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COAST GUARD

Observations on Changes to Management and Oversight of the Deepwater Program

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Acquisition and Sourcing Management

March 24, 2009

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Highlights

Highlights of GAO-09-462T, a testimony before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

GAO has a large body of work examining government agencies' approaches to managing their large acquisition projects. GAO has noted that without sufficient knowledge about system requirements, technology, and design maturity, programs are subject to cost overruns, schedule delays, and performance that does not meet expectations.

The Deepwater Program, intended to replace or modernize 15 major classes of Coast Guard assets, accounts for almost 60 percent of the Coast Guard's fiscal year 2009 appropriation for acquisition, construction and improvements. GAO has reported over the years on this program, which has experienced serious performance and management problems such as cost breaches, schedule slips, and assets designed and delivered with significant defects.

To carry out the Deepwater acquisition, the Coast Guard contracted with Integrated Coast Guard Systems (ICGS) as a systems integrator. In April 2007, the Commandant acknowledged that the Coast Guard had relied too heavily on contractors to do the work of government and announced that the Coast Guard was taking over the lead role in systems integration from ICGS.

This testimony reflects our most recent issued work on Deepwater, specifically our June 2008 report, *Coast Guard: Change in Course Improves Deepwater Management and Oversight, but Outcome Still Uncertain*, GAO-08-745.

View GAO-09-462T or key components.
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What GAO Found

Over the past two years, the Coast Guard has reoriented its acquisition function to position itself to execute systems integration and program management responsibilities formerly carried out by ICGS. The acquisition directorate has been consolidated to oversee all Coast Guard acquisitions, including the Deepwater Program, and Coast Guard project managers have been vested with management and oversight responsibilities formerly held by ICGS. Another key change has been to manage the procurement of Deepwater assets on a more disciplined, asset-by-asset approach rather than as an overall system of systems, where visibility into requirements and capabilities was limited. For example, cost and schedule information is now captured at the individual asset level, resulting in the ability to track and report breaches for assets. Further, to manage Deepwater acquisitions at the asset level, the Coast Guard has begun to follow a disciplined project management process that requires documentation and approval of program activities at key points in a program's life cycle.

These process changes, coupled with strong leadership to help ensure the processes are followed in practice, have helped to improve Deepwater management and oversight. However, the Coast Guard still faces many hurdles going forward and the acquisition outcome remains uncertain.

- The consequences of not following a disciplined acquisition approach for Deepwater acquisitions and of relying on the contractor to define Coast Guard requirements are clear now that assets, such as the National Security Cutter, have been paid for and delivered without the Coast Guard's having determined whether the assets' planned capabilities would meet mission needs.

- While the asset-based approach is beneficial, certain cross-cutting aspects of Deepwater—such as command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) and the overall numbers of each asset needed to meet requirements—still require a system-level approach. The Coast Guard is not fully positioned to manage these aspects.

- One of the reasons the Coast Guard originally contracted with ICGS as the systems integrator was the recognition that the Coast Guard lacked the experience and depth in workforce to manage the acquisition itself. The Coast Guard has faced challenges in building an adequate government acquisition workforce and, like many other federal agencies, is relying on support contractors—some in key positions such as cost estimating and contract support. GAO has pointed out the potential concerns of reliance on contractors who closely support inherently governmental functions.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss Coast Guard acquisitions, specifically its Deepwater Program, the largest acquisition in the Coast Guard's history. GAO has a significant body of work examining government agencies' approaches to managing their large acquisition projects, including Department of Defense weapon systems, Department of Homeland Security (DHS) major investments, and large, high-risk information technology investments across the government. We have pointed to the need for more discipline and accountability in the acquisition process to help ensure that programs are not initiated until sufficient knowledge exists about system requirements, technology, and design maturity. Without this knowledge, programs are subject to cost overruns, schedule delays, and performance deficiencies. The Deepwater Program represents the largest portion of the Coast Guard's appropriation for acquisition, construction, and improvements—almost 60 percent in fiscal year 2009.[1] Unfortunately, Deepwater has experienced serious performance and management problems such as cost breaches, schedule slips, and assets designed and delivered with significant defects.

