



U.S. House of Representatives
Committee on Transportation and Infrastructure

Washington, DC 20515

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April 8, 2011

MEMORANDUM

TO: Members, Subcommittee on Coast Guard and Maritime Transportation

FROM: Staff, Subcommittee on Coast Guard and Maritime Transportation

RE: Hearing on "Improving and Streamlining the Coast Guard's Acquisition Program"

PURPOSE

On Wednesday, April 13, 2011, at 10:00 a.m., in room 2167 of the Rayburn House Office Building, the Subcommittee on Coast Guard and Maritime Transportation will meet to examine the status of the Coast Guard's current acquisition programs, as well as the policies and procedures the Service uses to determine mission needs requirements and the correct types and number of assets needed to meet those requirements.

BACKGROUND

History of Coast Guard Recapitalization – Deepwater

The Coast Guard's Integrated Deepwater Program (Deepwater) was a multi-year acquisition program stood up in the late 1990's to upgrade or replace the Service's existing surface and air assets which carry out missions further than 50 miles from shore, as well as modernize the information technology systems that the Service relies on to coordinate operations. The Coast Guard determined that it lacked the in-house experience and expertise to manage a large and complex procurement program, so the Service decided to engage a private firm to serve as a Lead Systems Integrator (LSI). The Lockheed Martin/Northrop Grumman team, called the Integrated Coast Guard System (ICGS), won the \$17 billion Deepwater LSI contract in June 2002. The initial five-year contract included five additional five-year options.

As the LSI, ICGS managed the acquisition process and integrated the acquired assets into a system-of-systems, meaning the assets acquired were all connected and interoperable. The Coast Guard provided the ICGS with broad performance specifications, such as the ability to interdict drug smugglers, and the ICGS determined the types and numbers of assets needed to meet the specifications.

Deepwater was priced and acquired as a single system, meaning each asset was not priced individually and the Coast Guard could not reject any individual asset that met the broad mission requirements set by the Service. Additionally, testing and operational assessments were to be performed on the system as a whole rather than at the level of individual assets.

Shortly after the program was established, the Coast Guard encountered challenges in managing ICGS, including controlling costs, meeting procurement schedules, setting performance baselines, and ensuring the assets being designed and delivered met operational requirements. As a result, Deepwater suffered a series of setbacks.

Further exacerbating these challenges was the 2004 decision by the Coast Guard to revise the performance baseline of Deepwater to accommodate additional capabilities needed to meet post-September 11 mission requirements. The rebaselining increased the total acquisition cost of Deepwater to over \$24 billion, changed the number and types of assets to be acquired, and pushed the completion date from 2022 to 2027. The revised baseline was approved by the Department of Homeland Security (DHS) in 2007.

Acquisition Reform

As a result of Deepwater's failures, the Coast Guard and DHS have revised the acquisitions management processes. In April 2007, the Coast Guard announced a number of major changes in its management of Deepwater and all other acquisition efforts. Specifically, the Service:

- Established an in-house Acquisition Directorate (CG-9)
- Terminated the contract with ICGS and assumed the role of LSI for all Deepwater assets and other major acquisitions (ICGS is currently completing the contract for the delivery of National Security Cutter #3, and the delivery of components for a few other assets);
- Assumed responsibility for life cycle logistics functions for Deepwater assets;
- Expanded the role of independent third-parties to determine whether assets meet design and construction standards; and
- Began procuring assets on an individual basis directly from prime vendors.

The Coast Guard has also increased its use of Department of Defense contracts and expertise to reduce costs and improve contract management. Finally, the Service

stopped using the name 'Deepwater' to refer to its recapitalization effort. The Service now uses the term 'major systems acquisition' to describe the procurement of assets and other technology with life cycle costs exceeding \$300 million. This approach is more comprehensive as it looks across all Coast Guard missions.

The recently enacted Coast Guard Authorization Act of 2010 (P.L. 111-281) codified several of these reforms and made other changes to improve the Service's Acquisition Directorate and ensure it can recruit and retain qualified personnel.

