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THE COAST GUARD'S REVISED DEEPWATER IMPLEMENTATION PLAN

HEARING

BEFORE THE

SUBCOMMITTEE ON FISHERIES AND THE COAST GUARD

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

JUNE 21, 2005

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ONE HUNDRED NINTH CONGRESS

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THE COAST GUARD'S REVISED DEEPWATER IMPLEMENTATION PLAN

TUESDAY, JUNE 21, 2005

U.S. SENATE,
SUBCOMMITTEE ON FISHERIES AND THE COAST GUARD,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10:15 a.m. in room SR–253, Russell Senate Office Building, Hon. Olympia J. Snowe, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. OLYMPIA J. SNOWE, U.S. SENATOR FROM MAINE

Senator SNOWE. This hearing will come to order.

Admiral Collins and Ms. Wrightson, and Mr. O'Rourke, I want to thank each of you for testifying at this critical hearing on the Coast Guard's revised Deepwater Implementation Plan.

I called for this hearing today to further examine the plan recently released by the Coast Guard revising how it will implement its Fleet Recapitalization Modernization Project, known as Deepwater. Congress outlined the actual requirements for this report in the Department of Homeland Security Appropriations Act for Fiscal Year 2005. I applaud the Coast Guard for this—for an enormous record of success across the board, whether it's in its homeland- or non-homeland-security missions.

And my hearing today is going to focus, essentially, on the question of whether or not the service is going to be able to carry out the enormous achievements and successes, long into the future, that has been experienced by the Coast Guard. And Deepwater is the future of the Coast Guard. Without the advanced assets and capabilities that this program will provide, our mariners and coastal communities will watch the benefits this service provides slowly erode. The Nation cannot afford to lose or reduce the on-water presence of this vital agency, so now is the time for Congress and the Administration to renew its commitment to properly fund and ensure the Coast Guard—that it's capable of doing all that we ask it to do.

When the Congress called for this report, we intended to have the Coast Guard evaluate its needs and requirements in a post-9/11 environment. The original Deepwater proposal was developed prior to the 9/11 catastrophic events. As we delved into this revised plan, however, it becomes glaringly obvious that it does not meet the needs of a post-9/11 threat environment.

I am deeply disturbed by this stunning reversal of the Coast Guard when I study the figures, and compare the number of ships and planes that the service originally desired to what this revised plan recommends. For example, despite a massive increase in the Coast Guard's homeland-security mission, this report does not propose increasing the number of ships patrolling our shores. Even more disturbing, is the total number of cutters could be less than what was originally planned, as displayed in this chart here that, I believe, gives a strong indication of what this revised plan would do, compared to the request and the recommendations pre-9/11. These figures, in my opinion, are not capable of meeting the significant increases in mission responsibilities that the Congress has assigned to this service. There is no logical methodology that would reach these same conclusions, that I am aware of. All of the studies, both the RAND Center and the Center for Naval Analysis, indicate much higher numbers for surface and aviation assets are needed. Simply put, the role of the Coast Guard in defending our Nation has increased exponentially, and its available resources should reflect this reality. And even though the numbers in the same categories show an increase in its numbers being procured, it must be pointed out that these numbers are much higher due to the use of refitted legacy assets, most of which are being refitted, and not new assets.

The Coast Guard will tell us today that the assets they are planning on purchasing will have greater capabilities than the original Deepwater ones; therefore, the argument is that the Coast Guard does not require as many vessels and aircraft because of the new capabilities. While the new capabilities and technologies are essential to accomplishing the service's mission, they're a poor substitute for actual on-water presence. Capacity is the most important capability of all. Capability is not the limiting factor for success. The number of ships is what's limiting the performance. There is no substitute for having these assets on the water. No question. It helps to establish an increased enforcement presence for the mariner.

Another aspect of this report I find equally disturbing is the absence of the word acceleration. I, frankly, find it shocking that the Coast Guard did not evaluate ways to shorten and expedite the timeframe for acquiring Deepwater assets. Again, the acceleration of this project, in my opinion and the opinion of so many others in Congress, is desperately required, as the service legacy assets are breaking at a significantly higher rate than anticipated. Operational mishaps have increased, along with unanticipated maintenance days. This equates to ships being tied to the pier for extensive periods of time, not being underway in the water patrolling our coasts. The Coast Guard is losing the equivalent of two major cutters each year in lost patrols.

I emphasize security, as well, because, again, accelerating the timetable would give American taxpayers a Coast Guard capable of meeting its vital security missions. We're not talking about theoretical threats in a distant future. We're talking about dangers that have become a reality in this new threat environment, this new normalcy. And this Nation requires a Coast Guard that can respond to current and emerging threats.

I refer you to the second chart, on the performance-gap analysis. It demonstrates the actual—in the gray line, the actual legacy degradation; the purple line is the proposed solution in this revised implementation plan of the Coast Guard; and then you see the post-9/11 Coast Guard mission demands, at the higher line, and what it's going to require, showing the red line, to close that gap. And it continues to be a growing and significant gap. We are talking about a post-9/11 environment, and yet that gap is growing wider and wider, even under the Coast Guard's revised plan.

The Coast Guard should no longer have to say, "We can do more with less." We have heard that consistently before this Committee, time and again. Frankly, I think it's a phrase that we ought to remove from the vocabulary. I well recall a past Commandant saying that, "Doing more with less will evolve into doing everything with nothing." Obviously, we all refuse to accept that philosophy and that rationale.

But, Admiral Collins, it clearly does rely on the Congress and the Administration—and, obviously, you—in providing the necessary resources to the men and women who deserve quality assets, because they perform life-saving missions each and every day, both in the non-homeland- and homeland-security responsibilities and obligations, as you well know. So, we need to get to a common understanding and consensus of how we are going to bridge this gap under the new proposed plan that you are submitting to the Congress. Frankly, I have some serious concerns about that, and we need to explore some of those issues here today, because I see us just extending this recapitalization program further and further out into the future. We are talking 20–25 years. And we are going to have to put more investments into the legacy assets that are aging. I think we are going to compound some very serious problems. So, we are obviously looking forward to your testimony here this morning.

Ms. Wrightson, thank you, as well, for being here. You certainly contribute enormously to this discussion in helping the Coast Guard to meet its responsibilities and recommendations based on your invaluable insights.

And, Mr. O'Rourke, thank you, because you have also contributed measurably in shaping and debating national policies affecting our national defense, our homeland security, and shipbuilding programs, as well.

And I want to thank each and every one of you for being here—and Admiral Stillman, as well—thank you for being here to provide support on a number of issues.

[The prepared statement of Senator Snowe follows:]

PREPARED STATEMENT OF HON. OLYMPIA J. SNOWE, U.S. SENATOR FROM MAINE

We have an urgent Coast Guard matter at hand that now demands our attention. Admiral Collins, Ms. Wrightson, and Mr. O'Rourke, I'd like to thank each of you for testifying at this critical hearing on the Coast Guard's Revised Deepwater Implementation Plan.

I also want to thank my fellow Committee Members for attending this morning and demonstrating their commitment to the future of the United States Coast Guard. For years and years, this Committee has watched this military service attempt to do more with less, and this unsustainable pattern has caught up with us.

We are here today because this Committee, and this Nation, must understand the dire situation in which the Coast Guard now finds itself, regarding its "Deepwater"

recapitalization plan. Eight years ago, Deepwater was conceived in the knowledge that the Coast Guard's aging vessels and aircraft needed to be modernized, and they proposed to do this over a 20-year timeline. At the time, we thought this would be sufficient.

But then on September 11, 2001, everything changed. Everything, that is, except for the Coast Guard's assessment of how Deepwater would help them meet the new terrorist threats facing our nation. The Coast Guard recently issued a report that, shockingly, says it actually needs fewer ships, planes, and helicopters than before 9/11.

That violation of common sense is at the crux of today's hearing. This committee must expose the heart of the contradictions before us, and help the Coast Guard immediately correct its course. If we let the Administration continue with this way of thinking, the foundations of Deepwater will continue to crumble before our eyes.

I am sure that Admiral Collins will testify that—as always—his men and women can "get by" with what the Administration has requested. As admirable as that stance is, however, the cold hard truth remains that the Coast Guard is experiencing a record number of casualties and mishaps like never seen before, and it is simply becoming unsafe for our young men and women to serve aboard these aging assets. Catastrophic engine failures and main space casualties have risen at an alarming rate in the fleet.

Because my colleagues and I were alarmed to see this chronic downward spiral of asset failures, we directed the Coast Guard to report on how it can reverse this trend. In the Department of Homeland Security Appropriations Act for FY 2005, as part of our oversight for the largest Coast Guard acquisition in history, we called for this report. We knew that the original Deepwater plan was outdated, since it was developed before September 11, 2001. We intended to have the Coast Guard evaluate its operational and asset requirements in a post-9/11 environment—in which we have significantly greater knowledge of terrorist attacks and other threats.

As we delve into this new plan for revising Deepwater, however, it becomes glaringly obvious that it does not meet the demands of a post-9/11 world. I am stunned and disheartened to learn that the Administration tells us that this service may not require as many ships in the water and airframes in the sky. They try to justify this by saying that the Deepwater assets will have "greater capabilities" than those in the original Deepwater plan. Therefore, the Coast Guard says it does not need as many assets. While I agree that new technologies are essential to accomplishing the service's missions, such capabilities simply do not substitute for actual on-the-water presence. Capacity is the most important capability of all.

When I study the figures in this report, and compare the number of assets that the service originally called for to what this revised plan says, I am overtaken by total disbelief to see the Coast Guard wants fewer ships and aircraft. And that is relying more and more on simply upgrading its legacy assets, at a time when these old assets are failing more frequently. Phrase it however you would like . . . or cushion the numbers to create the illusion of having more . . . but nothing will substitute for the fact that our Nation requires more new assets—along with more capabilities—in the water and in the air. And we must utilize those assets now.

Allow me to elaborate. Despite a massive increase in the Coast Guard's homeland security mission, this report does not propose increasing the number of ships patrolling our shores. Even more disturbing—the total number of cutters could be less than what was originally planned. The National Security Cutter went from 6 to a range of 6–8, the Offshore Patrol Cutter remained the same (this is the workhorse of the fleet), and the Fast Response Cutter went from 58 to a range of 43–58. These figures are not capable of meeting the expanded mission responsibilities that Congress has assigned to the service. Simply put, the role of the Coast Guard in defending our Nation has increased exponentially, and its available resources should reflect this reality.

