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

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

Summary

The Integrated Deepwater Systems (IDS) program, or Deepwater program for short, is a $24-billion, 25-year project to replace and modernize the Coast Guard's aging fleet of deepwater-capable ships and aircraft. It is the largest and most complex acquisition effort in Coast Guard history, encompassing 91 new cutters, 124 new small surface craft, and 244 new or converted airplanes, helicopters, and unmanned aerial vehicles (UAVs). For FY2009, the Coast Guard is requesting $990.4 million for the Deepwater program.

The year 2007 was a watershed year for the Deepwater program. The management and execution of the program was strongly criticized in reports and testimony from the Department of Homeland Security Inspector General (DHS IG), the Government Accountability Office (GAO), the Defense Acquisition University (DAU), and other observers. House and Senate committees held several oversight hearings on the program, at which several Members of Congress strongly criticized the management and execution of the program, particularly regarding problems in programs to acquire new and modernized cutters and patrol boats. 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 execution in other respects. The Coast Guard announced a number of reform actions intended to improve its management and execution of the program. Among these was a decision to phase out the Coast Guard's reliance on Integrated Coast Guard Systems (ICGS) — an industry team led by Lockheed Martin and Northrop Grumman Ship Systems (NGSS) — as the lead system integrator (LSI) for executing the Deepwater program.

In March 2008, GAO testified and reported on its updated assessment of the Deepwater program, following the reform actions taken by the Coast Guard in 2007.

Legislative activity in the 110th Congress relating to the Deepwater program includes the following:

- **H.R. 2830/S. 1892**, the Coast Guard Authorization Act of 2007;
- **H.R. 2638/S. 1644**, the FY2008 Department of Homeland Security appropriations act, which was incorporated into the FY2008 Consolidated Appropriations Act (**H.R. 2764/P.L. 110-161** of December 26, 2007);
- **H.R. 2722/S. 924**, the Integrated Deepwater Program Reform Act;
- **S. 889**, the Deepwater Accountability Act; and
- **H.R. 2206/P.L. 110-28**, the FY2007 emergency supplemental appropriations act.

A potential key issue for Congress in 2008 is whether the reform actions announced by the Coast Guard in 2007 are sufficient, whether the Coast Guard is implementing these reform actions adequately, and whether additional legislation needs to be passed to restructure or reform the program. This report will be updated as events warrant.

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Introduction

The Integrated Deepwater Systems (IDS) program, or Deepwater program for short, is a $24-billion, 25-year project to replace and modernize the Coast Guard's aging fleet of deepwater-capable ships and aircraft. It is the largest and most complex acquisition effort in Coast Guard history, encompassing 91 new cutters, 124 new small surface craft, and 244 new or converted airplanes, helicopters, and unmanned aerial vehicles (UAVs). The Deepwater program has received a net total of about $5.1 billion through FY2008, including a net total of $650.9 million in FY2008. For FY2009, the Coast Guard is requesting $990.4 million for the program.

The year 2007 was a watershed year for the Deepwater program. The management and execution of the program was strongly criticized in reports and testimony from the Department of Homeland Security Inspector General (DHS IG), the Government Accountability Office (GAO), the Defense Acquisition University (DAU), and other observers. House and Senate committees held several oversight hearings on the program, at which several Members of Congress strongly criticized the management and execution of the program, particularly regarding problems in programs to acquire new and modernized cutters and patrol boats. 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 execution in other respects. The Coast Guard announced a number of reform actions intended to improve its management and execution of the program. Among these was a decision to phase out the Coast Guard's reliance on Integrated Coast Guard Systems (ICGS) — an industry team led by Lockheed Martin and Northrop Grumman Ship Systems (NGSS) — as the lead system integrator (LSI) for executing the Deepwater program.

In March 2008, GAO testified and reported on its updated assessment of the Deepwater program, following the reform actions taken by the Coast Guard in 2007.

A potential key issue for Congress in 2008 is whether the reform actions announced by the Coast Guard in 2007 are sufficient, whether the Coast Guard is implementing these reform actions adequately, and whether additional legislation needs to be passed to restructure or reform the program.

Background[1]

Coast Guard's Deepwater Missions

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

Deepwater Program Basics

Program Origin. The Coast Guard initiated the Deepwater program 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.

System-of-Systems (SOS) Acquisition. Rather than replacing its various deepwater-capable cutters, patrol boats, and aircraft through a series of individual procurement programs, the Coast Guard decided to pursue the Deepwater program as a system-of-systems (SOS) acquisition, under which a combination of new and modernized cutters, patrol boats, aircraft, along with associated C4ISR systems[2] and logistics support, would be procured as a single, integrated package. The Coast Guard believes that a system-of-systems approach permits the Deepwater project to be optimized (i.e., made maximally cost effective) at the overall, system-of-systems level, rather than suboptimized at the level of individual platforms and systems.

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. The Coast Guard initially decided to use a private-sector LSI to execute the Deepwater program in part because the size and complexity of the project was thought to be beyond the system-integration capabilities of the Coast Guard's relatively small in-house

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[1] For additional background information on the Deepwater program on the internet, log onto [http://www.uscg.mil/deepwater/] and [http://www.teamdeepwater.com].