The Deepwater Program is intended to replace or modernize 15 major classes of Coast Guard assets—five each of vessels and aircraft, and five other projects, including command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. To carry out this acquisition, the Coast Guard awarded a contract in June 2002 to Integrated Coast Guard Systems (ICGS), a joint venture formed by Lockheed Martin Corporation and Northrop Grumman Ship Systems, as a systems integrator. In April 2007, the Coast Guard Commandant acknowledged that the Coast Guard had relied too heavily on contractors to do the work of government and that government and industry had failed to control costs. He announced several major changes to the acquisition approach to Deepwater, the key one being that the Coast Guard was taking over the lead role in systems integration from ICGS, with future

[1]The Coast Guard's fiscal year 2009 appropriation includes an additional $300 million for acquisition, construction, and improvements for necessary expenses related to the consequences of 2008 natural disasters and flooding. In addition, the American Recovery and Reinvestment Act of 2009, signed into law on February 17, 2009, authorized $98 million for the Coast Guard to spend on, among other things, "priority procurements due to materials and labor cost increases." The Coast Guard is required to submit an expenditure plan to Congress within 45 days after enactment.

work on individual assets potentially bid competitively outside of the existing contract.

My statement today will focus on the progress the Coast Guard has made in improving its acquisition approach to the Deepwater Program and the challenges it continues to face. We have ongoing work on Deepwater acquisitions issues—specifically, the Coast Guard's acquisition workforce, the cost of the Deepwater Program, and challenges associated with C4ISR and other "system-of-systems" aspects—for the House and Senate appropriations committees and expect to issue a report later this summer. We also have ongoing work for the same committees examining the potential operational gaps the Coast Guard may encounter based on delays in delivery of the National Security Cutter (NSC) and its accompanying package of small boats and unmanned aircraft systems; the Coast Guard's mitigation strategies for addressing these potential gaps; and how the Coast Guard plans to handle maintenance of the NSC while still operating and maintaining its legacy high endurance cutters. That report is also expected to be issued this summer.

This statement is based on our issued work on the Coast Guard's Deepwater Program, specifically the information in our June 2008 report, *Coast Guard: Change in Course Improves Deepwater Management and Oversight, but Outcome Still Uncertain*.[2] That work was conducted in accordance with generally acceptable government audit standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Coast Guard is a multimission, maritime military service within DHS. The Coast Guard's responsibilities fall into two general categories—those related to homeland security missions, such as port security and vessel escorts, and those related to non-homeland security missions, such as search and rescue and polar ice operations. To carry out these responsibilities, the Coast Guard operates a number of vessels and aircraft and, through its Deepwater Program, is currently modernizing or replacing

[2]GAO, *Coast Guard: Change in Course Improves Deepwater Management and Oversight, but Outcome Still Uncertain*, GAO-08-745 (Washington, D.C.: June 24, 2008).

those assets. At the start of Deepwater in the late 1990s, the Coast Guard chose to use a system of systems acquisition strategy that was intended to replace the assets with a single, integrated package of aircraft, vessels, and communications systems. As the systems integrator, ICGS was responsible for designing, constructing, deploying, supporting, and integrating the assets. The decision to use a systems integrator for the Deepwater Program was driven in part because of the Coast Guard's lack of expertise in managing and executing an acquisition of this magnitude. Under this approach, the Coast Guard provided the contractor with broad, overall performance specifications—such as the ability to interdict illegal immigrants—and ICGS determined the specifications for the Deepwater assets. According to Coast Guard officials, the ICGS proposal was submitted and priced as a package; that is, the Coast Guard bought the entire solution and could not reject any individual component.

Deepwater assets are in various stages of the acquisition process. Some, such as the NSC and Maritime Patrol Aircraft, are in production. Others, such as the Fast Response Cutter, are in design, and still others, such as the Offshore Patrol Cutter, are in the early stages of requirements definition.

Coast Guard Has Made Improvements but Faces Continued Challenges in Managing Deepwater Acquisitions

Since the Commandant's April 2007 announcement that the Coast Guard was taking over the lead role in systems integration from ICGS, the Coast Guard has undertaken several initiatives that have increased accountability for Deepwater outcomes within the Coast Guard and to DHS. The Coast Guard's *Blueprint for Acquisition Reform* sets forth a number of objectives and specific tasks with the intent of improving acquisition processes and results. Its overarching goal is to enhance the Coast Guard's mission execution through improved contracting and acquisition approaches. One key effort in this regard was the July 2007 consolidation of the Coast Guard's acquisition responsibilities—including the Deepwater Program—into a single acquisition directorate. Previously, Deepwater assets were managed independently of other Coast Guard acquisitions within an insulated structure. The Coast Guard has also vested its government project managers with management and oversight responsibilities formerly held by ICGS.

The Coast Guard is also now managing Deepwater under an asset-based approach, rather than as an overall system-of-systems as initially envisioned. This approach has resulted in increased government control and visibility. For example, cost and schedule information is now captured at the individual asset level, resulting in the ability to track and report cost

breaches for assets.[3] Under the prior structure, a cost breach was to be tracked at the overall Deepwater Program level, and the threshold was so high that a breach would have been triggered only by a catastrophic event.