Another aspect of this report I find equally disturbing is the total absence of the word acceleration. I find it shocking that the Coast Guard did not evaluate ways to shorten the time frame for acquiring Deepwater assets. Completing Deepwater on a 10 or 15-year timeline, would not only offer a cost savings of up to $4 billion over the life the program, it also gives the American taxpayers a Coast Guard capable of meeting its vital security missions, sooner rather than later. The Coast even conducted its own acceleration feasibility study and stated that acceleration was possible, it saved billions of dollars, and it provided thousands of more operational mission hours.

I emphasize security, because we are not talking about theoretical threats in some far-off land . . . the dangers are a reality that we risk facing every day. Therefore, as the GAO rightly noted, we need to focus on how well this service is actually per-

forming in its multiple missions. This graph, which the Coast Guard provided, illustrates the gaps in performance that the service is experiencing. This clearly shows the inadequacy of the proposed Deepwater solution in closing the performance gap as a result of the severe degradation of legacy assets. Simply put, the ships and planes that have served the Coast Guard well for so long can no longer absorb the pace of operations required to secure this Nation in today's world.

Admiral Collins, having served as Chairman of this Fisheries and Coast Guard Subcommittee for more than 8 years, I refuse to believe this report reflects what you want for the young men and women serving under you. I strongly believe the Coast Guard serves as a cornerstone of our Department of Homeland Security . . . and cornerstones of our national security should not be in the dilemma the Coast Guard now finds itself.

But we would be mistaken to frame this hearing totally around questions of national security, because the Coast Guard has been uniquely positioned to perform a wide variety of missions critical to our Nation's maritime needs. Last year alone, the Coast Guard responded to more than 32,000 calls for assistance and saved nearly 5,500 lives. These brave men and women prevented 376,000 pounds of marijuana and cocaine from crossing our borders, stopped more than 11,000 illegal migrants, conducted more than 4,500 fisheries boardings, and responded to more than 24,000 pollution incidents.

The Coast Guard also aggressively defended our homeland as it undertook more than 36,000 port security patrols, conducted 19,000 boardings, escorted more than 7,200 vessels, and maintained more than 115 security zones. The Coast Guard has reviewed and approved domestic security plans for 9,580 vessel and 3,119 facilities, and they verified security plan implementation on 8,100 foreign vessels.

We must all take note of these figures, because with the current condition of its assets and the continued degradation of its ships and planes, the Coast Guard will lose its ability to maintain this impressive track record. For now, we can still applaud the Coast Guard for its success, but my concern at this hearing focuses on the service's ability to carry out these achievements and successes long into the future.

And Deepwater is the future of the Coast Guard. Without the advanced assets and capabilities that this program will provide, our mariners and coastal communities will watch these benefits erode. The Nation cannot afford to lose or reduce the on-the-water presence of this vital agency . . . because if we do, more lives will be lost at sea, that is the hard truth. Now is the time for Congress to renew our commitment to properly fund and ensure the Coast Guard is capable of doing all that we ask of it. It is time to turn words into action, so that our Coast Guard is no longer the 40th oldest of 42 naval fleets in the world, an embarrassing fact that I continue to state year after year.

The Coast Guard should no longer have to say, "we can do more with less." It is time for us to remove that phrase from the Coast Guard's vocabulary, once and for all. It is unfortunate that a quote I once heard from a past Commandant is coming true today . . . that "doing more with less will evolve into doing everything with nothing." I refuse to accept this statement, which undercuts the very core of our homeland security.

Admiral Collins, our Nation relies upon the Coast Guard today more than ever before. I intend to ensure you have the necessary resources to carry out the agency's homeland security and traditional missions now, and for the future. But I cannot give your men and women the assets they require unless you tell us what the Coast Guard needs, not what the Office of Management and Budget thinks the Coast Guard should have based on its budget models. Let me remind you how the 2004 Coast Guard Authorization Bill amended Section 93 of title 14 of the U.S. Code: after informing the Secretary, the Coast Guard Commandant is authorized to make recommendations to Congress as you consider appropriate. Admiral, please use this law as we intended.

Ms. Wrightson, I want to welcome you again to the Senate and thank you for all the service you have provided us in assisting the Coast Guard in their endeavors. I look forward to your testimony today.

Mr. O'Rourke, I welcome you to our committee and look forward to your testimony. I have read your recent report on the Coast Guard's Deepwater Program and acknowledge your expertise in the national defense, homeland security, and shipbuilding issues facing this Nation.

Again, welcome. I thank you all for appearing today.

Chairman Stevens?

STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Thank you very much.

I was just sitting here looking at that model and wondering where we can hang it from. Not much room up here on this committee table for that.

But I understand every word that the Chair has said. I think that those of you at the table really have been magicians in fitting in the requirements in the limited budget that's been made available to you. So, I hope we'll all keep that in mind—and even your request for the Fiscal Year 2006, you've got—anticipated costs of maintaining legacy assets has eaten up more than a quarter of your Deepwater funding. And we've just got to understand that. It's the budget process, not the planning process, that has led us to the position we're in. I don't disagree with what Senator Snowe has said at all, but I do think that it's the same thing we're facing in the services, we're facing in many areas, because of the budget constraints that we face right now, due to the deficit and the war, that we've got to find some way to get through this period without destroying the future of the Deepwater Program or of the overall military services.

So, I look forward to your testimony, and I look forward to working with Senator Snowe to try to find some way to start the process of reducing this sort of eating away at the Deepwater funding because of the increased costs of maintaining an aging fleet.

Thank you very much.

Senator SNOWE. Thank you, Mr. Chairman.

Co-Chair Inouye?

STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

Senator INOUYE. Madam Chair, I thank you very much. And I wish to associate myself with your opening remarks.

May I ask that my statement be made a part of the record?

Senator SNOWE. Without objection, so ordered.

[The prepared statement of Senator Inouye follows:]

PREPARED STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

We have waited a long time for the revised Deepwater Plan and I look forward to discussing it with our esteemed witnesses.

The Deepwater Program is integral to the evolution of the Coast Guard in our post-9/11 world. This revised plan is the first time we have been able to examine the Coast Guard's vision for the future. Because of an aging fleet and expanded responsibilities, without the Deepwater acquisition, the Coast Guard will soon be constrained to meet its safety and security responsibilities.

There are a couple of key issues to consider. First, it is vital that we help the Coast Guard move forward with Deepwater in a timely manner.

Second, we need to know why the 20-year revised plan has a notable reduction in the number of key assets being requested. I am concerned that reducing the number of requested cutters in the face of increased need may lead to problems down the road as we rely more heavily on legacy assets.

I understand that many assets will have new communications and intelligence capabilities, which should act as "force multipliers." However, even the best of such systems need a threshold level of physical presence to be effective.

Third, I am told that no simulation has yet been run using the precise mix of assets and capabilities actually provided in the revised plan. Thus, we do not know if the plan will meet the needs.

Fourth, I have concerns regarding the oversight and management of the Deepwater project. The only other major government program using a Lead System Integrator Approach, the Army's Future Combat System, is being reevaluated due to concerns with oversight and conflicts of interest.

I look forward to hearing today about the Coast Guard's efforts to deal with these issues.

Senator SNOWE. Ranking Member, Senator Cantwell?

STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

Senator CANTWELL. Thank you, Chairwoman Snowe, for holding this important Committee hearing and discussing the Deepwater Program of the Coast Guard.

We, obviously, do rely on the Coast Guard for many important services, including fisheries enforcement, icebreaking, and search and rescue. And, obviously, the Coast Guard's mission, when it comes to the expanding homeland-security needs that we've been outlining as a nation, has resulted in a 25 percent increase in responsibility which seems to further that Coast Guard long-time motto of "do more with less." So, I am sure that if anybody can do it, the Coast Guard can, yet the creativity and ingenuity that's going into the designing of this system-by-system approach is commendable and the acquisition and revitalization of these legacy assets is very, very challenging. So, I share some of my colleagues' concerns, both on the issues of acceleration, but also on the issues that the GAO has raised in recommendations about improvement and performance and the prime responsibilities for accountability to the outside organizations that are involved in integrating these.

So, I look forward to today's hearing to hear about how you are integrating those GAO recommendations and what we need to do to make sure that we are addressing some of these challenges on capability as we consider acceleration of Deepwater. If we're going to continue to discuss acceleration, how do we have the increased capability that goes with this particular plan?

So, I look forward, Madam Chairwoman, to the testimony of the panelists. And I want to make sure that I mention that I do believe that it's important to look at the oversight recommendations by GAO.

So, with that, Madam Chairwoman, thanks again for holding this hearing, and I look forward to the testimony.

PREPARED STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

Thank you Senator Snowe, for holding this very important hearing to discuss the Coast Guard's Deepwater Program, and the revised plan that it recently submitted to Congress.

The Deepwater Program—the Coast Guard's major recapitalization of its some 90 cutters and 200 aircraft—was first conceived long before the events of September 11, 2001. Even then, the Coast Guard realized the need to significantly upgrade its assets, which include some of the oldest vessels of any Coast Guard in the world.

After September 11, 2001, the Coast Guard's traditional missions of law enforcement, maritime safety, drug interdiction and environmental protection were expanded to include a much greater emphasis on homeland security. With operations for homeland security increasing by about 25 percent, the Coast Guard's assets have been stretched to the limit. Therefore, I am very pleased that the Coast Guard has finally provided us with a new Deepwater plan that will achieve all of its missions, including its homeland security missions.

However, I share the concerns of some of my fellow Senators about several aspects of the Deepwater Program, and regarding the new plan in particular.

First, the Coast Guard has not adequately demonstrated that the increased capability of assets included in the new plan will compensate for the plan's reduced capacity—particularly for the $19 million, 20-year plan that I believe is the current "going forward" option. With the increased focus on homeland security, and the ever-present need for the Coast Guard's work in the more traditional areas, it is unclear to me that the Coast Guard can continue to achieve more with less.