Current Acquisition Process

The current Coast Guard acquisition process begins when operators identify capability gaps and work with other Coast Guard directorates to develop a Mission Analysis Report and eventually a Mission Needs Statement to support the development of new or rehabilitated assets or technology to fill the capability gap. At this point, the Service's Capabilities Directorate (CG-7) determines what capabilities an asset must have to satisfy mission needs. CG-7 works with the Service's Planning, Resources & Capabilities Directorate (CG-8) to ensure cost constraints are considered in determining new capabilities. Once a Capability Development Plan is approved, the Service's Acquisition Directorate (CG-9) develops an Acquisition Strategy and takes over the management of the acquisition process.

In managing the acquisition, CG-9 follows DHS Acquisition Directive 102-01 which provides guidance on procurement requirements. Directive 102-01 divides acquisition efforts into three levels, based on the life cycle cost. The term "life cycle cost" is broadly defined to include all costs associated with the development of an acquisition effort, including the cost of developing an asset's technology, the cost of acquiring and deploying the asset, and the cost of operating and eventually disposing of the asset. The use of the life cycle cost metric is intended to provide a complete picture of the total costs associated with acquiring and operating an asset over time (including as the asset ages). The Coast Guard defines acquisition programs based on the following levels:

- Level I: Programs that exceed \$1 billion in life cycle costs.
- Level II: Programs with life cycle costs between \$300 million and \$1 billion.
- Level III: Programs with life cycle costs that are less than \$300 million.

Coast Guard "major acquisitions" are considered Level I and II acquisitions. The Coast Guard's Acquisition Directorate currently manages 17 major acquisitions. Several other Coast Guard assets need to be replaced or updated and efforts to study or undertake additional major acquisitions are under consideration.

Coast Guard's Acquisition, Construction, and Improvement Budget

The Acquisitions, Construction, and Improvements (AC&I) account funds the acquisition, construction, and physical improvements of Coast Guard owned and operated

vessels, aircraft, facilities, aids to navigation, information management systems and related equipment. The President requests \$1.42 billion for the AC&I account in FY 2012, a reduction of \$98 million (or -6.5 percent) below the annualized level provided by the FY 2011 Continuing Resolution which expires on April 8, 2011.

The budget request includes approximately \$971 million for the acquisition of aircraft, vessels, and communications systems formerly considered as components of the Integrated Deepwater System. Congress has appropriated over \$7.1 billion to date for the Deepwater program.

The President's budget also requests \$451 million in other capital costs. This includes the acquisition of small boats, the construction of shore facilities and aids to navigation, as well as funds to rehabilitate Coast Guard servicemember housing.

The budget request also includes a Congressionally mandated five year Capital Investment Plan (CIP) which provides estimates of out year spending on planned asset acquisitions and other capital expenditures. The CIP also includes estimated total acquisition costs and acquisition completion dates for each expenditure.

Recent GAO Reports

The Government Accountability Office (GAO) has conducted several reviews of the Coast Guard's acquisition programs over the past ten years. GAO completed two reports on Coast Guard acquisitions in the past year:

- The July 2010 report (*Deepwater Requirements, Quantities, and Cost Require Revalidation to Reflect Knowledge Gained*) found the Coast Guard has continued to take steps to improve oversight and management of its acquisition program and building its acquisition workforce, but that the former Deepwater program exceeds the 2007 cost and schedule baselines and the program is unlikely to meet system-level performance baselines.

The report recommends that the Coast Guard complete an overall assessment that clarifies the quantities, mix, and cost of assets needed to meet requirements, given that the current Deepwater baseline is no longer feasible, and that the results be reported to Congress.

- The GAO is expected to release a report prior to the Subcommittee's April 13, 2011 hearing entitled *Opportunities Exist to Further Improve Acquisition Management Capabilities*. In a draft of the report, the GAO found the Coast Guard has continued to reduce its acquisitions workforce vacancies, realized cost savings by leveraging agreements with Department of Defense (DoD), and updated its acquisitions policies to reflect best practices and previous GAO guidance, but that unrealistic budget planning will likely lead to further cost and schedule issues and agreements with the DoD are not readily

accessible to the acquisitions workforce. The draft report recommends the Coast Guard take steps to ensure program staff has access to interagency agreements with DoD.