To manage Deepwater acquisitions at the asset level, the Coast Guard has begun to follow a disciplined project management process using the framework set forth in its *Major Systems Acquisition Manual*. This process requires documentation and approval of program activities at key points in a program's life cycle. The process begins with identification of deficiencies in Coast Guard capabilities and then proceeds through a series of structured phases and decision points to identify requirements for performance, develop and select candidate systems that meet those requirements, demonstrate the feasibility of selected systems, and produce a functional capability. Previously, the Coast Guard authorized the Deepwater Program to deviate from the structured acquisition process, stating that the requirements of the process were not appropriate for the Deepwater system-of-systems approach. Instead, Deepwater Program reviews were required on a schedule-driven—as opposed to the current event-driven—basis.

Further, leadership at DHS is now formally involved in reviewing and approving key acquisition decisions for Deepwater assets. We reported in June 2008 that DHS approval of Deepwater acquisition decisions as part of its investment review process was not required, as the department had deferred decisions on specific assets to the Coast Guard in 2003. We recommended that the Secretary of DHS direct the Under Secretary for Management to rescind the delegation of Deepwater acquisition decision authority. In September 2008, the Under Secretary took this step, so that Deepwater acquisitions are now subject to the department's investment review process, which calls for executive decision making at key points in an investment's life cycle.

We also reported this past fall, however, that DHS had not effectively implemented or adhered to this investment review process; consequently, the department had not provided the oversight needed to identify and address cost, schedule, and performance problems in its major investments.[4] Without the appropriate reviews, DHS loses the opportunity

[3]DHS requires cost breaches of 8 percent or higher to be reported to the department.

[4]GAO, *Department of Homeland Security: Billions Invested in Major Programs Lack Appropriate Oversight*, GAO-09-29 (Washington, D.C.: Nov. 18, 2008).

to identify and address cost, schedule, and performance problems and, thereby, minimize program risk. We reported that 14 of the department's investments that lacked appropriate review experienced cost growth, schedule delays, and underperformance—some of which were substantial. Other programs within DHS have also experienced cost growth and schedule delays. For example, we reported in July 2008 that the Coast Guard's Rescue 21 system was projected to experience cost increases of 184 percent and schedule delays of 5 years after rebaselining. [5] DHS issued a new interim management directive on November 7, 2008, that addresses many of our findings and recommendations on the department's major investments. If implemented as intended, the more disciplined acquisition and investment review process outlined in the directive will help ensure that the department's largest acquisitions, including Deepwater, are effectively overseen and managed.

Consequences of Prior Deepwater Acquisition Approach May Be Costly

While the decision to follow the *Major Systems Acquisition Manual* process for Deepwater assets is promising, the consequences of not following this acquisition approach in the past—when the contractor managed the overall acquisition—are now apparent for assets already in production, such as the NSC, and are likely to pose continued problems, such as increased costs. Because ICGS had determined the overall Deepwater solution, the Coast Guard had not ensured traceability from identification of mission needs to performance specifications for the Deepwater assets. In some cases it is already known that the ICGS solution does not meet Coast Guard needs, for example:

- The Coast Guard accepted the ICGS-proposed performance specifications for the long-range interceptor, a small boat intended to be launched from larger cutters such as the NSC, with no assurance that the boat it was buying was what was needed to accomplish its missions. Ultimately, after a number of design changes and a cost increase from $744,621 to almost $3 million, the Coast Guard began to define for itself the capabilities it needed and has decided not to buy any more of the ICGS boats.

[5]See GAO, *Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals*, GAO-08-925 (Washington, D.C.: July 31, 2008). Rescue 21 is a command, control, and communication system that improves mission execution in coastal zones to help the Coast Guard meet its search and rescue program goals. It is intended to result in improved response to distress calls and better coordination and interoperability with other government agencies and first responders.

- ICGS had initially proposed a fleet of 58 fast response cutters, subsequently termed the Fast Response Cutter-A (FRC-A), which were to be constructed of composite materials (as opposed to steel, for example). However, the Coast Guard suspended design work on the FRC-A in February 2006 to assess and mitigate technical risks. Ultimately, because of high risk and uncertain cost savings, the Coast Guard decided not to pursue the acquisition, a decision based largely on a third-party analysis that found the composite technology was unlikely to meet the Coast Guard's desired 35-year service life. After obligating $35 million to ICGS for the FRC-A, the Coast Guard pursued a competitively awarded fast response cutter based on a modified commercially available patrol boat. That contract was awarded in September 2008.