Second, I am concerned that the Coast Guard has changed its plans with respect to retiring certain older, "legacy" aircraft—its C–130 fixed-wing airplane and its HH–60 helicopter, which it now intends to retain.

The Coast Guard's has already experienced difficulties that it had not predicted, with resultant cost increases, in upgrading its old HH–65 helicopters and 110′ cutters. I wonder if the decision to backtrack on purchasing new assets for these two classes of aircraft was performance driven, or if rather, it was driven largely through budgetary concerns.

Finally, I am concerned about whether the Coast Guard is doing all that it should to ensure proper management and oversight of this long-term contract.

The Government Accountability Office (GAO) has long-raised its concerns regarding the Coast Guard's decision to use a non-standard contract structure. In a 2004 report, GAO found problems with the lack of incentives for keeping costs down under this approach—where the prime contractor makes all "make or buy" decisions without the competition required of traditional procurement models.

It also found serious shortfalls in the Coast Guard's internal oversight of the program. While I recognize the progress the Coast Guard has made in implementing these recommendations, nine of the eleven recommendations remain unmet according to the GAO.

I wonder if even these recommendations go far enough, given that the Deepwater Program could last for as long as 25 years under a single prime contractor. My colleague, Senator McCain, recently raised similar concerns with an Army program—the Future Combat System. In that case, following investigation, the Army returned to a more traditional contract format with improved transparency and oversight of the program.

Admiral Collins, I look forward to your testimony today on the Coast Guard's revised Deepwater plan, and hope that my concerns will be addressed. I also look forward to the testimony of Ms. Wrightson of GAO, and of Mr. O'Rourke of the Congressional Research Service, and hope that they will have some recommendations on how management of this major program can be improved, for the benefit of the Coast Guard, and for the benefit of the American people.

Finally, I thank our Chairwoman, Senator Snowe, once again, for holding this hearing today.

Senator SNOWE. Thank you, Senator Cantwell.

Admiral Collins, you may begin. Welcome.

STATEMENT OF ADMIRAL THOMAS H. COLLINS, COMMANDANT, U.S. COAST GUARD; ACCOMPANIED BY REAR ADMIRAL PAT STILLMAN

Admiral COLLINS. Well, good morning, distinguished members of the Committee and Madam Chairman. It's a great pleasure for me to be with you here today to address the issues of our Deepwater Program.

The Deepwater Program continues the recapitalization of our cutters, our boats and aircraft, and supports the infrastructure to reverse the declining readiness trends and improve the critical operational capabilities and readiness that you've mentioned in your opening comments.

Importantly, it—we are convinced that the system-of-systems approach is the right approach. It will create an interoperable systems of capability that are really force multipliers together. The sum is greater than the individual parts. It will help us identify and intercept threats well before they reach the shore.

Our revised Deepwater Acquisition and Implementation Plan is a performance-based—and I stress that—performance-based and goal-driven roadmap with identified phases, timelines, and target completion dates that will enable us to ensure that our cutters and aircraft are equipped with the right systems, the right capabilities to operate successfully in the post-9/11 environment.

The enhanced capabilities are in the areas of C4ISR, airborne use-of-force, force-protection system, long-range surveillance and strategic lift, and CBRN protection. And these enhanced capabilities are absolutely critical to ensuring the maritime security of America and its $750 billion maritime transportation system. The added capabilities will allow us to leverage our assets far beyond the current fleet operational output. New upgraded interoperable C4ISR capabilities, for example, along with airborne use-of-force, will help fuse tracking, surveillance/detection, and classification information into relevant, usable common operating pictures that operational commanders can deploy to execute their missions more effectively.

These same Deepwater assets and capabilities are integral to the Coast Guard's ability to perform its missions of ports, waterways, and coastal security, migrant and drug interdiction, as well as fisheries enforcement and search and rescue.

For example, C4ISR—command, control, communications, computers, intelligence, surveillance, and reconnaissance—these upgrades to our current cutters, as well as the airborne use-of-force capabilities, enabled cutter crews from the GALLATIN, from the RUSH, and the THETIS, to collectively seize more than 33,900 pounds of cocaine last year. Cutter GALLATIN, alone, seized more than 24,000 pounds of cocaine, worth $768 million. And, overall, we seized 240,000 pound of cocaine last year, an all-time record by 100,000 pounds. These achievements are a true testament to the value of Deepwater communication upgrades and enhancements. Their installations on these aging legacy cutters played a significant role in the success here in this particular mission.

We are pleased with the performance enhancements realized to date, and we look, with great anticipation, to the productivity enhancements that will be realized in the future, when new construction and Deepwater assets containing even more robust capabilities come into the service later in this decade.

In essence, the President's budget—2006 budget for the Integrated Deepwater System—takes aim on transforming the Coast Guard and stemming the decay of declining readiness trends. It includes the proper mix of legacy systems, enhancements, conversions, sustainment, and platform or system replacement to ensure an effective transition from legacy systems to new systems over an extended period. This is the balance we have to continue to work, the balance between legacy investment and new-system investment. It's critical to maintaining the right level of operational capability now—we have to operate now—and over the entire period of the transformation that I've referenced.

The Coast Guard's Deepwater Implementation Plan, and the 2006 budget, in particular, is about placing the—it is about placing the right tools in the very capable hands of Coast Guard men and women. And they have shown, time and time again, they know just

what to do with it when we get this right. They deserve nothing less than our continued support, and we will give it to them.

Thank you for the opportunity to testify today, and I'll be happy to answer questions at the appropriate time.

Thank you.

[The prepared statement of Admiral Collins follows:]

PREPARED STATEMENT OF ADMIRAL THOMAS H. COLLINS, COMMANDANT, U.S. COAST GUARD; ACCOMPANIED BY REAR ADMIRAL PAT STILLMAN

Introduction

Good morning Mr. Chairman and distinguished members of the Subcommittee. It is a pleasure to have an opportunity to appear before you to discuss the Coast Guard's Integrated Deepwater System and the positive impact it will have on the Coast Guard's ability to secure America's maritime borders, aid persons in distress, facilitate the safe and efficient flow of commerce, and respond to the expeditionary requirements of U.S. combatant commanders.

On September 10, 2001, our primary maritime focus was on the safe and efficient use of America's waterways. Since 9/11, we have made great progress in securing America's waterways, while continuing to facilitate the safe and efficient flow of commerce. There is no doubt that work remains, but there is also no doubt that we continue to improve maritime homeland security each and every day—thanks in large part to the continued strong budgetary support of the Administration, and Congress, and certainly this Committee.

The Integrated Deepwater System—the centerpiece for the Coast Guard's transformation and my top capital priority—plays an absolutely critical role in building a more ready and capable 21st century Coast Guard equal to the challenging tasks we face today and anticipate tomorrow.

The Deepwater team's government-industry partnership achieved many program milestones during 2004 and strengthened Deepwater's foundation by incorporating far-reaching program and contract-management improvements in accordance with recommendations from the Government Accountability Office.

With the strong support of the Department of Homeland Security (DHS), the Administration, and Congress we are positioned to play an even greater role in reducing the future risk of a terrorist event against the homeland. During the past 2 years, we have modernized select legacy assets to operate more effectively until replaced by Deepwater assets. Through the revision of the Integrated Deepwater System mission needs statement and implementation plan we have established requirements for improved capabilities on converted or new Deepwater platforms that are necessary for the Coast Guard to perform its full range of post-9/11 missions.

The revised plan, based on a comprehensive performance-gap analysis, updates the original pre-9/11 Deepwater Program by modifying the original assets that would have been delivered to incorporate improved post-9/11 capabilities; retaining, upgrading, and converting aviation legacy assets as part of the final asset mix; and adjusting the program's overall asset delivery schedule to maximize operational effectiveness. The Revised Implementation Plan ensures Deepwater cutters and aircraft will be equipped with the right systems and capabilities (summarized below) to operate successfully in the post-9/11 threat environment. These enhanced capabilities are absolutely critical to ensuring the maritime security of America and its $750 billion maritime transportation system:

- Interoperable network-centric command-and-control system (essential for maritime domain awareness);
- Increased speed and integrated weapons systems on select cutters;
- Helicopter airborne use-of-force and vertical insertion and delivery;
- Improved fixed-wing aircraft long-range surveillance and transport;
- Enhanced anti-terrorist and force protection; and
- Detection-and-defense systems for chemical, biological, and radiological threats.

Deepwater's revised implementation plan is paramount in addressing the goals that Secretary Chertoff has established to integrate intelligence and operations across DHS using a rigorous risk-based framework for decisionmaking.

Deepwater cutters and aircraft equipped with these capabilities will be leveraged far beyond the operational limitations of original Deepwater assets due to recent advancements in maritime domain awareness, intelligence, and homeland security partnerships. These advancements, combined with enhanced Deepwater capabilities,

will enable the Coast Guard to close existing operational shortfalls so it may execute its full range of homeland security and national-defense missions far more effectively, reduce risk in the maritime domain, and improve the safety and readiness of all platforms. The revised plan also provides for the progressive sustainment, modernization, and conversion of aging legacy assets as Coast Guard transitions to a recapitalized fleet.

It is estimated the revised Deepwater long-term acquisition will cost between $19 billion and $24 billion over a period of 20 to 25 years. Because Deepwater is a performance-based acquisition, the revised plan projects a range of assets for the final force levels of two classes of cutters and some aircraft. As stated in the revised implementation plan, the final number of assets will, at a minimum, be sufficient to meet Department of Homeland Security and Coast Guard long-range performance goals.

Since we provided Congress with the revised Deepwater Implementation Plan in March, we have had a very constructive engagement with House and Senate oversight committees. We have now provided the Congress with details on the revised plan's asset delivery schedules over the life of the program. We fully appreciate the role Congress plays in providing for a 21st century Coast Guard and its need for more detailed information upon which to make informed decisions.

Nearly 3 years ago, President Bush said, "The U.S. Government has no more important mission than protecting the homeland from future terrorist attacks." The revised Deepwater Implementation Plan represents a significant investment in ensuring Coast Guard mission performance now and in the future. In short, it will result in a Coast Guard possessing the 21st Century technologies necessary to safeguard the Nation, protect our citizens, and reduce the risk of a terrorist attack against the Nation originating in the maritime domain. I look forward to further discussing this major milestone with you this morning.