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

acquisition work force. Another major acquisition effort being pursued as a system-of-systems acquisition with an LSI is the Army's Future Combat System (FCS).[3]

Performance-Based Acquisition. The Coast Guard also decided to pursue the Deepwater program as a performance-based acquisition, meaning that it would set performance requirements for the program and permit the Deepwater LSI some latitude in determining how the various elements of the Deepwater system would meet those requirements.

ICGS Contract Award and Extension. The Coast Guard ran a competition for the Deepwater LSI role. 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 Implementation Plan. The original (1998) Deepwater implementation plan reflected a pre-9/11 analysis of Coast Guard mission demands. On March 25, 2005, the Coast Guard submitted to Congress a revised Deepwater implementation plan reflecting an analysis of the Coast Guard's expanded post-9/11 missions. The revised implementation plan increased the capabilities to be acquired under the Deepwater program. Primarily because of the increase in capabilities to be acquired, the Deepwater program's estimated acquisition cost increased from $17 billion to $24 billion, and the program's acquisition period increased from about 20 years to 25 years.

Some observers have expressed concern that the Deepwater program's estimated total acquisition cost has increased from $17 billion to $24 billion. An April 2006 Government Accountability Office (GAO) report stated the following:

> The revised Deepwater implementation plans change the balance between new and legacy assets, alter the delivery schedule for some assets, lengthen the overall acquisition schedule by 5 years, and increase the projected program cost from $17 billion to $24 billion. The higher cost generally relates to upgrading assets to reflect added homeland security mission requirements. Upgrades to vessels account for the single largest area of increase; with upgrades to the command, control, communications and other capabilities being second highest. In contrast, because the revised plans upgrade rather than replace most legacy aircraft and reduce the number of unmanned aircraft, the cost for Deepwater

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[3] For more on the FCS program, see CRS Report RL32888, *The Army's Future Combat System (FCS): Background and Issues for Congress*, by Andrew Feickert. For more on LSIs in general, see CRS Report RS22631, *Defense Acquisition: Use of Lead System Integrators (LSIs) — Background, Oversight Issues, and Options for Congress*, by Valerie Bailey Grasso.

> aircraft drops. The revised plans, like the original plan, are heavily dependent on receiving full funding each year. Coast Guard officials state that a shortfall in funding in any year could substantially increase total costs.[4]

Some observers expected the revised Deepwater implementation plan to include more ships and aircraft than the original (1998) Deepwater plan. A 2004 RAND Corporation report recommended substantially increasing the numbers of cutters and aircraft to be acquired under the original plan.[5] The revised implementation plan, however, did not substantially increase ship and aircraft numbers. The Coast Guard says the revised force would have considerably more capability than the 1998-planned force because the ships and aircraft would be individually more capable than under the 1998 plan. Coast Guard officials have also acknowledged, however, that the revised force would not have enough capacity to meet long-term (FY2005-FY2009) Government Performance and Review Act (GPRA) goals. An April 2006 GAO report concluded that

> The Coast Guard's analytical methods were appropriate for determining if the revised asset mix would provide greater mission performance and whether the mix is appropriate for meeting Deepwater missions. GAO and other independent experts found the Coast Guard's methods were reliable for assessing the effects of changing the asset mix and a Department of Defense review board facilitated accreditation of the Coast Guard's approach."[6]

Systems to Be Procured or Converted. The revised Deepwater implementation plan includes the acquisition of the following:

Ships, boats, and surface craft:

- *8 new National Security Cutters, or NSCs*, displacing about 4,000 tons each (i.e., ships analogous to today's high-endurance cutters);
- *25 new Offshore Patrol Cutters, or OPCs*, displacing about 3,200 tons each (i.e., ships analogous to today's medium-endurance cutters);

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[4] Government Accountability Office: *Coast Guard[:] Changes to Deepwater Plan Appear Sound, and Program Management Has Improved, but Continued Monitoring Is Warranted*, GAO-06-546, June 2006.

[5] John Birkler, et al., *The U.S. Coast Guard's Deepwater Force Modernization Plan: Can It Be Accelerated? Will It Meet Changing Security Needs?* RAND, National Security Research Division, MG-114, 2004.

[6] Government Accountability Office: *Coast Guard[:] Changes to Deepwater Plan Appear Sound, and Program Management Has Improved, but Continued Monitoring Is Warranted*, GAO-06-546, June 2006.

For further discussion regarding the adequacy of proposed Deepwater assets, see Statement of Ronald O'Rourke, Specialist in National Defense, Congressional Research Service, Before the Senate Commerce, Science, and Transportation Committee Subcommittee on Fisheries and the Coast Guard Hearing on the Coast Guard's Revised Deepwater Implementation Plan, June 21, 2005, pp. 1-5.

- *58 new Fast Response Cutters (FRCs)* displacing 200 tons each, to replace the Coast Guard's existing 110-foot Island-class patrol boats;
- *33 new Long Range Interceptor (LRI) craft* displacing 15 tons each; and
- *91 new Short Range Prosecutor (SRP) craft* displacing 9 tons each.

