be delivered in 2010. Coast Guard officials stated that their goal is still to acquire 12 FRC-Bs by 2012. The contract will include a 2-year base period for the design and production of the lead cutter and six 1-year option periods. The first option period includes 3 low-rate initial production cutters, and the subsequent five option periods include an option of 4 or 6 cutters each. The

³⁵ Government Accountability Office, *Coast Guard[:] Change in Course Improves Deepwater Management and Oversight, but Outcome Still Uncertain*, GAO-08-745, June 2008, p. 37.

³⁶ Government Accountability Office, *Status of Selected Aspects of the Coast Guard's Deepwater Program*, GAO-08-270R, March 11, 2008, p. 2.

Coast Guard intends to award a fixed price contract for design and construction of the FRC-B, with the potential to acquire a total of 34 cutters.

Regarding performance, there are some key differences in the FRC-B, as outlined in the RFP, compared with the requirements for the FRC-A. One difference is speed—the Coast Guard lowered the minimum requirement for sprint speed from 30 knots for the FRC-A to 28 for the FRC-B. Another pertains to onboard small boat launch-and-recovery mechanisms: the initial design for the FRC-A included a stern ramp launch. This capability is not required on the FRC-B. However, Coast Guard officials expressed a preference for the stern ramp launch-and-recovery system because it would be safer and require fewer crew to operate than a manual alternative. Coast Guard officials said that eliminating these design requirements would ensure more competition on the open market and meet their urgent need for patrol boats.³⁷

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.³⁸ 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.³⁹ 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.⁴⁰

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

³⁷ Ibid, Objective #2 (page 3).

³⁸ 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.

³⁹ 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.

⁴⁰ 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.

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.⁴¹

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.

⁴¹ 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.

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.”⁴²

Potential Options for Congress

In addition to approving or modifying the Coast Guard’s requests for FY2010 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, including implementation of reform actions announced by the Coast Guard itself or recommended by GAO;
- modify reporting requirements for the Deepwater program;
- prohibit the obligation or expenditure of some or all FY2010 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 Deepwater acquisition reforms that the Coast Guard has already announced, or to change Deepwater acquisition in other ways.

Legislative Activity for FY2010

The proposed FY2010 budget for the Coast Guard, including Deepwater acquisition, was submitted to Congress in early May 2009. The budget requests \$1,051.5 million in FY2010 acquisition funding for Deepwater programs, including \$305.5 million for aircraft, \$591.4 million for surface ships and boats, and \$154.6 million for other items.

Legislation relating to Coast Guard acquisition, including Deepwater acquisition, introduced in the 111th Congress includes H.R. 1665, the Coast Guard Acquisition Reform Act of 2009.

⁴² Spencer S. Hsu and Renae Merle, “Coast Guard’s Purchasing Raises Conflict-Of-Interest Flags,” *Washington Post*, March 25, 2007.

Appendix A. Legislative Activity in 110th Congress

Laws and Bills

Laws and bills in the 110th Congress relating to Deepwater acquisition include the following:

- **H.R. 2638/P.L. 110-329** of September 30, 2008, an FY2009 consolidated appropriations act that incorporated the FY2009 DHS appropriations act;
- **H.R. 2764/P.L. 110-161** of December 26, 2007, an FY2008 consolidated appropriations act that incorporated the FY2008 DHS appropriations act;
- **H.R. 2206/P.L. 110-28** of May 25, 2007, the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act of 2007;
- **H.R. 2830/S. 1892**, the Coast Guard Authorization Act of 2008;
- **H.R. 6999**, the Integrated Deepwater Program Reform Act of 2008;
- **H.R. 2722/S. 924**, the Integrated Deepwater Program Reform Act; and
- **S. 889**, the Deepwater Accountability Act.

Summary of Action on FY2009 Acquisition Funding Request

Table A-1 summarizes action on the FY2009 acquisition funding request for Deepwater acquisition programs.

Table A-1. Action on FY2009 Acquisition Funding Request

(in millions of dollars, rounded to nearest tenth)

	Request	Appropriation					Compromise change from request
		House (H.R. 6947)	House change from request	Senate (S. 3181)	Senate change from request	Compromise (H.R. 2638)	
Air assets							
Maritime Patrol Aircraft	86.6	86.6	0	86.6	0	86.6	0
HH-60 Conversion	52.7	52.7	0	52.7	0	52.7	0
HH-65 Conv./Sust. ^a	64.5	64.5	0	64.5	0	64.5	0
HC-130H Conv./Sust. ^a	24.5	24.5	0	24.5	0	24.5	0
HC-130J Fleet Intro. ^a	0	0	0	23.7	23.7	13.3	13.3
Armed Helo Equip. ^a	0	0	0	0	0	0	0
UAS ^a	3.0	0	-3.0	3.0	0	3.0	.0
<i>Subtotal aircraft</i>	<i>231.3</i>	<i>228.3</i>	<i>-3.0</i>	<i>255.0</i>	<i>23.7</i>	<i>244.6</i>	<i>13.3</i>
Surface assets							
NSC	353.7	300.0	-53.7	353.7	0	353.7	0

	Appropriation						
	Request	House (H.R. 6947)	House change from request	Senate (S. 3181)	Senate change from request	Compromise (H.R. 2638)	Compromise change from request
OPC	3.0	3.0	0	3.0	0	3.0	0
FRC-B	115.3	115.3	0	115.3	0	115.3	0
Deepwater small boats	2.4	2.4	0	2.4	0	2.4	0
WMEC sustainment ^a	35.5	35.5	0	35.5	0	35.5	0
Patrol boats sustainment	30.8	30.8	0	30.8	0	30.8	0
FRC-A	0	0	0	0	0	0	0
Polar icebreaker sust.	0	0	0	0	0	30.3	30.3
<i>Subtotal surface ships</i>	<i>540.7</i>	<i>487.0</i>	<i>-53.7</i>	<i>540.7</i>	<i>0</i>	<i>571.0</i>	<i>30.3</i>
<i>Other</i>							
Govt. program mgt.	58.0	58.0	0	58.0	0	58.0	0
Systems eng. and int. ^a	33.1	33.1	0	33.1	0	33.1	0
C4ISR	88.1	88.1	0	88.1	0	88.1	0
Deepwater logistics	37.7	37.7	0	37.7	0	37.7	0
Tech. Obsol. Prev. ^a	1.5	1.5	0	1.5	0	1.5	0
<i>Subtotal other</i>	<i>218.4</i>	<i>218.4</i>	<i>0</i>	<i>218.4</i>	<i>0</i>	<i>218.4</i>	<i>0</i>
TOTAL FY2008	990.4	933.7	-56.7	1,014.1	23.7	1034.0	43.6
<i>Rescissions of prior-year funding</i>							
UAVs	0	-20.0	-20.0	0	0	0	0
<i>Subtotal rescissions</i>	<i>0</i>	<i>-20.0</i>	<i>-20.0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
NET TOTAL	990.4	913.7	-76.7	1,041.1	23.7	1034.0	43.6