The Coast Guard's 2006 budget includes $966 million for Deepwater, a 33 percent increase over last year's appropriation. This investment will make important contributions to the DHS strategic goals of improving threat awareness, prevention and protection against terrorist attacks, and response and recovery should they occur.

The Deepwater budget's increased asset funding for 2006 will yield essential system-wide capabilities for our maritime homeland security mission and sustain operational effectiveness in all of the Coast Guard's military, multi-mission, and maritime responsibilities. Deepwater aligns completely with my overarching budget goals to: (1) recapitalize the Coast Guard, (2) implement the Maritime Strategy for Homeland Security, and (3) enhance mission performance.

Reducing Maritime Risk

Today's global maritime safety and security environment demands a new level of operations specifically directed against terrorism without degrading other critical maritime safety and security missions. Most importantly, the Coast Guard must implement the improved Deepwater capabilities identified in our revised implementation plan if we are to mitigate maritime security risks successfully in the post-9/11 world.

Secretary of Homeland Security Chertoff has emphasized that the three variables of threat, vulnerability, and consequence serve as the appropriate model for assessing risk and deciding on the protective measures we undertake as a nation. This is a framework quite familiar to Coast Guard men and women who perform multiple missions in our Nation's ports, waterways, coastal areas, and on the high seas. In terms of threat, vulnerability, and consequence there are few more valuable targets than the U.S. maritime transportation system:

- Threat: While the 9/11 Commission notes the continuing threat against our aviation system, it also states that "opportunities to do harm are as great, or greater, in maritime or surface transportation."
- Vulnerability: The maritime transportation system annually accommodates 6.5 million cruise ship passengers, 51,000 port calls by over 7,500 foreign ships, at more than 360 commercial ports spread out over 95,000 miles of coastline. The vastness of this system and its widespread and diverse critical infrastructure leave the Nation vulnerable to terrorist acts within our ports, waterways, and coastal zones, as well as exploitation of maritime commerce as a means of transporting terrorists and their weapons.
- Consequence: Contributing nearly $750 billion to U.S. gross domestic product annually and handling 95 percent of all overseas trade each year, the value of the U.S. maritime domain and the consequence of any significant attack cannot be understated. Independent analysis and recent experiences on 9/11 and the West Coast dock workers strike demonstrates an economic impact of a forced

closure of U.S. ports for a period of only 8 days in excess of $58 billion to the U.S. economy.

The 9/11 Commission also drew a strong linkage between improved defenses with the government's ability to reduce the risk of a terrorist attack—a linkage that relates directly to the imperative to recapitalize the Coast Guard through an increasingly capable Deepwater system of systems. The Commission reported:

> "Our report shows that the terrorists analyze defenses. They plan accordingly. Defenses cannot achieve perfect safety. They make targets harder to attack successfully, and they deter attacks by making capture more likely. Just increasing the attacker's odds of failure may make the difference between a plan attempted, or a plan discarded. The enemy also may have to develop more elaborate plans, thereby increasing the danger of exposure or defeat. Protective measures also prepare for the attacks that may get through, containing the damage and saving lives."

Since 9/11, the President, DHS, and the Coast Guard have made significant strides to secure our homeland by instituting these types of protective measures to help deter attacks in the maritime domain. However, maritime safety and security gaps remain. These gaps present risks that must be reduced.

The Coast Guard guides its efforts by implementing policies, seeking resources, and deploying capabilities through the lens of the national Maritime Security Strategy. However, continued risk reduction is contingent upon Coast Guard capability, capacity, and readiness. Without these basic building blocks, implementation of maritime security strategies will not be sustainable. With that in mind, my highest priority for the Coast Guard's 2006 budget is to continue to recapitalize the Coast Guard as a necessary foundation to implementing the maritime security strategy, as well as ensuring we continually enhance mission performance across the entire suite of Coast Guard mission requirements.

Recapitalizing the Coast Guard is the foundation of our ability to continue improving maritime security while facilitating the flow of commerce. It is on this foundation that the 2006 budget continues to build out Coast Guard Deepwater capabilities necessary to reduce risk and implement the national maritime strategy for homeland security—today, tomorrow, and into the future.

The 2006 Deepwater budget continues the recapitalization of our cutters, boats, aircraft and support infrastructure to reverse declining readiness trends and provide critical operational capabilities to meet today's maritime security and safety threats. As detailed in the National Strategy for Homeland Security, this remains a critical need in protecting the homeland.

Recapitalize the Coast Guard

Despite spending increasing amounts to maintain operational assets, the Coast Guard is experiencing a continuing decline in fleet readiness. Legacy cutters are now operating free of major equipment casualties (equipment failures that significantly impact mission performance) less than 50 percent of the time, despite the investment per operational day increasing by over 50 percent over the last 6 years. The resulting "readiness gap" negatively impacts both the quantity and quality of Coast Guard "presence"—critical to our ability to accomplish all missions.

Readiness Declining

The majority of the Coast Guard's operational assets, designed for the threat environment of the 1960s and 1970s, will soon reach the end of their anticipated service lives resulting in rising operating and maintenance costs, reduced mission effectiveness, unnecessary risks. Listed below are some specific examples highlighting alarming system failure rates, increased maintenance requirements, and the subsequent impact on mission effectiveness:

- HH–65 helicopter in-flight engine power losses occurred at a rate of 329 mishaps per 100,000 flight hours in Fiscal Year 2004. This is up from a Fiscal Year 2003 rate of 63 mishaps per 100,000 flight hours. The engine-loss rate has resulted in flight and operational restrictions and high levels of risk to our aircrews. Re-engining the HH–65 will remain the Coast Guard's highest legacy asset priority until complete. We greatly appreciate Congress' support in correcting this critical safety and reliability issue, including transferring an additional $40 million into Deepwater to accelerate this re-engining effort in Fiscal Year 2005. The 2006 budget requests $133 million to complete re-engining of the remaining operational HH–65s.
- The 110-foot patrol boat fleet has experienced 23 hull breaches, or openings in the hull from corrosion, requiring emergency dry docks. The resultant loss in

operational days poses unacceptable risks to our personnel. By the end of 2005, the Coast Guard will have taken delivery of eight reconfigured 123-foot patrol boats, which are upgraded 110-foot patrol boats designed to sustain this cutter class until replacement with the Integrated Deepwater System's Fast Response Cutter.

Last month, I directed that Deepwater's conversion of 110-ft. patrol boats be terminated at eight hulls for several reasons. First, the pre-9/11 design for the 123-foot patrol boats did not provide needed homeland security capabilities called for in the revised Deepwater mission need statement. Second, the advanced deterioration of the 110-foot patrol boat hulls, increased costs associated with conversion and technical difficulties were also significant parts of this decision. Several steps have been taken to mitigate the near-term operational impact of this termination. For the long term, the Coast Guard has advanced the design and construction of the new Fast Response Cutter by a full decade. The revised Deepwater Implementation Plan builds improved post-9/11 capabilities into this cutter's design and delivers it far sooner than originally planned.

- Our high and medium endurance cutters are experiencing sub-system failures due to old and unserviceable systems. The 378-foot high endurance fleet averages one main space casualty, with potential to escalate to main space fire, on every patrol. Three out of a total class of 12 ships have recently missed operations due to unscheduled maintenance required to repair failing sub-systems. The total number of unscheduled maintenance days for the major cutter (medium and high endurance cutters) fleet has increased from 85 days in Fiscal Year 1999 to 358 days in Fiscal Year 2004 (over a 400 percent increase over Fiscal Year 1999). This loss of operational cutter days in 2004 equates to losing two major cutters, or 5 percent of our major fleet for an entire year. The 2006 budget includes funding for six mission effectiveness projects to help sustain the medium endurance cutter fleet, and funds construction of the third National Security Cutter, the replacement for the Coast Guard's high endurance cutter class.

These same Deepwater assets are integral to the Coast Guard's ability to perform its missions of ports, waterways, and coastal security; migrant- and drug-interdiction operations; fisheries enforcement, and search and rescue. In 2004, Deepwater legacy assets made invaluable contributions to America's maritime security and safety:

- Operation ABLE SENTRY blanketed the coastline of Haiti with legacy Coast Guard Deepwater assets, which interdicted more than 1,000 illegal migrants during this operation and deterred many thousand more from taking to sea in unsafe boats.
- The 378-foot Coast Guard cutter GALLATIN, and its Airborne-Use-of-Force-(AUF) capable helicopter seized more than 24,000 pounds of cocaine worth an estimated $768 million and detained 27 suspected smugglers in the span of 7 weeks. The GALLATIN's commanding officer has indicated that the secure-communications improvements made by the Deepwater Program were key to this effort.
- The Coast Guard's aging Deepwater cutters and aircraft patrolled over 28,000 hours in direct support of maritime homeland security missions. 110-foot patrol boats alone patrolled 13,000 hours supporting port and coastal security missions including, cruise ship escorts, critical infrastructure protection, and countless security boardings.
- Working in conjunction with the U.S. Secret Service during the national political conventions, 270-foot medium endurance cutters and 110-foot patrol boats provided maritime security, enforced security zones, and served as command and control platforms coordinating maritime traffic. Deepwater aircraft, equipped with the AUF package, provided air security and conducted maritime security patrols.

Deepwater's modernization and recapitalization of the Coast Guard includes efforts to sustain these legacy assets to continue to perform the Coast Guard's missions while replacement assets are being acquired. These sustainment and in some cases upgrading efforts are already beginning to yield results at sea:

- On February 13, the crew of the 123-foot cutter MATAGORDA, on its first operational patrol following a major conversion as part of the Coast Guard's Deepwater Program, played an instrumental role in intercepting a smuggler's boat attempting to bring 25 Cuban migrants into the country illegally. MATAGORDA, outfitted with a more capable command-and-control system dur-

ing its recent Deepwater upgrade, assumed the role of on-scene commander in the Florida Straits to coordinate the interdiction effort. After a long chase the smuggling boat was safely stopped two miles south of the Dry Tortugas. The smugglers were turned over to Customs and Border Protection officials, and all of the migrants were repatriated to Bahia de Cabanas, Cuba, on February 14.