Issues

Increasing Costs & Schedule Delays

Costs have continued to increase and delivery schedules have continued to slip for the Service's recapitalization effort. According to the GAO, the current total acquisition costs for its 17 major acquisitions are expected to exceed \$28 billion, nearly \$4 billion over the \$24.2 billion 2007 baseline. Of 12 major acquisitions with approved baselines, 10 were behind schedule, some by several years. The recapitalization program is currently expected to end in early 2030's. Rising prices and schedule delays can be attributed to several factors:

- **Funding** – Inconsistent and insufficient annual funding for the Service's capital acquisitions especially in the early years of the Deepwater program delayed the development of certain assets.
- **Asset Development Failures** – The Service spent hundreds of millions to develop assets that failed in their development or in operational testing, including: nearly \$100 million to convert 8 110' patrol boats to 123' (the vessel hulls buckled in sea trials); \$25 million to develop a replacement for the 110' patrol boat using a "composite hull technology"; \$119 million to develop the Eagle Eye vertical take-off unmanned aerial vehicle (the unmanned helicopter crashed several times in testing); and \$11.7 million to develop small boats intended to be launched from the stern of the National Security Cutter (NSC).
- **Ongoing Capability Rebaselining** – In 2004 the Service began a complete rebaselining of the number and types of assets to accommodate additional capabilities needed to meet post-September 11 mission requirements. Although the rebaseline was approved by DHS in 2007, the Service continues to rewrite capability requirements for certain assets under development such as the Offshore Patrol Cutter (OPC) and revise them for others currently in production.

The Service recently completed a Fleet Mix Analysis which is expected to include yet another rebaselining of capabilities for all the assets in the recapitalization program. This document, similar to the 2004 rebaseline, could significantly increase total acquisition costs and further delay the delivery of new assets and technology. The Subcommittee formally requested this document from the Coast Guard in February 2010, but has yet to receive it.

- **Unrealistic Budget Planning** – The Service’s Capital Investment Plan includes estimates of significantly higher levels of sustained funding for capital acquisitions over the next five years than the Service has been appropriated in recent years. DHS acquisition oversight officials informed the Service earlier this year that breaches in acquisition schedules are inevitable due to future decreases in available resources.
- **Office of Management and Budget’s “Full Funding” Policy** -- OMB’s “full funding” policy laid out in Circular A-11 requires the Coast Guard to have funds available to cover the cost of long lead time materials, production, and post production activities before entering into a construction contract for National Security Cutter (NSC) #5. The previous four NSCs were purchased prior to OMB’s decision to implement its “full funding” policy. This late change in policy could delay the delivery of NSC #5 by up to a year and add an estimated up to \$60 million to the cost of the vessel.
- **Management Challenges** – Although the Service has instituted several reforms to improve contract oversight and management, many challenges still remain. The Coast Guard reported in December 2010 that 12 of its 17 major acquisitions face execution risks that require management attention. In some cases, a management decision on how to mitigate risks has been put off for several years. For instance, the HC-130J program has logistics assessment risks that have required management attention for three years.
- **Other Factors Influencing Cost and Schedule** - Various market factors, such as a labor shortage at the Northrup Grumman Shipyard after Hurricane Katrina, drove up labor costs while reducing productivity. Material costs continue to rise 3 to 7 percent annually and delays have caused cost increases to compound against the baseline.

Failure to Provide Anticipated Capability Improvements

The original vision for the Deepwater program was for newly acquired and upgraded assets to operate more efficiently and effectively through the use of new communications systems and other technologies to significantly increase the capabilities. In several ways, assets delivered to date have not provided the full array of anticipated increased capability. For instance:

- **Vertical take-off Unmanned Aerial Vehicles** – The NSC was designed and built to carry as many as four vertical take-off unmanned aerial vehicles (VUAV). The VUAV’s were expected to extend the range and effectiveness of the cutter. Two NSC’s have been delivered to date without VUAVs. The Service continues to work with the Navy to develop a VUAV, but cannot

provide an estimate of when the first NSC will be outfitted with a VUAV. No funds are included in the CIP to acquire VUAVs over the next five years.

- Unmanned Aerial Vehicle – The original Deepwater solution called for the Service to acquire unmanned aerial vehicles (UAV) to operate from Coast Guard air stations and provide a new, more efficient mission capability. Although other DHS agencies have acquired and effectively used UAVs, the Coast Guard has not. Despite a 23,000 mission hour gap in the marine patrol aircraft fleet, the Service has not budgeted any funds over the next five years to acquire a UAV.
- Cutter Boats – The NSC was built to carry two classes of stern launched small boats each with a different size and capability to improve the cutter's range and effectiveness. The larger of the two boats did not perform as required and the smaller boat had to be modified to perform correctly. The Service recently solicited industry for a solution to replace both classes of small boats. Meanwhile, the NSC cannot operate at its full capability.