Sources: U.S. Coast Guard Posture Statement With [FY] 2009 Budget in Brief, p. 49 (Table 4); H.Rept. 110-862 of September 18, 2008 on H.R. 6947; and S.Rept. 110-396 of June 23, 2008 on S. 3181. Totals may not add due to rounding.

- a. Conv./Sust. is Conversion/Sustainment Projects; Fleet Intro. is Fleet Introduction; Armed Helo. Equip. is Armed Helicopter Equipment (Airborne Use of Force); UAS is Unmanned Aircraft System; WMEC is medium-endurance cutter; eng. and int. is engineering and integration; Tech. Obsol. Prev. is Technology Obsolescence Prevention.

FY2009 DHS Appropriations Act (H.R. 2638/P.L. 110-329)

House

The House Appropriations Committee, in its report (H.Rept. 110-862 of September 18, 2008) on the FY2009 DHS Appropriations bill (H.R. 6947), recommended reducing the Coast Guard's FY2009 acquisition funding request for Deepwater programs by \$56.7 million, including a \$3.0-million reduction to Unmanned Aircraft Systems (UAS) and a \$53.7 million reduction to the

NSC. The report also recommended rescinding \$20.0 million in prior-year appropriations for unmanned air vehicles (UAV).

H.R. 6947 states, in the section on the Coast Guard's Acquisition, Construction, and Improvements (AC&I) account, that:

\$933,744,000 shall be available until September 30, 2013, for the Integrated Deepwater Systems program: Provided, That of the funds made available for the Integrated Deepwater Systems program, \$228,300,000 is for aircraft and \$487,003,000 is for surface ships: Provided further, That \$500,000,000 of the funds provided for the Integrated Deepwater Systems program may not be obligated until the Committees on Appropriations of the Senate and the House of Representatives receive directly from the Coast Guard and approve a plan for expenditure that—

- (1) defines activities, milestones, yearly costs, and lifecycle costs for each new procurement of a major asset, including an independent cost estimate for each;
- (2) identifies lifecycle staffing and training needs of Coast Guard project managers and procurement and contract staff;
- (3) identifies competition to be conducted in, and summarizes the approved acquisition strategy for, each procurement;
- (4) includes a certification by the Chief Human Capital Officer of the Department of Homeland Security that current human capital capabilities are sufficient to execute the plan;
- (5) includes an explanation of each procurement that involves an indefinite delivery/indefinite quantity contract and explains the need for such contract;
- (6) identifies individual project balances by fiscal year, including planned carryover into fiscal year 2009 by project;
- (7) identifies operational gaps by asset and explains how funds provided in this Act address the shortfalls between current operational capabilities and requirements;
- (8) includes a listing of all open Government Accountability Office and Office of Inspector General recommendations related to the program and the status of Coast Guard actions to address the recommendations, including milestones for fully addressing them;
- (9) includes a certification by the Chief Procurement Officer of such Department that the program has been reviewed and approved in accordance with the investment management process of the Department, and that the process fulfills all capital planning and investment control requirements and reviews established by the Office of Management and Budget, including Circular A-11, part 7;
- (10) identifies use of the Defense Contract Audit Agency;
- (11) identifies the use of independent validation and verification; and
- (12) is reviewed by the Government Accountability Office:

Provided further, That no funding may be obligated for low rate initial production or initial production of any Integrated Deepwater Systems program asset until Coast Guard revises its Major Systems Acquisition Manual procedures to require a formal design review prior to the

authorization of low rate initial production or initial production; Provided further, That the Secretary of Homeland Security shall submit to the Committees on Appropriations of the Senate and the House of Representatives, in conjunction with the President's fiscal year 2010 budget, a review of the Revised Deepwater Implementation Plan that identifies any changes to the plan for the fiscal year; an annual performance comparison of Integrated Deepwater Systems program assets to pre-Deepwater legacy assets; a status report of legacy assets; a detailed explanation of how the costs of legacy assets are being accounted for within the Integrated Deepwater Systems program; and the earned value management system gold card data for each Integrated Deepwater Systems program asset: Provided further, That the Secretary shall submit to the Committees on Appropriations of the Senate and the House of Representatives a comprehensive review of the Revised Deepwater Implementation Plan every five years, beginning in fiscal year 2011, that includes a complete projection of the acquisition costs and schedule for the duration of the plan through fiscal year 2027...

Provided further,... That of amounts unexpended under this heading in P.L. 108-334 for VTOL unmanned aerial vehicles (VUAV), \$20,000,000 is rescinded: Provided further, That subsections (a), and (b) of section 6402 of the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28) shall apply to fiscal year 2009.⁴³

⁴³ Section 6402 of P.L. 110-28 of May 25, 2007, the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act of 2007, is a general provision relating to DHS. Subsections (a), (b), and (d)(1) of Section 6402 [(d)(1) was cited in Senate bill language; see subsequent footnote] state:

SEC. 6402. (a) IN GENERAL- Any contract, subcontract, task or delivery order described in subsection (b) shall contain the following:

(1) A requirement for a technical review of all designs, design changes, and engineering change proposals, and a requirement to specifically address all engineering concerns identified in the review before the obligation of further funds may occur.