- Late last year, crews on the Coast Guard cutters GALLATIN, RUSH, and THETIS collectively seized more than 33,949 pounds of cocaine during law-enforcement deployments—continuing the Coast Guard's record-setting pace established during Fiscal Year 2004 when 240,518 pounds of cocaine were seized (shattering the previous record of 139,000 pounds interdicted in 2001). Deepwater communication upgrades and previous enhancements installed on these aging legacy cutters played a major role in their success, because the operations involved multiple cutters, Federal agencies, and foreign countries—mandating seamless connectivity and high levels of interoperability between all participants.

In each of these recent operations, the Deepwater Program's C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) upgrades allowed cutter crews to maintain a common operational picture and higher levels of maritime domain awareness (MDA). The upgrades included provisions for first-time use of a classified Local Area Network and the Secure Internet Protocol Router Network (SIPRNET), which commanding officers attribute to "revolutionizing their world of work" because it affords crew access to real-time intelligence information and Department of Defense satellite imagery during current operations, as well as increased speed and size of transmission through compressed bandwidth capability.

As gratifying as these early demonstrations of the efficacy of the Deepwater Program's acquisition strategy may be, they are but a harbinger of what the future holds when new-construction Deepwater assets possessing more robust capabilities begin to enter service later this decade.

The President's Fiscal Year 2006 budget for the Integrated Deepwater System takes aim on reversing the Coast Guard's declining readiness trends and transforming the Coast Guard. The budget's level of investment in the Integrated Deepwater System provides the Coast Guard with the capability and capacity essential to meet our Nation's maritime homeland security needs; providing a layered defense throughout ports, waterways, coastal regions and extending far offshore, as well as sustaining other mission area efforts, such as search and rescue and living marine resources. Specifically, the Fiscal Year 2006 President's budget requests $966 million for the Integrated Deepwater System to:

- Continue acquisition of Eagle Eye tiltrotor Vertical-Takeoff-and-Landing Unmanned Aerial Vehicles (VUAVs), including mission sensor packages and ground control technology;
- Complete re-engining of all operational HH–65 helicopters;
- Complete service-life extension, avionics, and radar upgrades for HH–60 helicopters and HC–130H aircraft;
- Procure long-lead material for and production of the third National Security Cutter (NSC);
- Complete design and procurement of long-lead material for the first Offshore Patrol Cutter (OPC);
- Conduct testing and evaluation of the first Fast Response Cutter (FRC);
- Complete mission effectiveness projects on six Medium Endurance Cutters (WMECs) to sustain these cutters until they can be replaced with the OPC; and
- Continue innovative, interoperable network-centric C4ISR system upgrades to improve maritime domain awareness and provide a common operational picture.

Funding included for legacy asset sustainment projects, such as HH–65 re-engining and WMEC mission effectiveness projects, is critical to sustain capabilities today, while the acquisition of new and enhanced Deepwater assets will ensure the Coast Guard has the right capabilities tomorrow.

Revised Post-9/11 Deepwater Implementation Plan

The events of September 11, 2001, have changed the performance requirements for Coast Guard people and the assets they use. The original Deepwater system designed for September 10, 2001, simply could not do all that would be required of it after September 11, 2001.

The Coast Guard began to adjust Deepwater shortly after the contract was awarded in June 2002 by modifying the capabilities required of the first major new asset,

the NSC. These changes are included in the current updated baseline and will enable the first NSC, now slated for delivery in 2007, to conduct maritime homeland security missions.

In March, together with Secretary and Mrs. Chertoff, I participated in the keel-laying ceremony for our first NSC. Mrs. Chertoff, the cutter's sponsor, noted that she looked forward to the day when American families can rest a little easier knowing that the men and women of the Coast Guard are conducting missions up and down the coasts of our Nation in this fine ship. I agree wholeheartedly.

The keel laying for the first hull in our new class of NSCs marked a significant milestone in the Integrated Deepwater System's transformation of the Coast Guard for our 21st-century missions. Like other Deepwater cutters, aircraft, and systems, the NSC will play a major role in safeguarding the maritime security of our Nation for many years to come.

Along with the immediate changes to the NSC's design specifications, DHS and the Coast Guard recognized the need to conduct a thorough review of the plans for all Deepwater assets. Changes to the national strategic security environment after 9/11 necessitated modifications to the Deepwater Program focused on defeating terrorist threats, addressing contemporary mission demands, and satisfying current and emergent operational priorities.

The revised Integrated Deepwater System mission need statement and implementation plan were developed following a comprehensive, year-long analysis of the Coast Guard's post-9/11 mission requirements.

Capability

The revised plan addresses the Coast Guard's dual challenges of legacy-asset deterioration and performance gaps by enhancing the performance of selected Deepwater assets through added capabilities and conversions, including C4ISR systems; adjusting the implementation schedule and mix of individual assets over the life of the program; and providing necessary balance over the life of the program based on the DHS strategic goals, current and emerging mission requirements, and the need to provide for a high-quality workplace for Coast Guard men and women.

The revised Deepwater Implementation Plan updates the original plan by: (1) modifying the original assets that would have been delivered by the Deepwater project to incorporate design requirements for improved post-9/11 capabilities; (2) retaining, upgrading, and converting aviation legacy assets (C–130s, H–60s, H–65s) as part of the final asset mix; and (3) adjusting the program's overall asset delivery schedule (*e.g.,* advancing delivery of the FRC and OPC by ten and 5 years respectively) to maximize operational effectiveness.

Specific operational enhancements contained in the revised Integrated Deepwater Systems implementation plan include:

- An innovative, integrated network-centric C4ISR system to harness the power of an interoperable network to enhance performance in all mission areas, improve MDA, and provide a common operational picture—key to Coast Guard leading the inter-agency effort to know and respond to maritime conditions, anomalies, vulnerabilities, and threats. Improvements to C4ISR enable earlier awareness of events through the more effective gathering and fusing of terrorism-related information, analysis, coordination, response—all critical to detecting, deterring, and defeating terrorist attacks. Upgrades to Deepwater surface assets, for example, contribute directly to improved intelligence collection and fusion through a sophisticated Shipboard Sensitive Compartmentalized Information Facility (S/SCIF), sensors, and increased data-exchange bandwidth;
- Improved maritime-security capabilities such as increased speed and integrated weapons systems on selected Deepwater cutters essential to higher levels of maritime homeland security during a terrorist attack, opposed boardings, and other high-risk operations;
- Airborne use-of-force and vertical insertion and delivery capabilities to allow helicopters to provide warning and/or disabling fire, and to deploy, deliver, and recover boarding teams safely and more effectively;
- Improved fixed-wing aircraft long-range surveillance to increase MDA and reduce maritime patrol aircraft shortfalls in operating hours; organic Coast Guard air transport capability will enable deployment of Maritime Safety and Security Teams and National Strike Force teams for faster, more effective response;
- Improved capabilities for anti-terrorist/force protection on select Deepwater assets with all-weather self-defense and the ability to protect high-value assets; assets will have the capability to engage terrorists with higher assurance of survivability and continued mission capability; and

- Improved asset capabilities for detection and defense for chemical-biological-radiological (CBR) threats—essential to survival and continued operations during a CBR attack involving a weapon of mass destruction.

These are "must-have" capabilities in today's threat environment and the Nation would be remiss to build out a Coast Guard without them. Consider the 96 hour advanced notice of arrival requirement for vessels arriving in U.S. ports—just one of the many improvements to maritime security resulting from the landmark Maritime Transportation Act of 2002. This reporting requirement enables the Coast Guard to identify threats before they enter our ports where they can do the most harm. The revised post-9/11 capabilities listed above enable the Coast Guard to respond quickly and forcefully to neutralize these threats before they enter our Nation's ports, waterways and coastal areas.

The revised implementation plan maximizes existing capabilities by calling for the conversion of H–60 and H–65 airframes to serve as multi-mission helicopters. Again, this is a prudent and reasonable investment decision reflecting the many years of experience we have operating and maintaining these aircraft.

The rigorous periodic depot-level maintenance process addresses corrosion and technology obsolescence issues on a recurring basis. When these helicopters are converted, the airframes will be taken apart down to the structural-component level based on a standard maintenance cycle. In addition to planned technical upgrades, strict specifications govern the requirement for refurbishment or replacement of aircraft components.

Deepwater's original implementation plan proposed by ICGS recognized the Coast Guard's ability to sustain aircraft indefinitely provided sufficient funding was available for necessary maintenance, repairs, and periodic system upgrades. In the original plan, the H–65 was selected for the final Deepwater force structure as a multi-mission cutter helicopter (MCH), and the H–60 was to be retained through at least 2022. Under the new plan both helicopters have been selected for the final Deepwater force structure.

The H–65 re-engining is well underway, setting the stage for the additional upgrades identified in the revised implementation plan. Earlier this month, Coast Guard Air Station Atlantic City, NJ, accepted its fifth re-engined aircraft, and one was delivered to Coast Guard Air Station Savannah, GA.

Capacity

The Deepwater system's performance-based acquisition strategy allows the Coast Guard to respond to changing conditions and threats, and provides a vehicle for capability and schedule adjustments over the life of the program—maximizing value and performance through technology refreshment and innovation. For example, capability improvements incorporated at both the asset and system level in the revised implementation plan resulted in adjusting the original mix of some platforms. Owing to planned increases in C–130 aircraft for long-range surveillance and transport, for example, it is possible to adjust the number of CASA CN–235 aircraft (MRS) originally planned for the program.

Similarly, the AB–139 helicopter, originally proposed by Integrated Coast Guard Systems (ICGS) as a notional future platform, was determined not to possess the endurance and power necessary to meet post-9/11 requirements such as the need to transport six-member boarding teams, plus equipment, for vertical insertions to ships at ranges up to 200 nautical miles from a cutter or shore station; it also did not meet other requirements associated with airborne use-of-force and operating in known icing conditions. Existing Coast Guard H–60 helicopters are capable of meeting these requirements and also have a mature logistics and training base in the armed forces that we may leverage.

The flexibility inherent in Deepwater's acquisition will enable the Coast Guard to adjust the final mix of selected platforms as overall system-of-systems capability improvements are generated by, for example, significant improvements to the program's system for C4ISR or Unmanned Aerial Vehicle technology.