Aircraft:

- *6 missionized HC-130J and 16 converted HC-130H Long Range Search (LRS) aircraft;*
- *36 new HC-144A Medium Range Maritime Patrol Aircraft (MPA)* based on the European Aeronautic Defence and Space Company (EADS) CASA HC-235 Persuader MPA aircraft design;
- *42 converted HH-60J Medium Range Recovery (MRR) helicopters*;
- *95 converted HH-65C Multi-Mission Cutter Helicopters (MCHs)*;
- *45 new HV-911 Eagle Eye VTOL (vertical take-off or landing) Unmanned Aerial Vehicles (VUAVs)*; and
- *4 leased RQ-4A Global Hawk High Altitude Endurance UAVs (HAEUAVs).*

In addition to the above items, the Deepwater program encompasses other work, including, originally, the conversion of the Coast Guard's existing 49 Island-class 110-foot patrol boats into modernized, 123-foot patrol boats, so that these boats could remain in service until the delivery of replacement FRCs. The 123-foot conversion program was subsequently canceled (see discussion below).

2008 Alternatives Analysis (AA). Between September 2007 and February 2008, the Coast Guard conducted a reevaluation of the mix of assets to be procured under the Deepwater program in a study called an Alternatives Analysis (AA). The study examined alternative platforms for the NSC, OPC, FRC, MPA, and VUAV. The study suggested that the Coast Guard consider a number of alternatives regarding the Deepwater asset mix and concluded that, regardless of the asset mix, the Coast Guard has infrastructure funding and scheduling shortfalls that need to be addressed. The Coast Guard reportedly found the study's analysis generally acceptable but did not change the Deepwater program's planned mix of assets.[7]

Program Funding.

Prior-Year Funding. **Table 1** below shows prior-year funding for the Deepwater program. As can be seen in the table, the program has received a net total

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[7] Michael Bruno, "Alternatives Analysis Spurs Coast Guard UAS Search," *Aerospace Daily & Defense Report*, February 12, 2008; Philip Ewing, "Report: CG May Need Fewer Big Cutters," *NavyTimes.com*, March 5, 2008; Bettina Chavanne and Michael Bruno, "Official Study Notes Coast Guard Acquisition Shortfalls," *Aerospace Daily & Defense Report*, March 7, 2008; Geoff Fein, "Coast Guard Agrees With AA On Almost All Recommendations," *Defense Daily*, March 10, 2008; Zachary M. Peterson, "Re-Analysis Validates Coast Guard's Way Ahead With Deepwater," *Inside the Navy*, March 10, 2008; Bettina H. Chavanne, "USCG Will Not Rebaseline Deepwater Despite Alternatives Analysis," *Aerospace Daily & Defense Report*, March 12, 2008: 1-2.

of about $5.1 billion through FY2008, including a net total of $650.9 million in FY2008.

Table 1. Deepwater Program Funding History
(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	1,065.9	783.3	
Rescissions	n/a		3.1	57.6	38.9	98.7		83.6	
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**	**1,036.4**	**1,144.6**	**650.9**	
Cumulative total[b]	**117.0**	**437.2**	**912.1**	**1,522.7**	**2,257.5**	**3,293.9**	**4,438.5**	**5089.4**	

Source: Prepared by CRS using Coast Guard data provided on January 29, 2007 (FY2007 and prior years), and FY2008 Consolidated Appropriations Act (FY2008).

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.

FY2008 Funding. As shown in **Table 2**, the Coast Guard for FY2008 requested $836.9 million in new appropriations and the rescission of $48.8 million in prior-year appropriations, for a net total request of $788.1 million. As shown in the table, the House version of the FY2008 DHS appropriations bill (**H.R. 2638**) recommended $698.4 million in new appropriations and the rescission of $107.4 million in prior-year appropriations for the program, for a net total of $590.9 million, while the Senate version (**S. 1644**) recommended $826.9 million in new appropriations and the rescission of $58.7 million in prior-year appropriations for the program, for a net total of $770.1 million. The FY2008 DHS appropriations bill was made part of **H.R. 2764/P.L. 110-161**, the FY2008 Consolidated Appropriations Act. **H.R. 2764/P.L. 110-161** provided $783.3 million in new appropriations and rescinded $83.6 million in prior-year appropriations for the program, for a net total of $650.9 million.

FY2009 Funding Request. As mentioned above, for FY2009, the Coast Guard is requesting $990.4 million for the program. Of this total, $540.7 million is for Deepwater surface assets, $231.3 is for Deepwater air assets, and the remaining $218.4 million is for other parts of the Deepwater program.

Table 2. FY2008 Deepwater Funding Request and Congressional Action

(in millions of dollars, rounded to nearest tenth)