(2) A requirement that the Coast Guard maintain technical warrant holder authority, or the equivalent, for major assets.

(3) A requirement that no procurement subject to subsection (b) for lead asset production or the implementation of a major design change shall be entered into unless an independent third party with no financial interest in the development, construction, or modification of any component of the asset, selected by the Commandant, determines that such action is advisable.

(4) A requirement for independent life-cycle cost estimates of lead assets and major design and engineering changes.

(5) A requirement for the measurement of contractor and subcontractor performance based on the status of all work performed. For contracts under the Integrated Deepwater Systems program, such requirement shall include a provision that links award fees to successful acquisition outcomes (which shall be defined in terms of cost, schedule, and performance).

(6) A requirement that the Commandant of the Coast Guard assign an appropriate officer or employee of the Coast Guard to act as chair of each integrated product team and higher-level team assigned to the oversight of each integrated product team.

(7) A requirement that the Commandant of the Coast Guard may not award or issue any contract, task or delivery order, letter contract modification thereof, or other similar contract, for the acquisition or modification of an asset under a procurement subject to subsection (b) unless the Coast Guard and the contractor concerned have formally agreed to all terms and conditions or the head of contracting activity for the Coast Guard determines that a compelling need exists for the award or issue of such instrument.

(b) CONTRACTS, SUBCONTRACTS, TASK AND DELIVERY ORDERS COVERED- Subsection (a) applies to—

(1) any major procurement contract, first-tier subcontract, delivery or task order entered into by the Coast Guard;

(2) any first-tier subcontract entered into under such a contract; and

(continued...)

In its report (H.Rept. 110-862 of September 18, 2008) on H.R. 6947, the House Appropriations Committee stated:

AVIATION MISSION HOUR GAP

The Committee is concerned about the significant shortfall of maritime patrol aircraft (MPA) resource hours currently confronting Coast Guard, which estimates that it will be nearly 50 percent below its MPA resource hour needs in 2008. This gap is not expected to be eliminated until 2015. One example of this gap is the absence of permanent maritime patrol aircraft capability operating from Air Station Borinquen, Puerto Rico. The Committee is concerned about the impact of this absence upon Coast Guard's ability to patrol the highly trafficked smuggling routes of the Caribbean Basin. Coast Guard is directed to report to the Committee no later than February 16, 2009, on its plan to provide adequate resources for the maritime surveillance mission needs in the Air Station Borinquen area of responsibility.

Coast Guard is in the process of analyzing short term, stop-gap measures to address its MPA capability needs until its large-scale acquisitions are in full operation. The Committee has included \$10,000,000 to fund such stop-gap measures. Before this funding may be obligated, Coast Guard shall submit an expenditure plan for approval to the Committees on Appropriations.

LEGACY CUTTER SUSTAINMENT

The Committee is concerned about Coast Guard's reliance upon high endurance and medium endurance cutters that are rapidly aging, many of which have completed over 30 years of service life, and the implications this has for the mission availability of these assets. As of the end of fiscal year 2007, the 378-foot, 270-foot, and 210-foot cutters had a "percent time fully mission capable" (PTFMC) combined average of only 58.3 percent, 33.7 percent below the combined average PTFMC target for these cutters. These concerns are punctuated by recent major casualties, crew habitability issues, and significant maintenance costs. According to Coast Guard's 2008 Revised Deepwater Implementation Plan, the 378-foot cutter fleet will be operating through 2017; the 270-foot cutter fleet will be operating through 2027; and the 210-foot cutter fleet will be operating through 2022. In each case, the expected operating life is much longer than forecast just two years ago. The Committee directs Coast Guard to provide, no later than February 16, 2009, a detailed analysis of maintenance costs for the 378-foot, 270-foot, and 210-foot classes of cutters, including: comparisons of pre and post mission effectiveness projects (where applicable); examination of major engineering casualties over the last three years; and an examination of the costs and benefits of an intensive maintenance program upon availability through the remainder of the cutters' remaining service lives, as per the forecasts contained in the 2008 Revised Deepwater Implementation Plan....

(...continued)

(3) any task or delivery order issued pursuant to such a contract or subcontract....

(d) REPORTS- (1) Not later than 30 days after the date of enactment of this Act, the Commandant of the Coast Guard shall submit to the Committees on Appropriations of the Senate and the House of Representatives; the Committee on Commerce, Science and Transportation of the Senate; and the Committee on Transportation and Infrastructure of the House of Representatives: (i) a report on the resources (including training, staff, and expertise) required by the Coast Guard to provide appropriate management and oversight of the Integrated Deepwater Systems program; and (ii) a report on how the Coast Guard will utilize full and open competition for any contract that provides for the acquisition or modification of assets under, or in support of, the Integrated Deepwater Systems program, entered into after the date of enactment of this Act....

POLAR ICEBREAKING OPERATING AND MAINTENANCE COSTS AND
FUTURE POLAR NEEDS⁴⁴

The Committee is concerned about Coast Guard's ability to meet its polar operations mission requirements and provide the United States with the capability to support national interests in the polar regions. The Committee provides \$200,000, as requested, to conduct an analysis of national mission needs in the high latitude regions to inform the national polar policy debate.

In fiscal year 2006 the Committees on Appropriations approved an Administration request for the National Science Foundation (NSF), the primary user of the three Coast Guard polar icebreaker vessels, to fund the costs of operating and maintaining these aging vessels. Because it has become more apparent that the national interest in the polar regions extends beyond scientific research, the Committee questions whether this arrangement should continue. Accordingly, the Committee directs Coast Guard and NSF to renegotiate the existing agreement in order to return the budget for operating and maintaining these vessels to Coast Guard for fiscal year 2010. This change is consistent with a new joint plan for Coast Guard support of scientific research by NSF and other Federal agencies, which also is to be included in the 2010 budget request. NSF shall retain responsibility for the contracting of scientific support services that Coast Guard does not have the capability to perform or cannot perform on a cost-competitive basis. The Committee is aware of a \$4,000,000 funding shortfall related to the caretaker status of the POLAR STAR, and directs Coast Guard to address this shortfall within the amounts appropriated for fiscal year 2009....