Legitimate questions have been raised regarding our decision to project a range for the numbers of some assets—the system's capacity—when the Deepwater acquisition is completed some 20 to 25 years from now under current funding projections.

It is very difficult to predict today, with precise accuracy, what the optimum mix of Deepwater assets will be 15, 20, or 25 years from now. For that reason, our long-range projection for the acquisition depicts a range of numbers for five of our 11 Deepwater assets. From its inception, Deepwater has been a performance-based program. The final mix of assets and fleet size will be based on assessments of our threat environment, mission requirements, the actual performance of each asset, and the overall Deepwater system of systems' performance. This approach is both

consistent with our long-range acquisition strategy and reflects good stewardship of the taxpayer's dollars.

A more complete explanation of the Deepwater acquisition strategy helps to explain the rationale behind the projected range of asset numbers. In short, more capable assets will be able to do a great deal more than those reflected in the pre-9/11 Deepwater construct—just as modern power tools and materials enable a carpenter to build a home in a shorter amount of time than the days when hand saws and hammers were the norm.

We believe our plan to incorporate improved post-9/11 operational capabilities on all major surface and aviation platforms will reap significant system-wide performance improvements that will have a bearing on capacity requirements. In the world of C4ISR, for example, we have already seen how command-and-control upgrades to our legacy cutters serve as a force multiplier to generate impressive dividends in operational effectiveness *and* efficiency. Armed with earlier, more accurate, and continuously streamed intelligence and operational data to maintain a common operating picture, commanders can employ their assets far more effectively than in the past.

The Coast Guard faces the same resource constraints as every other Federal agency today, and it would be a breach of responsible stewardship to acquire additional capacity *if* a smaller force is able to satisfy our long-term performance goals. We will not know the answer to that question for a number of years. Deepwater's final number and mix of assets will, at a minimum, be sufficient to meet DHS and Coast Guard long-term performance goals. The program's alternative acquisition schedules provide far more meaningful vehicles for assessing the program's current and future direction.

For this reason, our emphasis to identify and incorporate the correct design requirements for the many improved capabilities needed to perform the Coast Guard's post-9/11 missions is the correct priority at this point in the Deepwater acquisition. We will have many years to adjust Deepwater's final capacity based on the system's actual performance, changes to mission requirements, and the future threat environment.

A Year of Achievement

As part of our efforts to enhance mission performance, it is appropriate to acknowledge that Deepwater's Coast Guard-industry team marked numerous important milestones during 2004. Beyond the past year's success story of C4ISR upgrades to legacy cutters, Deepwater's C4ISR shore-side upgrade was completed in 2004, at the Communications Area Master Station Pacific (CAMSPAC) facility at Point Reyes, Calif. The first shore-based IDS communications upgrade was completed in 2003 at Communications Area Master Station Atlantic (CAMSLANT).

As I discussed, we laid the keel for our first NSC in late March. The contract for that cutter was awarded just last June to Integrated Coast Guard Systems (ICGS, a joint venture between Lockheed Martin and Northrop Grumman). The Coast Guard's contract for the second cutter in the class was awarded to ICGS in early January. Northrop Grumman Ship Systems is leading the production effort, with Lockheed Martin responsible for the design, manufacture, and integration of the cutter's systems for C4ISR. From start-up to keel laying in a little less than 2 years, this is an impressive achievement.

Also last June, the Coast Guard awarded a contract to ICGS to begin the design and final requirements work for the OPC, Deepwater's medium-sized cutter. The design and final requirements for the third class of Deepwater cutters, the FRC, also will move forward smartly in 2005.

There also was steady progress in Deepwater's modernization and recapitalization of Coast Guard aviation assets last year. For example, the first production reengined HH–65 helicopter incorporating Deepwater upgrades completed its test flights successfully in September and entered full operational service at Aviation Training Center, Mobile, Alabama, in early October. We are evaluating the feasibility of opening a second production line to allow the Coast Guard to accelerate this critical upgrade on our HH–65s, mindful of their reputation as the "workhorse of the fleet."

Similar progress is evident in the recapitalization of the Coast Guard's fixed-wing aircraft inventory. In 2003, the Coast Guard awarded a contract to ICGS for concept and technology development of our new maritime patrol aircraft. Initial contracts between Lockheed Martin and EADS CASA are for the procurement of three CN–235–300M medium-range surveillance maritime patrol aircraft. Delivery is scheduled for 2007 following configuration for Coast Guard missions. The contract also includes an option for spare parts and integrated logistic support, as well as an option for five additional aircraft. The CN–235–300M completed a successful prelimi-

nary design review in December. Deepwater's Eagle Eye tiltrotor VUAV successfully completed its preliminary design review last March and underwent its critical design review in January 2005.

These milestones also illustrate the Deepwater Program's important industrial-base ramifications. Shipbuilding, aviation, and information technology systems come to mind immediately, but it is worth noting that Lockheed Martin and Northrop Grumman, joint partners in Integrated Coast Guard Systems (ICGS), have contracts with companies producing supplies or conducting work for the IDS program in 41 states.

National Fleet

Deepwater's recapitalization of the Coast Guard also plays a key enabling role in providing the means to achieve the national fleet policy's goals for interoperable Coast Guard and Navy assets. The policy is in place to ensure our two services work together to synchronize our multi-mission platforms, infrastructure, and personnel to provide the highest level of naval and maritime capability for the Nation's investment. This, of course, is absolutely essential if we are to obtain the highest levels of operational effectiveness in maritime homeland security and homeland defense operations, as well as in the performance of our national-defense responsibilities providing expeditionary support to U.S. joint combatant commanders around the world.

Admiral Clark, the Chief of Naval Operations, has said that the global war on terrorism's heightened requirement for improved homeland defense and maritime security has produced a Navy-Coast Guard partnership unlike anything the sea services have experienced in many years. Partnership with the Navy and the Department of Defense allows an effective two-way flow of capability to meet both expeditionary and domestic security imperatives—all very much in the national interest. A number of initiatives are in motion to advance the national fleet concept following my senior-level talks with Admiral Clark last November. Deepwater's contribution to national fleet policy objectives will only increase as the Program continues to gain momentum during the years ahead.

The Deepwater Program is actively working with the Littoral Combat Ship (LCS) program at a functional level on small boat launch and recovery, weapons and combat systems, and mission modules. We are exploring other collaborative opportunities with the Naval Air Systems Command and the Marine Corps Systems Command.

The revised Deepwater Implementation Plan directly supports this inter-agency collaboration with the Navy. The plan's provisions for more capable Coast Guard cutters, aircraft, patrol boats, and C4ISR systems will enable us to achieve the national fleet policy's call for the highest level of naval and maritime operational integration for improved maritime security.

Assistant Secretary of Defense for Homeland Security, Paul McHale, recently emphasized this compelling requirement. "It is in the maritime domain that I believe we have our single greatest opportunity to enhance our domestic U.S. security," he said. "We must achieve, in short, complete synchronization of Coast Guard and Navy capabilities."

Program Management

Deepwater also has made steady progress implementing recommendations from the Government Accountability Office (GAO) to improve program management and oversight. Last year, GAO identified 13 items of concern in two separate audit reports. The Deepwater Program has worked diligently and successfully to address them.

Since its March 2004 report was issued, we have updated GAO regularly on the implementation of these improvements through four detailed reports, six overall program briefings, and multiple on-site meetings regarding specific topic areas, and four briefs, including a day-long conference in January. We have taken specific actions to improve program management efforts to measure and evaluate cost, schedule, and performance; improve communications, and to encourage future cost control through rigorous competition.

In short, the Coast Guard has embraced the GAO's recommendations. Eleven recommendations were grouped by three categories: program management, contractor accountability, and cost controls through competition. GAO has closed two of the eleven recommendations as completed by the Coast Guard, and we anticipate further closures and satisfactory progress during the weeks ahead. These GAO closure actions and Coast Guard progress reports document the work the Coast Guard has done to comply with the GAO recommendations. Two recommendations of the 13 total, contained in a second separate audit report, addressed updating the Deep-

water acquisition schedule. The Coast Guard complied with this request as part of the Fiscal Year 2006 budget process.

To improve program management, we have restructured Deepwater's Integrated Product Teams (IPTs) to comport with GAO best practices, improved electronic information sharing systems, stabilized the workforce through human capital improvements, and standardized information flow from the program to field units to facilitate delivery of, and transition to upgraded Deepwater legacy platforms.

Regarding contractor accountability, the Coast Guard has refined the ICGS performance criteria to standardize input and increase the objectivity of annual assessments. To continually monitor contractor performance, the Coast Guard employs a "balanced score card" and an earned value-management system (both of which are considered "industry best practices").

To ensure cost control through competition, the Coast Guard reviews the competition of ICGS subcontracts through periodic evaluations. Additionally, ICGS has agreed to notify the Coast Guard prior to deviating from the accepted contract proposal if they decide to execute work in-house above $10 million that was proposed to be subcontracted by a company other than the ICGS prime contractor.

The Coast Guard welcomed the GAO's recommendations last year. We viewed them as an independent review of IDS contract-management practices. During her testimony to the Senate last month on the Deepwater Program, I was gratified to hear Ms. Margaret Wrightson, GAO's Director for Homeland Security and Justice Issues, describe the Coast Guard's response to her agency's review of our Deepwater Program as a "constructive engagement" on the issues. I share Ms. Wrightson's assessment and remain committed to the success of what I judge is a collaborative, complementary effort.

We fully recognize that GAO still sees the potential for our contracting approach to pose a number of inherent risks that, left unaddressed, could lead to increased costs and schedule adjustments in the Deepwater Program, but I restate today the Coast Guard's unwavering commitment to good stewardship. The Deepwater-industry team is a developing organization fully committed to continuous process improvement, the adoption of best-business practices, and an open frame of reference leading to continued refinement of its acquisition strategy and business plan.

We take our stewardship seriously, and we will achieve program success through performance measures and accountability. Simply stated, the GAO is making active contributions to help us successfully execute this critical Deepwater Program.

Conclusion

I appreciate your strong support of the Deepwater Program over the past several years in providing the Coast Guard with the tools necessary to meet our multi-mission and military demands and to fight the Global War on Terrorism. I am extremely proud of our Coast Guard's accomplishments since 9/11 as we strive to increase maritime homeland security while continuing to perform a myriad of critical maritime safety functions.