The decision to move forward with the NSC was based on the vastly larger area that could be patrolled by the vessel using the VUAVs and cutter boats. With neither of these assets, the NSC is a very expensive flag ship that covers little more area than existing smaller, cheaper cutters.

The OPC was originally designed to stern launch small boats as well. However, due to cost constraints, the Service has rejected those plans. The OPC is now being designed to lower small boats over its side in a time consuming and inefficient manner.

- Multi-Crewing - The Coast Guard's plan for meeting mission hour baselines for the NSC and OPC requires operating both assets at least 225 days a year. In order to do so, it must engage in multi-crewing whereby four crews will rotate among three ships. Although the Coast Guard has taken delivery of two NSCs, it still has no plan to begin multi-crewing.

Legacy Asset Sustainment

Delays in the Coast Guard's recapitalization program have placed significant strains on legacy assets. The continued reliance on these assets, which have surpassed service lives and are failing at increasing rates, has undermined mission readiness and performance. The service estimates an approximate 23,000 mission hour gap in the marine patrol aircraft fleet; a 33,000 mission hour gap in the major cutter fleet; and a 103,000 mission hour gap in the patrol boat fleet. The cost to maintain legacy assets continues to grow at the expense of investment in new assets. For instance:

- High Endurance Cutters - The 378 foot High Endurance Cutter (WHEC) fleet is currently only achieving 75% of their targeted days away from homeport. Only three of the 10 cutters are currently in operational service. At the same time, its operating costs are \$3.7 million per cutter, more than three times their Standard Support Level (SSL) funding. The Service recently spent more than \$4 million to complete emergency repairs to two of these vessels. Despite repeated assurances, the Service has not completed a condition survey of the fleet and has no plans to conduct a service life extension project on these cutters. The Coast Guard has not budgeted for a WHEC sustainment program over the next five years.
- Patrol Boats - The Coast Guard is close to completing a \$180 million sustainment project on a portion of its 110' patrol boat fleet. The sustainment project was put in place after 110' to 123' patrol boat conversion project failed.

Unbudgeted Capital Needs

The Service's CIP provides estimates of out year spending on asset acquisitions and other capital expenditures. The CIP also includes estimated total acquisition costs and acquisition completion dates. However, the CIP fails to adequately budget for several pressing capital needs including:

- Shoreside Infrastructure - In order to afford to recapitalize its assets, the Coast Guard has developed a significant shoreside infrastructure backlog which includes stations, support facilities, and servicemember housing. The Coast Guard currently has a backlog of over 40 prioritized shore facility improvement projects with an estimated combined cost of \$581.5 million. The Service plans to spend almost \$300 million over the next five years to address the backlog.
- Ice Breakers – The Service currently operates the nation's only Class I icebreakers. Both vessels were built in the mid 1970's, have surpassed their service life, and are currently out of service. The Coast Guard is decommissioning one of these icebreakers in FY2011 and completing an overhaul of the second to extend its service life a few more years. Although analysis by independent parties have concluded that a need exists for the United States to maintain a Class I icebreaking capability, the Service has not budgeted for a replacement icebreaker in the next five years.
- Buoy Tender Fleet – Much of the Coast Guard's fleet of buoy tenders and harbor tugs have exceeded planned service lives. The Inland Buoy Tenders, 225 foot Sea-Going Buoy Tenders, 175 foot Coast Buoy Tenders, and 140 foot Icebreaking tugs will all require replacement or significant overhaul programs

to extend their service life. The Coast Guard has begun survey and design work, but has not budgeted funding over the next five years for construction.

Acquisition Reform

The Coast Guard has made significant improvements to its acquisition process over the last few years, but issues remain, such as:

- **Workforce Vacancies** – The Service continues to have trouble recruiting experienced acquisition professionals. Although it has declined in recent months, the vacancy rate in the Acquisition Directorate exceeds 14 percent. The GAO found that vacancies rates in certain acquisition programs are as high as 80 percent. The failure to recruit and retain qualified acquisition professionals slows the acquisition of new assets and places the program management at risk.

WITNESSES

Vice Admiral John Currier
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