DEEPWATER EXPENDITURE PLAN

Consistent with fiscal year 2008, the Committee includes bill language requiring Coast Guard to submit a detailed expenditure plan. A total of \$500,000,000 of this appropriation shall remain unavailable until GAO reviews and the Committees on Appropriations approve the plan. The expenditure plan must contain the following: lifecycle staffing and training needs; identification of procurement competition, acquisition strategy, and an explanation for indefinite delivery/indefinite quality contracts for each procurement; activities, milestones, yearly costs, and lifecycle costs of each major asset, including independent cost estimates; DHS Chief Human Capital Officer certification of sufficient human capital capabilities; identification of project balances by fiscal year and operational gaps for each asset; DHS Chief Procurement Officer (CPO) certification of investment management process compliance; status of open OIG and GAO recommendations; and identification of the use of the Defense Contract Audit Agency. GAO is directed to continue its oversight of the Deepwater program, with a focus on reviewing the expenditure plan and assessment of the operational gaps identified by Coast Guard and plans to address these gaps. In addition, no funding may be obligated for low rate or initial production of a Deepwater asset until Coast Guard revises its Major Systems Acquisition Manual procedures to require a formal design review prior to the authorization of low rate initial production or initial production.

DEEPWATER

The Committee recommends \$933,744,000 for Deepwater, \$56,700,000 below the amount requested and \$150,478,000 above the amount provided in fiscal year 2008.

MARITIME PATROL AIRCRAFT (MPA)

⁴⁴ For additional discussion of Coast Guard polar icebreakers, which previously were not funded under Deepwater acquisition, see CRS Report RL34391, *Coast Guard Polar Icebreaker Modernization: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

The Committee recommends \$86,600,000 for two additional MPAs, the same as the amount requested. To date, \$570,035,000 has been appropriated for 12 MPAs. In April 2003, Coast Guard informed the Committee that the requirements for the MPA were as follows: (1) the ability to arrive on the scene of 90 percent of search and rescue emergencies within two hours of initial notification; and (2) the ability to travel 300 nautical miles in 90 minutes (212 knot ground speed, with time to climb factored in), stay on scene for approximately four hours, and return over 300 nautical miles with required fuel reserves. However, the Committee understands that Coast Guard's formal requirements for the MPA and a plan for operational testing of those requirements have not been finalized yet. This is surprising since the MPA entered the operational testing phase in March 2008. The Committee directs Coast Guard to withhold obligation of 2009 MPA funding until its formal requirements for the MPA and the MPA's operational testing plan are provided to the Committee.

UNMANNED AIRCRAFT SYSTEMS

The Committee does not provide the \$3,000,000 requested to study unmanned aerial vehicle solutions for meeting Deepwater's maritime surveillance requirements. Instead, funding is provided for this study within the Research, Development, Test, and Evaluation account. The Vertical Unmanned Aerial Vehicle (VUAV) was originally conceived to be launched off of the National Security Cutters (NSC), enhancing the NSC's operational effectiveness by extending its surveillance range to approximately 100 nautical miles for up to twelve hours per day. In fact, the number of planned NSCs was reduced from 12 to 8 in part due to this anticipated extension of operational effectiveness. Unfortunately, the VUAV has not worked as planned, and Coast Guard has nothing to show for the \$114,550,590 it has obligated for this project. Because some of this obligated amount has not yet been expended and Coast Guard has no plans for its expenditure, the Committee rescinds \$20,000,000 currently unexpended for UAVs.

LONG RANGE SURVEILLANCE AIRCRAFT (HC—130J)

The first HC-130J was delivered in February 2008. However, due to parallel design and installation activities resulting in rework, changes in aircraft power requirements, late delivery of government-furnished equipment, and other changes, costs are likely to increase by 10 to 20 percent and additional costs are currently unbudgeted. Coast Guard is directed to provide the Committees on Appropriations with its finalized HC-130J Remediation Plan no later than August 1, 2008, and to identify unobligated funding that can be used to missionize all HC-130Js.

NATIONAL SECURITY CUTTER

The Committee recommends \$300,000,000 for the NSC, \$53,700,000 below the amount requested and \$134,300,000 above the amount provided in fiscal year 2008. The request of \$353,700,000 is primarily for production of the fourth NSC. Technical reviews of the third NSC's fatigue enhancement design changes are being conducted by the Coast Guard Technical Authority, which is employing the services and expertise of the Carderock Division of the Naval Surface Warfare Center. Coast Guard anticipates completion of the design and technical reviews of the third NSC by December 2008.

The Committee reduces NSC funding for two main reasons. First, the Committee believes that construction of the fourth NSC likely will be delayed, since the design and technical changes made to the fourth NSC will require another substantive technical review. Second, GAO found that Coast Guard plans to proceed with issuance of a task order for long lead materials on the fourth NSC despite not having reliable data on which to base an evaluation of the contractor's proposed price. GAO has pointed out to the Committee that because Coast Guard lacks confidence in how the contractor is representing its cost and schedule

performance on the NSC, Coast Guard is likely to be in the position of paying the contractor for future projects without the understanding necessary to evaluate proposed prices. The Committee directs Coast Guard to increase its visibility into the contractor's earned value management data before it enters into a contract to construct the fourth NSC. The Committee expects this enhanced visibility to lead to cost reductions.

FAST RESPONSE CUTTER (FRC-B)/REPLACEMENT PATROL BOAT

The Committee provides the requested \$115,300,000 for limited production of the FRC—B/Replacement Patrol Boat. Coast Guard has proceeded with a competitive procurement for the FRC-B, with award projected for July 2008. The lead cutter is expected to be delivered two years later, in the second quarter of fiscal year 2010. The Committee is concerned that this \$115,300,000, when combined with the \$41,580,000 in prior year funds that Coast Guard plans to use for the FRC-B, results in an average cost for the three limited production vessels of \$52,000,000, well above earlier estimates provided by the Coast Guard. The Committee understands that cost estimates for this cutter are based on limited data and directs Coast Guard to take all steps necessary to control costs, including conducting a formal design review to ensure that at least 90 percent of the design drawings are complete by the critical design review stage.