Funding requested for the Deepwater Program will positively impact our ability to deliver the maritime safety and security America demands and deserves by focusing resources toward our three critical priorities: recapitalize the Coast Guard, implement the Maritime Strategy for Homeland Security, and enhance mission performance.

The revised Deepwater Implementation Plan's progressive modernization and recapitalization will provide improved, critically needed capabilities that are fundamental to the Coast Guard's ability to deliver required levels of operational excellence necessary for the security of the Nation and the safety of our citizens.

Thank your for the opportunity to testify before you today on the Deepwater Program. I will be happy to answer any questions you may have.

Senator SNOWE. Thank you.

Ms. Wrightson?

STATEMENT OF MARGARET T. WRIGHTSON, DIRECTOR, HOMELAND SECURITY AND JUSTICE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. WRIGHTSON. Thank you. I'm pleased to be here today to discuss Deepwater Program implementation, focusing on the results of our work for this Subcommittee on the condition——

The CHAIRMAN. Would you pull that mike up a little, please?

Ms. WRIGHTSON. A little—OK. Can you get it there? Have I—OK. I'll start over.

I'm pleased to be here today to discuss Deepwater Program implementation, focusing on the results of our work for this Subcommittee on the condition of the Coast Guard's legacy Deepwater assets, actions the Coast Guard has taken to maintain these assets, and on the management challenges the Coast Guard faces in acquiring replacements.

The bottom line of our work to date is this; the costly and important Deepwater Program will continue to carry substantial risk, and, therefore, need constant monitoring and management attention to successfully accomplish its goals of maximizing effectiveness, minimizing total ownership costs, and satisfying the assets' users. The substantial revisions to the Coast Guard's mission needs statement and its Deepwater Implementation Plan, as well as recent funding uncertainties, are the latest evidence of the complexity and challenges the Coast Guard faces.

With respect to the risks, our work has identified three main points:

First, the need to replace or upgrade deteriorating legacy assets is considerable. While the Coast Guard lacks measures that clearly demonstrate how this deterioration affects its ability to perform missions, it is clear that Deepwater legacy assets are insufficient in the post-9/11 environment.

Second, although the need to replace and upgrade assets is strong, the acquisition management and oversight risks we have identified will likely increase under a more aggressive acquisition schedule. The cost increases, schedule slippages, and project cancellations that have occurred so far are warning signs. We will continue to work with the Coast Guard to determine how best to manage these risks so that Deepwater missions can be accomplished in the most cost-effective way, going forward.

Third, there are signs that, as the Deepwater Program moves ahead, the Coast Guard will continue to report additional problems with existing assets. Some of these problems, such as those of the 378-foot cutters, are included in the compendium the Coast Guard uses to set sustainment priorities and plan budgets, but have not yet been funded, because they pertain to assets that are first to be replaced. However, projects such as these to address problems that, may be today or on the horizon, nevertheless, are likely going to be needed.

Turning to some of the very important details—and I'm going to try and shorten my statement, in the interest of time here—our analysis of the most recent 5 years shows that the condition of the assets generally declined during the period, but the available condition measures do not demonstrate that rate of decline to be as fast or clear cut as the Coast Guard has asserted. Also, not all assets showed similar downward trends. We believe the trends, however, should be viewed with deep caution. While there is no systematic quantitative evidence sufficient to demonstrate that we're headed for a train wreck here, this does not mean that the assets are in good condition or have been performing their missions safely, reliably, and at levels that meet or exceed Coast Guard standards. Rather, evidence from our site visits showed aging and obsolete

systems and equipment as a major cause of the reduction in mission capabilities for a number of Deepwater legacy aircraft and cutters.

Turning to the Coast Guard efforts to address the problems with their assets. Beginning in 2002, the Coast Guard has annually issued a compendium consolidating information needed to make planning and budgeting decisions regarding maintenance and upgrades. Also, and very significantly, Coast Guard crews have been spending increasingly more time between missions to prepare for the next deployment. Such efforts are likely to help prevent a more rapid decline in the condition of the assets, but it is important to note that, even with increasing amounts of maintenance, these assets are still losing mission capabilities due to equipment and system failures.

In reality, our work suggests that simply working harder may not be enough. In this regard, the Coast Guard has recently begun to develop a strategy, known as CAMS, to better prioritize the projects needed to upgrade legacy assets in order to achieve the greatest overall mix of capabilities that maximizes performance across missions. Although it is too soon to assess the effectiveness of this strategy, we regard it as a good-faith effort toward more knowledge-based budgeting for legacy asset sustainment.

In addition to this effort at the operational level, the Coast Guard's Pacific Area Command has recognized that a different approach to maintaining and sustaining its 378-foot cutters may be needed, in light of the slippage in dates for its replacement. As a first step, command officials have launched an initiative applying new business principles to the problem, including ensuring that operation and maintenance staff work closely together to determine priorities and accepting the proposition that, with constrained funding, not all cutters will be fully capable to perform all types of missions. The PAC approach has potential; but, as the Commander, himself, told us, it is likely there will be needed an infusion of funding, no matter what.

With respect to the challenges the Coast Guard faces to replace or upgrade its legacy assets, as you know, Madam Chairman and others, from the outset, we have expressed concern about the risks involved in the Coast Guard's approach. Last year, we reported that, well into the second year, key components needed to manage the program and oversee the contractor had not been effectively implemented. The Coast Guard also had not updated its master schedule, and costs were rising above original estimates. More recently, we have seen slippages in the national security cutter and emergency acceleration, such as for the HH–65. Unobligated balances are growing. We have also seen at least one instance of a serious performance problem, this being hull breaches on the first converted 123-foot patrol boats.

We have made numerous recommendations to improve the program's management and oversight, and the Coast Guard has agreed with nearly all of them, and they have made progress. However, management issues remain, that I'd be happy to discuss, that may take some time to fully address.

Additionally, there is uncertainty around the mission needs statement and the implementation plan, which, at the end of the

day, is based on models and assumptions, rather than facts, and we'll need some time to see if it will play out.

Finally, there are uncertainties around Deepwater funding. When the program began, we expressed the concern that this program would need stable funding over the 20-year period. In 4 years, funding has not stabilized. If funding does not stabilize at whatever level you all decide, that will increase the risk to the program.

And since I've hit a red light, I'm going to thank you very much and look forward to your questions.

[The prepared statement of Ms. Wrightson follows:]

PREPARED STATEMENT OF MARGARET T. WRIGHTSON, DIRECTOR, HOMELAND SECURITY AND JUSTICE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Madame Chairwoman and Members of the Subcommittee:

I am pleased to be here today to discuss our preliminary observations on the condition of Deepwater legacy assets;[1] actions the Coast Guard has taken to maintain, upgrade, and better manage these assets; and management challenges the Coast Guard faces in acquiring replacements for them. Deepwater legacy assets consist mainly of aircraft and cutters capable of operating further out to sea, but missions may begin at ports, waterways, and coasts and extend seaward to wherever the Coast Guard is required to take action. The Coast Guard uses these assets to perform a variety of missions, such as interdicting illicit drug shipments or attempted landings by illegal aliens, rescuing mariners in difficulty at sea, protecting important fishing grounds, and responding to marine pollution. After the events of September 11, 2001, these missions were expanded to include a greater emphasis on ports, waterways, and coastal security. The Coast Guard's expanded responsibilities caused changes in how the Deepwater legacy assets are used—for example, in conducting more security patrols—and they also created a need to make adjustments in mission requirements for assets that would be updated or built as part of the long-term acquisition program.

Many Deepwater legacy assets are at or approaching the end of their estimated service lives. In 2002, the Coast Guard began a multiyear Integrated Deepwater System acquisition program to replace or modernize the legacy assets. The Coast Guard's new implementation plan estimates the cost for the Deepwater Program at $19 billion to $24 billion. From Fiscal Years 2002 through 2005, the Coast Guard was appropriated nearly $2.2 billion for the Deepwater Program. This amount included close to $1.3 billion for new acquisitions and $460.5 million for upgrades of the legacy assets. Further, because the Coast Guard must continue to operate the Deepwater legacy assets until the new assets are acquired, the Coast Guard has spent close to $594 million during Fiscal Years 2002 through 2004 to fund intermediate- and depot-level maintenance of these assets.[2]

The Administration is requesting $966 million for the Deepwater Program for Fiscal Year 2006—$242 million more than Congress appropriated for the program last year. Part of this request ($239.5 million) is for maintenance and upgrades to some Deepwater legacy assets and is predicated, in part, on the Coast Guard's assertion that its Deepwater legacy assets are "failing at an unsustainable rate." Faced with this concern, the Coast Guard has studied options for replacing Deepwater legacy assets more rapidly than initially planned and thereby avoiding some of the costs that might be involved in upgrading these assets sufficiently to keep them running for longer periods. In the coming years, both the Coast Guard and Congress will likely be considering the advisability of such changes in the program.

The House Appropriations Committee recently requested information from the Coast Guard about its revised Deepwater Implementation Plan. Because the Coast Guard was unable to present information that the Committee deemed satisfactory, the Committee recommended reducing the Coast Guard's Fiscal Year 2006 Deepwater budget request of $966 million by nearly 50 percent. In late May, the Coast Guard submitted documentation to the Committee in an effort to comply with it's request. As of early June 2005, the Coast Guard's Fiscal Year 2006 appropriation was still pending.

My testimony today addresses three issues related to these considerations:

- Changes in the condition of Deepwater legacy assets during Fiscal Years 2000 through 2004;

- Actions the Coast Guard has taken to maintain, upgrade, and better manage Deepwater legacy assets; and
- Management challenges the Coast Guard faces in acquiring new assets, especially if a more aggressive schedule is adopted.

My testimony is based on past and current work for this subcommittee and other Congressional committees. Our current work included analyzing data and condition measures[3] used by the Coast Guard for determining Deepwater legacy assets' condition,[4] reviewing Coast Guard actions to maintain and upgrade the legacy assets, meeting with operations and maintenance staff covering each type of Deepwater legacy aircraft and each class of Deepwater legacy cutter, assessing the improvements the Coast Guard is making in its management of the Deepwater acquisition. We will be following up this testimony with a written report that will contain additional, detailed information related to the condition of Deepwater legacy assets, and the actions the Coast Guard is taking to maintain and upgrade them. As part of the follow-on report, we will also further examine the Coast Guard's management of the Deepwater Program and follow up on recommendations made in a prior GAO report.[5] Our work was carried out in accordance with generally accepted governmental auditing standards.