	Request	House (H.R. 2638)	House change from request	Senate (S. 1644)	Senate change from request	Confer-ence (H.R. 2764)	Confer-ence change from request
Aircraft							
Maritime patrol aircraft	170.0	100.0	-70.0	170.0	0	170.0	0
HH-60 conversion	57.3	57.3	0	52.3	-5.0	57.3	0
HC-130H conversion	18.9	18.9	0	13.9	-5.0	18.9	0
HH-65 conversion	50.8	50.8	0	50.8	0	50.8	0
Armed helo equipment	24.6	24.6	0	24.6	0	24.6	0
C-130J	5.8	5.8	0	5.8	0	5.8	0
Subtotal aircraft	*327.4*	*257.4*	*-70.0*	*317.4*	*-10.0*	*327.4*	*0*
Surface ships							
NSC	165.7	105.8	-59.9	165.7	0	165.7	0
FRC-B	53.6	0	-53.6	53.6	0	0	-53.6
Small boats	2.7	2.7	0	2.7	0	2.7	0
Patrol boats sustainment	40.5	61.0	20.5	40.5	0	40.5	0
Medium-endurance cutter sustainment	34.5	50.0	15.5	34.5	0	34.5	0
Subtotal surface ships	*297.0*	*219.5*	*-77.5*	*297.0*	*0*	*243.4*	*-53.6*
Technology obsolescence prevention	0.7	0.7	0	0.7	0	0.7	0
C4ISR	89.6	89.6	0	89.6	0	89.6	0
Logistics	36.5	36.5	0	36.5	0	36.5	0
Systems engineering and integration	35.1	35.1	0	35.1	0	35.1	0
Govt. program mgt.	50.5	59.5	9.0	50.5	0	50.5	0
TOTAL FY2008	**836.9**	**698.4**	**-138.5**	**826.9**	**-10.0**	**783.3**	**-53.6**
Rescissions							
OPC	-48.8	-68.8	-20.1	-48.8	0	-98.6	-49.8
VUAV	0	-38.6	-38.6	0	0	-33.8*	-33.8*
FRC-B	0	0	0	-8.0	-8.0	0	0
Subtotal rescissions	*-48.8*	*-107.4*	*-58.7*	*-56.8*	*-8.0*	*-132.4*	*-83.6*
NET TOTAL	**788.1**	**590.9**	**-197.2**	**770.1**	**-18.0**	**650.9**	**-137.2**

Source: House and Senate reports on H.R. 2638 and S. 1644, respectively. Totals may not add due to rounding.

* Total of three rescissions in H.R. 2764 bill language for VUAV ($162,850), UAVs ($32,942,138), and VTOL UAVs ($716,536).

Earlier Interest in Potential for Program Acceleration. Prior to the strong criticisms starting in 2007 regarding management and execution of the Deepwater program, some Members of Congress had expressed interest in accelerating procurement of Deepwater assets and thereby compressing the

Deepwater acquisition period from 25 years to 15 or 10 years, so as to reduce total Deepwater acquisition costs and more quickly replace legacy assets. Some of these Members expressed disappointment that the Coast Guard's revised implementation plan lengthened the program's acquisition period from about 20 years to 25 years. Compressing the Deepwater program's acquisition period to 15 or 10 years could reduce total Deepwater acquisition costs but would require substantially increasing annual Deepwater acquisition funding levels.[8] GAO has cautioned that accelerating the Deepwater program could increase program-management risks, but has also acknowledged that accelerating selected parts of the program might be more feasible.

Problems in Program Management and Execution

The management and execution of the Deepwater program was strongly criticized in 2007 by the Department of Homeland Security Inspector General (DHS IG),[9] the Government Accountability Office (GAO),[10] the Defense Acquisition

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[8] Section 888(I) of H.R. 5005/P.L. 107-296 directed DHS to report to Congress on the idea of compressing the Deepwater program from 20 years to 10 years. On March 12, 2003, the Coast Guard submitted the report, which concluded that compressing the Deepwater acquisition period to 10 years was feasible, that it would increase Deepwater acquisition costs over the period FY2005-FY2011 by about $7.4 billion in then-year dollars, but reduce total Deepwater acquisition costs over the long run from $16.022 billion in then-year dollars to $11.473 billion in then-year dollars. (U.S. Coast Guard, *Report to Congress on the Feasibility of Accelerating the Integrated Deepwater System*, 2003.)

A 2004 RAND Corporation report, using the original (pre-2005) Deepwater implementation plan, concluded that "the shipbuilding and air vehicle industrial bases could produce the USCG's Deepwater assets on either the 15-year or the 10-year schedule. Manufacturers would require no major facility upgrades to accommodate acceleration." (John Birkler, et al., *The U.S. Coast Guard's Deepwater Force Modernization Plan: Can It Be Accelerated? Will It Meet Changing Security Needs?* RAND, National Security Research Division, MG-114, 2004.)

[9] See, for example, Statement of Richard L. Skinner, Inspector General, U.S. Department of Homeland Security, Before the Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation, U.S. House of Representatives, "Deepwater: 120-Day Update," June 12, 2007; as well as Department of Homeland Security, Office of Inspector General, *Acquisition of the National Security Cutter*, OIG -07-23, January 2007 (available online at [http://www.dhs.gov/xoig/assets/mgmtrpts/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/mgmtrpts/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).

[10] See, for example, Government Accountability Office, *Coast Guard[:] Challenges Affecting Deepwater Asset Deployment and Management and Efforts to Address Them*, (continued...)

University (DAU),[11] several Members of Congress from committees and subcommittees that oversee the Coast Guard, and other observers.

Criticism of the management and execution of the program has focused to a large degree on problems in three cutter acquisition efforts, and on overall management of the program. Each of these is discussed briefly below. Problems with other parts of the Deepwater program, such as the VUAV, have also attracted oversight attention.[12]

Cutter Acquisition Efforts. The Deepwater cutter acquisition efforts that have experienced problems are the new National Security Cutter (NSC), the 110-foot patrol boat modernization effort, and the new Fast Response Cutter (FRC).