OFFSHORE PATROL CUTTER (OPC)

The Committee recommends \$3,003,000 for OPC requirements analysis, as requested. The OPC is the replacement cutter for the current 210-foot and 270-foot Medium Endurance cutters. In March 2006, after spending \$19,758,000, Coast Guard suspended OPC design efforts due to cost concerns. The Committee understands that in making a subsequent decision to proceed with the OPC requirements analysis, the Coast Guard documented the OPC's expected capabilities, a draft concept of operations, and an initial assessment of cost and schedule. Coast Guard is directed to provide this documentation to the Committees on Appropriations by October 1, 2008. The Committee directs Coast Guard to plan for a full and open competition for the OPC.

C4ISR

The Committee understands that Coast Guard does not have an approved acquisition strategy for C4ISR. Coast Guard needs to develop an architecture with common components for use on assets and to decide whether to acquire C4ISR on an asset-by-asset basis or at a system level. The Committee understands that Coast Guard is revisiting the C4ISR approach proposed by the Deepwater contractor and is analyzing requirements and architecture. The Committee encourages such assessment and provides the \$88,100,000 requested for C4ISR. If not all of this funding is required for C4ISR, Coast Guard may use the remainder for additional modeling and simulation activities that will help in determining the capabilities of existing and planned assets and inform the number of Deepwater assets required....

PERSONNEL

The Committee recommends \$95,572,000 for acquisition personnel, \$12,852,000 above the amount provided in fiscal year 2008. The total equals the amount requested for this purpose when the budgets proposed in Operating Expenses and AC&I are combined. Coast Guard faces at least three challenges as it seeks to improve its acquisition management and oversight. The first is a shortage of civilian acquisition staff, with an almost 20 percent vacancy rate. Coast Guard is directed to report to the Committees on any additional authorities or bonuses needed to attract civilian acquisition expertise. The second is the lack of acquisition career path for Coast Guard military personnel. Coast Guard is directed to explore the establishment of a dedicated acquisition and finance career field for military

personnel and to report to the Committee on the benefits and costs of this option. The third challenge is Coast Guard's reliance on contractors for technical and programmatic expertise. The Committee is pleased to hear that Coast Guard is currently analyzing its workforce to determine which roles are appropriate for contractors. Such analysis should be provided to the Committee upon its completion.

UNMANNED AERIAL SYSTEMS

The Committee provides \$3,000,000 [in the Coast Guard's Research, Development, Test, and Evaluation account] for Coast Guard's efforts to examine effective unmanned aerial systems (UAS) that pose low developmental risks and demonstrate cost-effectiveness. The Committee is pleased that Coast Guard is working with the Department of Defense to leverage UAS development, testing, and engineering efforts. Coast Guard is directed to report to the Committee no later than February 16, 2009, on its findings to date on determining the most effective UAS for maritime applications and for use with flight deck-equipped cutters. (Pages 79-80, 82, 86-88, 89, and 91)

Senate

The Senate Appropriations Committee, in its report (S.Rept. 110-396 of June 23, 2008) on the FY2009 DHS Appropriations bill (S. 3181), recommended increasing the Coast Guard's FY2009 acquisition funding request for Deepwater programs by \$23.7 million, with the increase going to HC-130J fleet introduction.

S. 3181 as reported by the Senate Appropriations Committee states, in the section on the Coast Guard's Acquisition, Construction, and Improvements (AC&I) account, that:

\$1,014,144,000 shall be available until September 30, 2013, for the Integrated Deepwater Systems program: Provided, That of the funds made available for the Integrated Deepwater Systems program, \$255,000,000 is for aircraft and \$540,703,000 is for surface ships: Provided further, That the Commandant shall submit a plan for expenditure to the Committees on Appropriations of the Senate and House of Representatives within 60 days after the date of enactment of this Act for funds made available for the Integrated Deepwater Program, that—

- (1) defines activities, milestones, yearly costs, and lifecycle costs for each procurement of a major asset, including an independent cost estimate for each;
- (2) identifies lifecycle staffing and training needs of Coast Guard project managers and of procurement and contract staff;
- (3) identifies competition to be conducted in each procurement;
- (4) describes procurement plans that do not rely on a single industry entity or contract;
- (5) includes a certification by the Chief Human Capital Officer of the Department that current human capital capabilities are sufficient to execute the plans discussed in the report;
- (6) contains very limited indefinite delivery/indefinite quantity contracts and explains the need for any indefinite delivery/indefinite quantity contracts;
- (7) identifies individual project balances by fiscal year, including planned carryover into fiscal year 2010 by project;

(8) identifies operational gaps by asset and explains how funds provided in this Act address the shortfalls between current operational capabilities and requirements;

(9) includes a listing of all open Government Accountability Office and Office of Inspector General recommendations related to the program and the status of Coast Guard actions to address the recommendations, including milestones for fully addressing them;

(10) includes a certification by the Chief Procurement Officer of the Department that the program has been reviewed and approved in accordance with the investment management process of the Department, and that the process fulfills all capital planning and investment control requirements and reviews established by the Office of Management and Budget, including Circular A-11, part 7;

(11) identifies use of the Defense Contract Auditing Agency;

(12) includes a certification by the head of contracting activity for the Coast Guard and the Chief Procurement Officer of the Department that the plans for the program comply with the Federal acquisition rules, requirements, guidelines, and practices, and a description of the actions being taken to address areas of non-compliance, the risks associated with them along with plans for addressing these risks, and the status of their implementation;

(13) identifies the use of independent validation and verification; and

(14) is reviewed by the Government Accountability Office:

Provided further, That the Secretary of Homeland Security shall submit to the Committees on Appropriations of the Senate and the House of Representatives, in conjunction with the President's fiscal year 2010 budget, a review of the Revised Deepwater Implementation Plan that identifies any changes to the plan for the fiscal year; an annual performance comparison of Deepwater assets to pre-Deepwater legacy assets; a status report of legacy assets; a detailed explanation of how the costs of legacy assets are being accounted for within the Deepwater program; and the earned value management system gold card data for each Deepwater asset: Provided further, That the Secretary shall submit to the Committees on Appropriations of the Senate and the House of Representatives a comprehensive review of the Revised Deepwater Implementation Plan every 5 years, beginning in fiscal year 2011, that includes a complete projection of the acquisition costs and schedule for the duration of the plan through fiscal year 2027....