System-Level Aspects Pose Additional Challenges under Revised Acquisition Approach

Although the shift to individual acquisitions is intended to provide the Coast Guard with more visibility and control, key aspects still require a system-level approach. These aspects include an integrated C4ISR system—needed to provide critical information to field commanders and facilitate interoperability with the Department of Defense and DHS—and decisions on production quantities of each Deepwater asset the Coast Guard requires to achieve its missions. The Coast Guard is not fully positioned to manage these aspects under its new acquisition approach but is engaged in efforts to do so.

C4ISR is a key aspect of the Coast Guard's ability to meet its missions. How the Coast Guard structures C4ISR is fundamental to the success of the Deepwater Program because C4ISR encompasses the connections among surface, aircraft, and shore-based assets and the means by which information is communicated through them. C4ISR is intended to provide operationally relevant information to Coast Guard field commanders to allow the efficient and effective execution of their missions. However, an acquisition strategy for C4ISR is still in development. Officials stated that the Coast Guard is revisiting the C4ISR incremental acquisition approach proposed by ICGS and analyzing that approach's requirements and architecture. In the meantime, the Coast Guard is continuing to acquire C4ISR through ICGS.

As the Coast Guard transitions from the ICGS-based system-of-systems acquisition strategy to an asset-based approach, it will need to maintain a strategic outlook to determine how many of the various Deepwater assets to procure to meet Coast Guard needs. When deciding how many of a specific vessel or aircraft to procure, it is important to consider not only the capabilities of that asset, but how it can complement or duplicate the capabilities of the other assets with which it is intended to operate. To that

end, the Coast Guard is modeling the planned capabilities of Deepwater assets, as well as the capabilities and operations of existing assets, against the requirements for Coast Guard missions. The intent of this modeling is to test each planned asset to ensure that its capabilities fill stated deficiencies in the Coast Guard's force structure and to inform how many of a particular asset are needed. However, the analysis based on the modeling is not expected to be completed until the summer of 2009. In the meantime, Coast Guard continues to plan for asset acquisitions in numbers very similar to those determined by ICGS, such as 8 NSCs.

Challenges in Building an Acquisition Workforce

Like many federal agencies that acquire major systems, the Coast Guard faces challenges in recruiting and retaining a sufficient government acquisition workforce. In fact, one of the reasons the Coast Guard originally contracted with ICGS as a systems integrator was the recognition that the Coast Guard lacked the experience and depth in its workforce to manage the acquisition itself.

The Coast Guard's 2008 acquisition human capital strategic plan sets forth a number of workforce challenges that pose the greatest threats to acquisition success, including a shortage of civilian acquisition staff , its military personnel rotation policy, and the lack of an acquisition career path for its military personnel. The Coast Guard has taken a number of steps to hire more acquisition professionals, including the increased use of recruitment incentives and relocation bonuses, utilizing direct hire authority, and rehiring government annuitants. The Coast Guard also recognizes the impact of military personnel rotation on its ability to retain people in key positions. Its policy of 3-year rotations of military personnel among units, including to and from the acquisition directorate, limits continuity in key project roles and can have a serious impact on acquisition expertise. While the Coast Guard concedes that it does not have the personnel required to form a dedicated acquisition career field for military personnel, such as that found in the Navy, it is seeking to improve the base of acquisition knowledge throughout the Coast Guard by exposing more officers to acquisition as they follow their regular rotations.

In the meantime, the lack of a sufficient government acquisition workforce means that the Coast Guard is relying on contractors to supplement government staff, often in key positions such as cost estimators, contract specialists, and program management support. While support contractors can provide a variety of essential services, when they are performing certain activities that closely support inherently governmental functions their use must be carefully overseen to ensure that they do not perform

inherently governmental roles. Conflicts of interest, improper use of personal services contracts, and increased costs are also potential concerns of reliance on contractors.[6]

Concluding Observations

In response to significant problems in achieving its intended outcomes under the Deepwater Program, the Coast Guard leadership has made a major change in course in its management and oversight by re-organizing its acquisition directorate, moving away from the use of a contractor as the systems integrator, and putting in place a structured, more disciplined acquisition approach for Deepwater assets. While the initiatives the Coast Guard has underway have begun to have a positive impact, the extent and duration of this impact depend on positive decisions that continue to increase and improve government management and oversight.

Mr. Chairman, this concludes my prepared statement. I will be pleased to answer any questions you or members of the subcommittee may have at this time.

GAO Contact

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[6]The issue of support contractors in acquisition is not unique to the Coast Guard. In our March 2008 report on the acquisition of major weapons systems in the Department of Defense, we found that it too relies heavily on contractors to perform roles in program management, cost estimation, and engineering and technical functions. GAO, *Defense Acquisitions: Assessments of Major Weapons Programs*, GAO-08-467SP (Washington, D.C.: Mar. 31, 2008).

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