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.[13]

In February and March 2008, press reports stated that there were problems with the electronic systems on the first NSC, and that the ship's entry into service might consequently delayed.[14] Coast Guard officials questioned the accuracy of facts

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[10] (...continued)
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.

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

[12] For more on the VUAV, see Patricia Kime, "Coast Guard Puts Eagle Eye UAV on hold," *NavyTimes.com*, October 22, 2007; Philip Ewing, "Coast Guard Doesn't Expect UAV Until 2014," *NavyTimes.com*, February 11, 2008;

[13] 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/mgmtrpts/OIG_07-23_Jan07.pdf].

[14] Philip Ewing, "C4ISR Problems Could Delay Cutter Construction," *NavyTimes.com*, February 27, 2008; Geoff Fein, "Coast Guard Working To Assure Information Won't Leak From Bertholf," *Defense Daily*, March 6, 2008; David Axe, "Coast Guard Delays Cutter (continued...)

reported in some of the news accounts, and expressed confidence that the ship would be delivered without further delay.[15]

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.
>
> 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.[16]

The GAO report also stated:

> The NSC's projected costs have increased compared to the initial baseline, as shown in [GAO Report] table 1.

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[14] (...continued)
Over Radios," *Washington Times*, March 11, 2008; Dan Caterinicchia, "Coast Guard Delays First Ships for New Fleet," *Washington Post*, march 12, 2008: D3.

[15] Philip Ewing, "CG: Contrary to Report, No Delay for Bertholf," *NavyTimes.com*, March 11, 2008; Bettina H. Chavanne, "USCG Confident About NSC; GAO Less So," *Aerospace Daily & Defense Report*, March 14, 2008: 3; Zachary M. Peterson, "Coast Guard Admirals Confident NSC Will Be Delivered By End of May," *Inside the Navy*, March 17, 2008; John M. Doyle, "Coast Guard To Deploy New Cutter in 2010," *Aviation Week*, April 11, 2008.

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

[GAO Report] Table 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;
- 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.[17]

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

[17] Ibid, Objective #3 (page 4).

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 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.[18]

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

[18] Ibid, Objective #3 (page 5).

> 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.[19]

110-Foot Patrol Boat Modernization. As mentioned earlier, as part of the Deepwater program, the Coast Guard originally planned to modernize 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 new Deepwater Fast Response Cutters (FRCs) starting in 2018. Among other things, the modernization lengthened the boats to 123 feet. The program consequently is referred to as the 110-foot or 123-foot modernization program.

Eight of the boats were modernized at a total cost of roughly $100 million. The Coast Guard acknowledged in 2007 that the program was a failure.

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.[20] 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.[21]

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[19] Ibid, Objective #3 (page 6).

[20] 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].

[21] 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/mgmtrpts/OIG_07-27_Feb07.pdf].

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.[22]

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.[23]

On May 17, 2007, the Coast Guard issued a letter to ICGS revoking its previous acceptance of the eight converted boats — an action intended to facilitate Coast Guard attempts to recover from ICGS funds that were spent on the eight converted boats.[24]

On January 7 and 8, 2008, it was reported that the Coast Guard is 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.[25] Some observers have 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.[26]

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[22] "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 Falters," *Washington Post*, December 8, 2006.

[23] 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.

[24] 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.

[25] 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.

[26] 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.

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, and the Coast Guard in February 2006 suspended work on the design.

The Coast Guard has now divided the 58-ship FRC effort into two classes — FRC-Bs, which are to be procured as a near-term stop-gap measure and which are to be based on an existing patrol boat design (which the Coast Guard calls a "parent craft" design), and subsequent FRC-As, which are to be based on a fixed version of the new FRC design. Of the 58 FRCs, at least 12 are to be FRC-Bs.

In December 2006, the Coast Guard issued a Request for Proposals (RFP) to ICGS for the FRC-B. On March 14, 2007, the Coast Guard announced that it intends to procure the 12 FRC-B cutters directly from the manufacturer, rather than through ICGS.[27]

In February 2008, it was reported that the Coast Guard plans to award in May or June 2008 a contract valued at up to $1.7 billion for 34 FRC-Bs, if all options are executed.[28]

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.[29]

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

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[27] Coast Guard press release, "Coast Guard Reassigns Deepwater Replacement Patrol Boast 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.

[28] Andrea Shalal-Esa, "US Cost 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.

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

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 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.[30]

Overall Management of Program. Many observers believed the problems experienced in the three 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,"[31] expressed serious concerns about the

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[30] Ibid, Objective #2 (page 3).

[31] Defense Acquisition University, *Quick Look Study, United States Coast Guard Deepwater* (continued...)

Coast Guard's overall management of the Deepwater program. These reports and testimony, as well as Members of Congress and other observers, raised concerns about a number of actual or alleged problems.

Some observers expressed the view that using an 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 the LSI approach is basically valid, but that the contract the Coast guard used to implement the LSI 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.[32]

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 LSI for defining performance specifications, for subsequently modifying them, and for making technical judgements;
- permitted the 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 LSI for resolving technical disputes between the Coast Guard and the 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 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;

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[31] (...continued)
Program, February 2007.

[32] For additional discussion about LSIs in general, see CRS Report RS22631, *Defense Acquisition: Use of Lead System Integrators (LSIs) — Background, Oversight Issues, and Options for Congress*, by Valerie Bailey Grasso.