Section 522 states:

SEC. 522. Any funds appropriated to United States 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 Replacement Patrol Boat (FRC-B) program.

Section 530 states:

SEC. 530. Subsections (a), (b), and (d)(1) of section 6402 of the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28) shall apply to fiscal year 2009.⁴⁵

⁴⁵ See a previous footnote for a discussion of Subsections (a), (b), and (d)(1) of section 6402 of P.L. 110-28.

Section 540 states:

SEC. 540. The Secretary of Homeland Security shall require that all contracts of the Department of Homeland Security that provide award fees link such fees to successful acquisition outcomes (which outcomes shall be specified in terms of cost, schedule, and performance).

In its report (S.Rept. 110-396 of June 23, 2008) on S. 3181, the Senate Appropriations Committee stated:

DEEPWATER FUNDING

The Committee recommends \$1,014,144,000 for Deepwater, \$23,700,000 above the amount requested and \$230,878,000 above the fiscal year 2008 level. Details of major procurements under this program and changes to the request are provided below.

MARITIME PATROL AIRCRAFT

The recommendation includes \$86,600,000 for the Maritime Patrol Aircraft, the same as the level requested in the budget. This funding will allow the Coast Guard to acquire two aircraft (13 and 14), mission systems, logistics and spare parts. Once fully missionized, these aircraft will provide 2,400 annual maritime patrol hours.

NATIONAL SECURITY CUTTER

The recommendation includes \$353,700,000 for the National Security Cutter [NSC], the same as the budget request. Of this amount, \$346,600,000 is for the production of NSC #4 and \$7,100,000 is for the structural retrofit of NSC #1. On May 8, 2008, the first NSC was accepted by the Coast Guard. NSC #1 has now entered a 22—24 month operation, test, and evaluation period. The Coast Guard has highlighted Information Assurance as a significant risk category. For example, the Coast Guard must meet TEMPEST certification to prevent unintended information emanation, and in order to process classified information. This certification has not occurred. The Coast Guard is to keep the Committee updated on progress made to resolve ongoing information assurance issues, including TEMPEST certification, in addition to the status of critical decision points and dates for all NSC's.

The Committee strongly supports the procurement of one National Security Cutter per year until all eight planned ships are procured. The continuation of production without a break will ensure that these ships, which are vital to the Coast Guard's mission, are procured at the lowest cost and that they enter the Coast Guard fleet as soon as possible.

REPLACEMENT PATROL BOAT

The recommendation includes \$115,300,000 for the Coast Guard's replacement patrol boat known as the "Fast Response Cutter" [FRC—B]. Of this amount, \$94,000,000 is for production of FRC-B #3 and #4 and \$21,300,000 is for logistics (spares, program management, and crew training). The FRC-B program is critical for the Coast Guard to close the Coast Guard's patrol boat hours gap, which is approximately 100,000 hours below the desired level. The first FRC-B is scheduled for delivery during the fourth quarter of 2010 and will be ready for mission status in 2012. The Committee directs the Coast Guard to provide quarterly briefings on the status of this procurement, including critical decision points and dates, planned service life extensions of the existing 110 foot patrol boats, and patrol boat operational metrics.

MISSION EFFECTIVENESS PROJECT

The recommendation includes \$66,300,000 for the Mission Effectiveness Project, the same as the budget request. Of this amount, \$35,500,000 is for sustainment of two 270 feet and three 210 feet medium endurance cutters, and \$30,800,000 is for sustainment of three 110 feet legacy patrol boats. This funding will allow the Coast Guard to extend the operational life of critical legacy cutters until Deepwater assets become available for missions.

C-130J MISSIONIZATION AND FLEET INTRODUCTION

The Committee recommends \$23,700,000 to complete the missionization of aircraft 4 through 6, to include radars, sensors, identification systems, displays, antennas, and a mission operator's station. The request included no funding for this program. In November 2007, the Coast Guard reported the missionization project for the six C-130J's in inventory exceeded the estimated cost to complete by 15 to 20 percent, resulting in the missionization of only aircraft 1 through 3. While the Committee remains concerned with the program's price escalation, missionizing aircraft 4 through 6 is critical to closing the shortfall of maritime patrol resource hours, which is nearly 50 percent below its resource hour needs.

DEEPWATER EXPENDITURE PLAN

The Committee requires the Coast Guard to submit an expenditure plan for Deepwater that contains the following: lifecycle staffing and training needs; identification of procurement competition and procurement plans that do not rely on a single entity or contract and contain only limited indefinite delivery, indefinite quantity contracts; activities, milestones, yearly costs, and lifecycle costs of each major asset, including independent cost estimates; DHS Chief Human Capital Officer certification of sufficient human capital capabilities; identification of project balances by fiscal year and operational gaps for each asset; DHS Chief Procurement Officer [CPO] certification of investment management process compliance; DHS CPO certification of compliance with Federal acquisition rules and actions taken to address areas of noncompliance; status of open Inspector General and Government Accountability Office [GAO] recommendations; and identification of the use of the Defense Contract Auditing Agency. GAO is directed to continue oversight of the Deepwater program, with focus on review of the expenditure plan and assessment of the operational gaps identified by the Coast Guard and the Coast Guard's plans to address these gaps. The Coast Guard is directed to brief the Committee on the process it will use to resolve deviations from specified contract requirements and to promptly notify the Committee of specific procurement contract deviations....

DEEPWATER HUMAN CAPITAL

In accordance with section 6402 of the fiscal year 2007 Supplemental Appropriations Act (P.L. 110-28), the Coast Guard submitted a report on the resources (including training, staff, and expertise) required to provide appropriate management and oversight of the Integrated Deepwater Systems program. The report provided limited insight into the Coast Guard's human capital requirements, except to say that a workforce resource plan was being developed that provides the framework for assessing current and future workforce needs. Given the challenges this program has experienced and the Coast Guard's intention to assume the role of system integrator for all Deepwater assets, the Committee is concerned with the lack of progress made in developing workforce estimates. The Coast Guard is to brief the Committee by July 31, 2008, detailing the results of its workforce forecasting process and plans to fill staffing shortfalls that will ensure a capable and productive acquisition workforce now and in the future. (Pages 85-88)

S.Rept. 110-396 also states:

TRANSFER ASSOCIATED WITH DEEPWATER MANAGEMENT

The Committee approves the request to transfer \$3,859,000 from the Systems Engineering and Integration PPA in the Acquisition, Construction, and Improvements [AC&I] appropriation to the Operating Expenses appropriation for General Services Administration [GSA] rent. This transfer is necessary to move all Government personnel and Government support contractors to one location and is part of the Coast Guard's strategy to shift management and oversight responsibilities from Deepwater contractor to the Coast Guard.⁴⁶

ACQUISITION PERSONNEL

Consistent with the budget request, the Committee transfers \$82,215,000 and 652 FTE from AC&I appropriation to OE appropriation to increase the oversight and ability to manage multiple major acquisition projects. This transfer will improve the stewardship of major systems acquisition, such as the Integrated Deepwater Systems Program. By transferring AC&I funding to OE, personnel can be surged to and from AC&I projects where needed and allow flexibility to match competencies to core requirements. The Committee recommends \$4,500,000 to hire 65 additional personnel to enhance the Coast Guard's ability to perform the systems integrator role for the Integrated Deepwater Program and to execute traditional acquisition projects. The recommended level is \$4,498,000 below the request. The Committee fully supports the Coast Guard's effort to be the systems integrator for the Integrated Deepwater Program. However, the request included funds for "full-year" FTE, which means the 65 new positions would need to be onboard by October 1, 2008. Given the Coast Guard's 18.5 percent vacancy rate for acquisition personnel, this is an unrealistic proposal. Therefore, the Committee recommendation provides half-year funding for this initiative. The Committee expects the Coast Guard to fully annualize the positions in fiscal year 2010. (Page 77)⁴⁷

Compromise

In lieu of a conference report, there was a compromise version of the FY2009 DHS appropriations bill that was incorporated as Division D of H.R. 2638/P.L. 110-329 of September 30, 2008. (H.R. 2638, originally the FY2008 Department of Homeland Security appropriations bill, was amended to become an FY2009 consolidated appropriations bill that included, among other things, the FY2009 DHS appropriations bill.) The compromise version of H.R. 2638 was accompanied by an explanatory statement. Section 4 of H.R. 2638 states that the explanatory statement "shall have the same effect with respect to the allocation of funds and implementation of this Act as if it were a joint explanatory statement of a committee of conference."

H.R. 2638/P.L. 110-329 states, in the section on the Coast Guard's Acquisition, Construction, and Improvements (AC&I) account, that:

\$1,033,994,000 shall be available until September 30, 2013, for the Integrated Deepwater Systems program: Provided, That of the funds made available for the Integrated Deepwater Systems program, \$244,550,000 is for aircraft and \$571,003,000 is for surface ships: Provided further, That \$350,000,000 of the funds provided for the Integrated Deepwater Systems program may not be obligated until the Committees on Appropriations of the Senate and the House of Representatives receive directly from the Coast Guard and approve a plan for expenditure that—

⁴⁶ This transfer is also mentioned on page 84 of the report.

⁴⁷ This transfer is also mentioned on page 89 of the report.

- (1) defines activities, milestones, yearly costs, and life cycle costs for each new procurement of a major asset, including an independent cost estimate for each;
- (2) identifies life cycle staffing and training needs of Coast Guard project managers and procurement and contract staff;
- (3) identifies competition to be conducted in, and summarizes the approved acquisition strategy for, each procurement;
- (4) includes a certification by the Chief Human Capital Officer of the Department of Homeland Security that current human capital capabilities are sufficient to execute the expenditure plan;
- (5) includes an explanation of each procurement that involves an indefinite delivery/indefinite quantity contract and explains the need for such contract;
- (6) identifies individual project balances by fiscal year, including planned carryover into fiscal year 2010 by project;
- (7) identifies operational gaps by asset and explains how funds provided in this Act address the shortfalls between current operational capabilities and requirements;
- (8) includes a listing of all open Government Accountability Office and Office of Inspector General recommendations related to the program and the status of Coast Guard actions to address the recommendations, including milestones for fully addressing them;
- (9) includes a certification by the Chief Procurement Officer of the Department that the program has been reviewed and approved in accordance with the investment management process of the Department, and that the process fulfills all capital planning and investment control requirements and reviews established by the Office of Management and Budget, including Circular A-11, part 7;
- (10) identifies use of the Defense Contract Audit Agency;
- (11) includes a certification by the head of contracting activity for the Coast Guard and the Chief Procurement Officer of the Department that the plans for the program comply with the Federal acquisition rules, requirements, guidelines, and practices, and a description of the actions being taken to address areas of non-compliance, the risks associated with them along with plans for addressing these risks, and the status of their implementation;
- (12) identifies the use of independent validation and verification; and
- (13) is reviewed by the Government Accountability Office:

Provided further, That no funding may be obligated for low rate initial production or initial production of any Integrated Deepwater Systems program asset until Coast Guard revises its Major Systems Acquisition Manual procedures to require a formal design review prior to the authorization of low rate initial production or initial production: Provided further, That the Secretary of Homeland Security shall submit to the Committees on Appropriations of the Senate and the House of Representatives, in conjunction with the President's fiscal year 2010 budget, a review of the Revised Deepwater Implementation Plan that identifies any changes to the plan for the fiscal year; an annual performance comparison of Integrated Deepwater Systems program assets to pre-Deepwater legacy assets; a status report of legacy assets; a detailed explanation of how the costs of legacy assets are being accounted for within the Integrated Deepwater Systems program; and the earned value management system gold card

data for each Integrated Deepwater Systems program asset: Provided further, That the Secretary shall submit to the Committees on Appropriations of the Senate and the House of Representatives a comprehensive review of the Revised Deepwater Implementation Plan every 5 years, beginning in fiscal year 2011, that includes a complete projection of the acquisition costs and schedule for the duration of the plan through fiscal year 2027...