- permitted the 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 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 addition, observers stated that the Coast Guard proceeded with construction of the first NSCs in spite of early internal warnings about flaws in the NSC design, 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 contractors had establishing unacceptable conditions for DHS IG to interview contractor personnel about the program.

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.[33]

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[33] 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 Guad & 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 Counter-Terrorism 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

(continued...)

Coast Guard Reform Actions Announced In 2007. On April 17, 2007, the Coast Guard announced six changes intended to reform the management of the Deepwater program. Among other things, the Coast Guard announced it would assume the role of lead system integrator (LSI) for the 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 fundamental changes in the management of our Deepwater program:
>
> 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....
>
> The Coast Guard will take full responsibility for leading the management of all life cycle logistics functions within the Deepwater program under a an improved logistics architecture established with the new mission support organization.
>
> 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.
>
> 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.
>
> 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.
>
> 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

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[33] (...continued)
Counterterrorism, May 17, 2007.

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 adaptive, 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.[34]

Coast Guard officials stated that the Coast Guard intended to proceed with the 43-month award term with ICGS and use the contract to complete Deepwater acquisition efforts that are already underway. Coast Guard official stated that task orders that the Coast Guard issues under the 43-month award term will be for performance periods of 18 months, with the aim of closing out efforts already underway.[35]

On August 8, 2007, the Coast Guard announced on August 8, 2007, that it had reached agreement with ICGS to settle design and contractual issues regarding the first three National Security Cutters.[36] An August 13, 2007, press report provided additional information on the settlement.[37]

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[34] 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."

[35] See, for example, the spoken testimony of Admiral Thad Allen, Commandant of the Coast Guard, before the Oceans, Atmosphere, Fisheries, and Coast Guard subcommittee of the Senate Commerce, Science, and Transportation Committee on April 18, 2007, and before the Coast Guard and Maritime Transportation subcommittee of the House Transportation and Infrastructure Committee on June 12, 2007.

[36] Coast Guard Press Release, August 8, 2007, entitled "Coast Guard Awards Contract For Third National Security Cutter," accessed on August 23, 2007, at [https://www.piersystem.com/go/doc/786/167626/]

[37] Christopher P. Cavas, "USCG, Contractors Agree on New Cutters," *Defense News*, August 13, 2007.

In addition to the April 17, 2007, Coast Guard announcement about Deepwater management reforms, the August 8, 2008, announcement about the settlement of NSC-related issues, and the March 14 Coast Guard announcement concerning the procurement of FRC-Bs, the Coast Guard in 2007 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 commences in June 2007 so as to address concerns raised about the current Deepwater contract;
- 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 concurs with many of the recommendations made in the DHS IG reports, and is moving to implement them;
- stated that it is weighing the recommendations of the DAU quick look study; and
- stated that it has also implemented many recommendations regarding Deepwater program management that have been made by GAO.

On May 17, 2007, the Coast Guard testified that its Deepwater acquisition staff had increased from about 250 to about 450, and that it would continue to grow about 10% per year. The Coast Guard testified that it would be generally capable of acting as the LSI for the Deepwater program within about 12 to 18 months, that the area of in-house acquisition expertise that is most in need of improvement during this period is C4ISR, and that the increase in acquisition-related staffing would not impact other Coast Guard activities because of the service's increasing end strength. The Coast Guard testified that it will continue to use the services of independent, third-party sources of support, such as the Carderock division of the Naval Surface Warfare Center (NSWC), the Navy's center of excellence for ships and ship systems.[38]

March 2008 GAO Assessment. In march 2008, GAO reported that:

> The Coast Guard has changed how decisions are made about purchasing Deepwater assets. It is moving from a "system-of-systems" acquisition model — with the contractor, ICGS, as the system integrator — to a more traditional acquisition strategy in which the Coast Guard will take a more direct role and manage the acquisition of each asset separately....

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[38] Spoken testimony of Rear Admiral Gary Blore at May 17, 2007, joint hearing before the Border, Maritime, and Global Counterterrorism subcommittee and the Management, Investigations, and Oversight subcommittee of the House Homeland Security Committee.

> We have closed two of the five open recommendations from our previous report, pertaining to the Coast Guard's use of models and metrics to measure the contractor's progress toward improving operational effectiveness and establishing criteria for when to adjust the total ownership cost baseline. The Coast Guard has taken actions on the three recommendations that remain open, such as designating Coast Guard officials as the lead on integrated product teams, developing a draft maintenance and logistics plan for the Deepwater assets, and potentially eliminating the award term provision from the ICGS contract. However, at this time, the actions are not sufficient to allow us to close them.[39]

The same GAO report also stated:

> The Coast Guard is moving away from the ICGS contract and the system-of-systems model, with the contractor as system integrator, to a more traditional acquisition strategy, where the Coast Guard will manage the acquisition of each asset separately. In a series of reports since 2001, we have noted the risks inherent in the systems integrator approach to the Deepwater program and have made a number of recommendations intended to improve the Coast Guard's management and oversight. We specifically focused on the need to improve program management, contractor accountability, and cost control. We, as well as the DHS Inspector General and others, have also noted problems in specific acquisition efforts, notably the National Security Cutter (NSC) and the 110-Foot Patrol Boat Modernization, which was permanently halted due to operational and safety concerns.
>
> The Coast Guard has recognized that it needs to increase government oversight and has begun to transfer system integration and program management responsibilities back to the Coast Guard. It has begun taking formal steps to reclaim authority over decision making and to more closely monitor program outcomes.
>
> The Coast Guard has also
> • begun to competitively purchase one asset (the Fast Response Cutter-B) and plans to competitively purchase other assets outside of the ICGS contract;
> • expanded the role of third parties, including the U.S. Navy, to perform independent cost assessments and program technical analyses; and
> • reorganized and consolidated the acquisition function to strengthen its ability to manage projects.
>
> Additionally, because the IDIQ contract minimum was met during the 5-year base term, the government is under no further obligation to use the contract. Coast Guard officials said that they are currently evaluating whether to continue to use the ICGS contract for efforts that are already under way, such as the NSC, versus contracting directly with the subcontractors. Further, they may continue to use the ICGS contract for certain efforts, such as logistics.[40]

Regarding a GAO recommendation to take steps to make integrated product teams (IPTs) effective, the same GAO report states:

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

[40] Ibid, Objective #1 (page 2).

Current Status: Partially Implemented

The Coast Guard is in the process of restructuring the IPTs, which remain a key program management tool. Coast Guard program managers, rather than ICGS representatives, now chair the IPTs. The IPTs' current role is to discuss options for problem solving related to cost, schedule, and performance objectives, but the program manager is ultimately responsible for making decisions. In addition to evaluating and rechartering some existing IPTs, the Coast Guard has organized two new ones and is in the process of establishing several others.

Since the Coast Guard will now chair IPTs, the chartering of sub-IPTs to clarify roles and responsibilities is no longer an issue. Coast Guard officials plan to use working groups established under the authority of the IPTs to address specific issues. Working groups are more informal and can come together and disband on an as-needed basis.

Finally, the electronic information system, built and managed by ICGS, is still used as a tool used to share information among geographically dispersed IPT members — specifically, ICGS and the Coast Guard. However, with the decreasing reliance on ICGS as the system integrator, this particular contractor-led electronic information-sharing system may become less integral to effective management of the Deepwater program.

Due to the ongoing chartering, restructuring, and re-evaluation of the roles and responsibilities of the IPTs within the new construct of the Deepwater program, this recommendation remains open as partially implemented.[41]

Regarding a GAO recommendation to provide information on maintenance and logistics responsibilities, the same GAO report stated:

Current Status: Partially Implemented

In June 2007, we reported that the Coast Guard announced it was assuming the role of the default provider of maintenance and logistics, supplemented by contractors as necessary. The Coast Guard is still formalizing its assumption of maintenance and logistics responsibilities. The Coast Guard technical authority is developing a commandant instruction that outlines policies, processes, roles, and responsibilities for maintenance and logistics support for Deepwater assets. The Coast Guard plans for Deepwater assets to follow the same maintenance program — already familiar to Coast Guard maintenance personnel — as its other assets. However, the Coast Guard expects that some areas, such as command, control, communications, and computer electronics, will require contractor support until Coast Guard personnel can be trained or new personnel can be hired to fill these roles.

Because the Coast Guard has not yet issued the final commandant instruction that assigns maintenance and logistics responsibilities to Coast Guard personnel instead of ICGS, we are leaving this recommendation open as partially

[41] Ibid, Objective #4 (page 8).

> implemented. Once the instruction that addresses our recommendation is issued, we plan to close this recommendation as implemented.[42]

Regarding a GAO recommendation to hold the system integrator accountable for competition among subcontractors in make-or-buy decisions for the Deepwater program, the same GAO report stated:

> *Current Status: Partially Implemented*
>
> The Coast Guard has taken steps to increase its insight into make-or-buy decisions for Deepwater assets under the ICGS contract. In 2005, the Coast Guard asked ICGS to notify the government of make-or-buy decisions of $10 million or more. However, in December 2006, the Coast Guard reported that contractor data were inadequate to determine the level of competition achieved. Subsequently, the June 2007 award term modification incorporated a formal requirement for reporting make-or-buy decisions. ICGS must submit a make-or-buy plan that outlines rationale and justification for each DTO proposal that contains work items or work efforts priced at more than $5 million and/or that would typically require company management review because of complexity, cost, need for large quantities, or requirement for additional production facilities. The rationale should consider overall benefit to the government, including:
>
> (1) long-term and/or near-term cost benefit;
>
> (2) adequacy of considerations made in the make-or-buy determination;
>
> (3) impacts on product performance;
>
> (4) present and future supportability, maintenance and/or upgrade potential; and
>
> (5) proprietary data or other restrictions that could limit pursuit of future cost-effective alternatives.
>
> The Coast Guard is putting less emphasis on the subcontractor competition issue due to the move away from using the ICGS contract and more toward full and open competition. In fact, Coast Guard officials told us that because of potential legislation that would prohibit them from using ICGS as the system integrator, they are considering eliminating award term provisions from the contract.
>
> In addition, the Coast Guard no longer uses award fees under the ICGS contract. However, it has incorporated an incentive fee for the NSC.
>
> We are leaving this recommendation open as partially implemented pending Coast Guard documentation regarding the award term provision.[43]

GAO also commented at length on the Coast Guard's management of the Deepwater program in March 5, 2008, testimony before the Homeland Security subcommittee of the House Appropriations Committee,[44] and March 6, 2008

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[42] Ibid, Objective #3 (page 9).