Provided further, ... That subsections (a), and (b) of section 6402 of the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28) shall apply to fiscal year 2009:⁴⁸ Provided further, That notwithstanding section 503 of this Act, amounts transferred from the 'Operating Expenses' appropriation for personnel compensation and benefits and related costs to adjust personnel assignment to accelerate management and oversight of new or existing projects may be transferred to the 'Operating Expenses' appropriation to be merged with that appropriation, to be available under the same terms and conditions for which that appropriation is available, when no longer required for project acceleration or oversight, or to otherwise adjust personnel assignment: Provided further, That the Committees on Appropriations of the Senate and the House of Representatives shall be notified of each transfer within 30 days after it is executed.

Section 517 states:

SEC. 517. Any funds appropriated to United States 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 Replacement Patrol Boat (FRC-B) program.

Section 533 states:

SEC. 533. The Secretary of Homeland Security shall require that all contracts of the Department of Homeland Security that provide award fees link such fees to successful acquisition outcomes (which outcomes shall be specified in terms of cost, schedule, and performance).

Section 551 states:

SEC. 551. From unobligated balances of prior year appropriations made available for Coast Guard 'Acquisition, Construction, and Improvements', \$20,000,000 are rescinded: Provided, That no funds shall be rescinded from prior year appropriations provided for the National Security Cutter or the Maritime Patrol Aircraft: Provided further, That the Coast Guard shall submit notification in accordance with section 503 of this Act listing projects for which funding will be rescinded.

The explanatory statement accompanying H.R. 2638 stated:

Polar Icebreakers

One of the Coast Guard's missions is to provide the United States with the capability to support national interests in the polar regions. In a report recently submitted, the Coast Guard stated that the United States will need a maritime surface and air presence in the Arctic sufficient to support prevention and response regimes as well as diplomatic objectives. However, no funding has been requested for the Coast Guard's aging icebreakers despite its

⁴⁸ See earlier footnotes in this section for a discussion of subsections (a), and (b) of section 6402 of P.L. 110-28.

inability to meet current and projected polar operations mission responsibilities. The Coast Guard is directed to follow House report direction regarding the polar icebreaking operating budget. The Coast Guard should work with the National Science Foundation in the coming year to renegotiate the existing polar icebreaking agreement in order to return the budget for operating and maintaining its polar icebreakers to the Coast Guard in fiscal year 2010. The AC&I appropriation includes \$30,300,000 to reactivate the USCGC POLAR STAR for an additional 7-10 years of service life....

Deepwater

The bill provides \$1,033,994,000 for the Integrated Deepwater System Program (Deepwater). Of this amount, \$350,000,000 is unavailable for obligation until the Committees receive and approve a plan for expenditure, in accordance with the specified legislative conditions. In submitting its mandated review of this expenditure plan to the Committees, GAO is directed to provide an overall evaluation of the plan's value to the Coast Guard's management of Deepwater, and a qualitative, descriptive assessment of the degree with which the Coast Guard has complied with each legislative requirement.

Long Range Surveillance Aircraft (HC-130J)

The bill provides \$13,250,000 to missionize three HC-130Js. The Coast Guard is directed to provide its finalized HC-130J Remediation Plan to the Committees within 60 days after the date of enactment of this Act.

National Security Cutter

The bill provides \$353,700,000, as requested, for the National Security Cutter (NSC). It is questionable whether this amount will be sufficient to purchase the fourth NSC, according to recent information provided by the Coast Guard. This is a concern since, in August 2007, the Coast Guard entered into a Consolidated Contract Action to resolve all outstanding cost overruns incurred by the NSC contractor due to economic and customer changes that have occurred over the past four years. No later than 30 days after the date of enactment of this Act, the Coast Guard is directed to provide the Committees with detailed information on all reasons why there may be nearly a 50 percent increase in the cost of this cutter and how it plans to manage this procurement within the dollars provided. To improve its management of this important program, the Coast Guard is directed to follow House report direction on the visibility of the contractor's earned value management system and Senate report direction regarding information assurance and critical decision points and dates.

Replacement Patrol Boat/FRC-B

The bill provides \$115,300,000, as requested, for limited production of the FRC-B. The Coast Guard is directed to take all steps necessary to control costs for this procurement, including conducting a formal design review to ensure that at least 90 percent of the design drawings are complete by the critical design review stage. The projected award date for the FRC-B has been delayed until the first quarter of 2009. The Coast Guard is directed to provide quarterly briefings to the Committees on the status of this procurement, including critical decision points and dates, planned service life extensions of existing 110-foot patrol boats, and patrol boat operational metrics.

Polar Icebreakers

The bill provides \$30,300,000 for the Coast Guard to reactivate the USCGC POLAR STAR.

Statement of Administration Policy on H.R. 2830

An April 23, 2008, statement of Administration policy opposing passage of H.R. 2830 stated in part:

As well, the Administration urges the House to delete those provisions of the bill that would adversely affect Coast Guard missions. Specifically, the Administration urges the House to delete those provisions that would:... (4) prescribe contracting and acquisition practices for the Deepwater program, as these practices would increase the costs of, and add delay to, the Deepwater acquisition process and circumvent review and approval authority of Coast Guard technical authorities.⁴⁹

⁴⁹ Executive Office of the President, Office of Management and Budget, *Statement of Administration Policy, H.R. 2830—Coast Guard Authorization Act of 2008*, April 23, 2008, available online at <http://www.whitehouse.gov/omb/legislative/sap/110-2/saphr2830-h.pdf>

Appendix B. 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 Guard⁵⁰ 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;

⁵⁰ 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.⁵¹

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.⁵²

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

⁵¹ 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.

⁵² 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-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.⁵³ 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.⁵⁴

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.⁵⁵

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.⁵⁶ The Coast Guard acknowledged in 2007 that the program was a failure.

⁵³ 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>.

⁵⁴ 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.

⁵⁵ "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.

⁵⁶ 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 C. 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.⁵⁷

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.

⁵⁷ 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."

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