[43] Ibid, Objective #4 (page 12).

[44] Government Accountability Office, *Testimony Before the Subcommittee on Homeland Security, Committee on Appropriations, House of Representatives, [on] Coast Guard[:]* (continued...)

testimony before the Oceans, Atmosphere, Fisheries, and Coast Guard subcommittee of the Senate Commerce, Science, and Transportation Committee.[45]

Justice Department Investigation

On April 18, 2007, it was reported that the Justice Department is conducting an investigation of the Deepwater program. The investigation reportedly centers on communications systems, the conversion of the Coast Guard's 110-foot patrol boats, and the National Security Cutter (NSC). Justice 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.[46]

Oversight Issues for Congress

Coast Guard's Announced Management Reforms

In light of the Deepwater management reforms announced by the Coast Guard in 2007, and GAO's March 2008 assessments of the Coast Guard's overall management of the program, potential oversight questions for Congress regarding management and execution of the Deepwater program include the following:

- Are the Coast Guard's announced reforms appropriate? Are they sufficient? Does additional legislation need to be passed to restructure or reform the program?

- Is the Coast Guard implementing its reform actions adequately? Has the Coast Guard, for example, developed a detailed plan for transitionning the Deepwater LSI role from ICGS to the Coast Guard? Is the plan realistic in terms of the schedule and manner in which various system-integration functions are to be transferred from ICGS to the Coast Guard over time? Which specific system-integration responsibilities will continue to be performed by ICGS, and for how long?

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[44] (...continued)
Deepwater Program Management Initiatives and Key Homeland Security Missions, Statement of John P. Hutton, Director Acquisition and Sourcing Management and Stephen L. Caldwell, Director Homeland Security and Justice, GAO-08-531T.

[45] Government Accountability office, Testimony Before the Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard, Committee on Commerce, Science, and Transportation, U.S. Senate, [on] Coast Guard[:] Observations on the Fiscal Year 2009 Budget, Recent Performance, and Related Challenges Statement of Stephen L. Caldwell, Director Homeland Security and Justice Issues, GAO-08-494T.

[46] 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.

- When will the Coast Guard have enough in-house technical and program-management expertise to take on various aspects of the role of Deepwater LSI? Does the Coast Guard have a detailed plan for expanding its in-house technical and program-management staff? Is this plan adequate? Does the Coast Guard have a career path for acquisition personnel similar to that for acquisition personnel in the Department of Defense?

- To what degree will the Coast Guard continue to need technical and program-management support from the Navy or other third parties? Does the Coast Guard have an adequate strategy for seeking out third-party help?

- Has the Coast Guard established milestones that Congress can use to assess the success of the Coast Guard's announced management reforms? If so, what are the milestones, and how were they determined? If not, does the Coast Guard plan to develop such milestones?

- What implications, if any, does the Coast Guard's decision to perform the Deepwater LSI role have for the concept of using private-sector LSIs on other federal acquisition programs?[47]

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

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[47] For more on LSIs in general, see CRS Report RS22631, *Defense Acquisition: Use of Lead System Integrators (LSIs) — Background, Oversight Issues, and Options for Congress*, by Valerie Bailey Grasso.

Security, which the Coast Guard became part of in 2003, were former Lockheed executives, and a third later served on its board.

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

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

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

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

But the connections between the agencies and the contractors have drawn the attention of the DHS inspector general, Richard L. Skinner. "That is on our radar screen," he said. "It's something we are very sensitive to."[48]

Potential Options for Congress

Potential options for Congress regarding the Deepwater program — some of which might have the effect of legislatively mandating reforms that the Coast Guard has already announced — include but are not limited to the following:

- continue to track the Coast Guard's management and execution of the Deepwater program;
- institute additional or stricter reporting requirements for the Deepwater program;
- encourage or require the Coast Guard to implement recommendations for the Deepwater program made by GAO, the DHS IG, and the DAU that the Coast Guard has not already fully implemented;
- encourage or require the Coast Guard to make greater use than the Coast Guard now plans of the Navy or other third-party, independent sources of expertise to help the Coast Guard manage the program;

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

- encourage or require the Coast Guard to replace the Deepwater program with a series of separate procurement programs for replacing individual classes of cutters, boats, and aircraft; and

- prohibit the obligation or expenditure of some or all FY2009 funding for the Deepwater program until the Coast Guard or DHS takes certain actions or makes certain certifications regarding the Deepwater program.

Legislative Activity in 110th Congress

Legislative activity in the 110th Congress relating to the Deepwater program includes the following:

- **H.R. 2830/S. 1892**, the Coast Guard Authorization Act of 2007;

- **H.R. 2638/S. 1644**, the FY2008 Department of Homeland Security appropriations act, which was incorporated into the FY2008 Consolidated Appropriations Act (**H.R. 2764/P.L. 110-161** of December 26, 2007);

- **H.R. 2722/S. 924**, the Integrated Deepwater Program Reform Act;

- **S. 889**, the Deepwater Accountability Act; and

- **H.R. 2206/P.L. 110-28**, the FY2007 emergency supplemental appropriations act.