In summary, our work thus far shows the following:

- Coast Guard condition measures show that the Deepwater legacy assets generally declined between Fiscal Years 2000 and 2004, but the Coast Guard's available condition measures are inadequate to capture the full extent of the decline in the condition of Deepwater assets with any degree of precision. While there is no systematic, quantitative evidence sufficient to demonstrate that Deepwater legacy assets are "failing at an unsustainable rate" as the Coast Guard has asserted, this does not mean that the assets are able to perform their missions safely, reliably, and at levels that meet or exceed Coast Guard standards. Evidence we gathered in ways other than reviewing condition measures, such as interviewing Coast Guard operations and maintenance staff, showed significant problems in a variety of the assets' systems[6] and equipment that will need to be addressed if the assets are to continue performing their missions at or near current levels until replacement assets become operational. These problems are not necessarily reflected in the condition measures. For example, the Coast Guard's HH–65 helicopter consistently exceeded the Coast Guard's primary condition measure during Fiscal Years 2000 through 2004, yet its engine is being replaced because it lacks sufficient power to meet mission requirements. The Coast Guard has acknowledged that it needs measures that more clearly demonstrate the extent to which asset conditions affect mission capabilities, but such measures have not yet been finalized or implemented.
- The Coast Guard has taken several types of actions to keep existing assets operational, but these actions, while helpful, may not fully address mission capability issues and may require additional funding. The Coast Guard now compiles information that can be used to better identify and prioritize the maintenance or upgrade projects that need to be done to keep existing assets operating. Coast Guard personnel, according to evidence obtained during our site visits, are also performing more maintenance on these assets than they have in the past—for example, spending additional time on maintenance when cutters are in port between deployments. These additional maintenance efforts are likely helping to prevent a more rapid decline in the condition of these assets, but it is important to note that even so, cutters and aircraft are still losing mission capabilities because of equipment and system failures. The Coast Guard's Pacific Area Command, which is heavily dependent on deteriorating 378-foot cutters, is attempting to use new strategies to help sustain the operation of these cutters through 2016, when they are currently scheduled to be fully replaced with newer cutters. According to the Pacific Area Commander, however, doing so is likely to require an additional infusion of funds—something the Coast Guard has so far not included in its budget requests or plans. Finally, in an effort to address our recommendations for developing a more proactive approach for prioritizing the maintenance and capability enhancement projects needed on its legacy assets, the Coast Guard is developing a new system for providing more objective data on where to best spend budget dollars to achieve the greatest enhancements in mission capabilities.
- The Coast Guard's Fiscal Year 2006 budget request of $966 million for the Deepwater Program reflects significant revisions to the program's requirements, capabilities, and schedule in light of the homeland security mission. We have not yet analyzed the likely cost and schedule impact of these revisions. How-

ever, if a more aggressive acquisition schedule is adopted, the Coast Guard would likely continue to face a number of management challenges that have already affected its ability to effectively administer the Deepwater Program. From the outset, we have expressed concern about the risks involved with the Coast Guard's acquisition strategy, which involves relying on a prime contractor (or "system integrator") to identify the assets needed, using tiers of subcontractors to design and build the actual assets. Last year, we reported that well into the contract's second year, key components needed to manage the program and oversee the system integrator's performance had not been effectively implemented. We made a number of recommendations in the areas of program management, contractor accountability, and cost control through competition. While the Coast Guard agreed with nearly all of these recommendations and has initiated actions to address these problems, we remain concerned that the program still carries major and inherent risks. Most of our recommendations have not been fully addressed. Recent information shows continued challenges in the areas of overall system integration, cost and schedule management, and integrated product teams, which consist of contractor and government personnel and are the Coast Guard's principal tool for managing the Deepwater Program. In our opinion, the uncertainties associated with the proposed revisions to the Deepwater Program only heighten these risks.

Background

As the lead Federal agency for maritime homeland security within the Department of Homeland Security, the Coast Guard is responsible for homeland and nonhomeland security missions, including ensuring security in ports and waterways and along coastlines, conducting search and rescue missions, interdicting drug shipments and illegal aliens, enforcing fisheries laws, and responding to reports of pollution. The Deepwater fleet, which consists of 186 aircraft and 88 cutters of various sizes and capabilities, plays a critical role in all of these missions. As shown in table 1, the fleet includes fixed-wing aircraft, helicopters, and cutters of varying lengths.

Table 1: Deepwater Legacy Aircraft and Cutter Fleets
(as of June 2005)

Deepwater asset	Number	Description
		Aircraft
HC–130 (long-range surveillance airplane)	27	This is the largest aircraft in the Coast Guard's fleet. It has a planned crew size of 7, a maximum speed of 290 knots, and an operating range of 2,600 nautical miles. The original estimated service life of the HC–130 was 30 years or 40,000 flight hours.[a] The in-service fleet average age for the Coast Guard's HC–130H aircraft is 21.9 years.
HU–25 (medium-range surveillance airplane)	23	This is the fastest aircraft in the Coast Guard's fleet. It has a planned crew size of 5, a maximum speed of 410 knots, and an operating range of 2,045 nautical miles. The original estimated service life of the HU–25 was 20 years or 20,000 flights or 30,000 flight hours.[a] The in-service fleet average age for the Coast Guard's HU–25 aircraft is 22.1 years.
HH–60 (medium-range recovery helicopter)	41	This helicopter has a planned crew size of 4, a maximum speed of 160 knots, and a maximum range of 700 nautical miles. It is capable of flying 300 miles offshore, remaining on scene for 45 minutes, hoisting 6 people on board, and returning to its point of origin. The original estimated service life of the HH–60 was approximately 20 years or 10,000 flight hours.[a] The in-service fleet average age for the Coast Guard's HH–60 helicopters is 12.6 years.

Table 1: Deepwater Legacy Aircraft and Cutter Fleets—Continued
(as of June 2005)

Deepwater asset	Number	Description
HH–65 (short-range recovery helicopter)	95	This helicopter has a planned crew size of 3, a maximum speed of 165 knots, a maximum range of 400 nautical miles, and a maximum endurance of 3.5 hours. It is capable of flying 150 miles offshore. The original estimated service life of the HH–65 was 20 years.[a] The in-service fleet average age for the Coast Guard's HH–65 helicopters is 17.6 years.
Cutters		
378-foot high-endurance cutter	12	This is the largest cutter in the Coast Guard's Deepwater fleet. It has a planned crew size of 167, a maximum speed of 29 knots, and a cruising range of 14,000 nautical miles. It can support helicopter operations. The estimated service life of the 378-foot cutter is about 40 years. The average age of the Coast Guard's 378-foot cutters is 35.3 years.
270-foot medium-endurance cutter	13	This cutter has a planned crew size of 98, a maximum speed of 19.5 knots, and a cruising range of 10,250 nautical miles. It can support helicopter operations. The estimated service life of the 270-foot cutter is 30 years. The average age of the Coast Guard's 270-foot cutters is 17.0 years.
210-foot medium-endurance cutter	14	This cutter has a planned crew size of 75, a maximum speed of 18 knots, and a cruising range of 6,100 nautical miles. It can support short-range recovery helicopter operations. The estimated service life of the 210-foot cutter is from 43 to 49 years. The average age of the Coast Guard's 210-foot cutters is 37.3 years.
110-foot and 123-foot patrol boats	49	The patrol boats have a planned crew size of 16 and a maximum speed of 29.5 knots. The 110-foot patrol boat has a cruising range of between 3,300 and 3,500 nautical miles, and the 123-foot patrol boat has a cruising range of 3,180 nautical miles, depending on the class of the patrol boat. The estimated service life of the patrol boats is from 14 to 20 years. The average age of the Coast Guard's patrol boats is 15.4 years.

Source: Developed by GAO from U.S. Coast Guard data.
[a]Because of scheduled depot-level maintenance and upgrades that the Deepwater aircraft have received or will receive, the service lives can be extended beyond the original estimated service lives. For the HH–65 helicopter, a Coast Guard aviation official told us that the aircraft had no original estimated service life in terms of flight hours, but rather can continue to be operated as long as the structure of the aircraft is sound.

Some Coast Guard Deepwater cutters were built in the 1960s. Notwithstanding extensive overhauls and other upgrades, a number of the cutters are nearing the end of their estimated service lives. Similarly, while a number of the Deepwater legacy aircraft have received upgrades in engines, operating systems, and sensor equipment since they were originally built, they too have limitations in their operating capabilities.

In 1996, the Coast Guard began developing what came to be known as the Integrated Deepwater System acquisition program as its major effort to replace or modernize these aircraft and cutters. This Deepwater Program is designed to replace some assets—such as deteriorating cutters—with new cutters and upgrade other assets—such as some types of helicopters—so they can meet new performance requirements.[7]

The Deepwater Program represents a unique approach to a major acquisition in that the Coast Guard is relying on a prime contractor—the system integrator—to identify and deliver the assets needed to meet a set of mission requirements the Coast Guard has specified.[8] In 2002, the Coast Guard awarded a contract to Integrated Coast Guard Systems (ICGS) as the system integrator for the Deepwater Program. ICGS has two main subcontractors—Lockheed Martin and Northrop Grumman—that in turn contract with other subcontractors. The resulting program is designed to provide an improved, integrated system of aircraft, cutters, and un-

manned aerial vehicles to be linked effectively through systems that provide command, control, communications, computer, intelligence, surveillance, reconnaissance, and supporting logistics. We have been reviewing the Deepwater Program for several years. In recent reports we have pointed out difficulties the Coast Guard has been having in managing the Deepwater Program and ensuring that the acquisition schedule is up to date and on schedule.[9]

The existing schedule calls for acquisition of new assets under the Coast Guard's Deepwater Program to occur over an approximately 20-year period. By 2007, for example, the Coast Guard is to receive the first National Security Cutter, which will have the capability to conduct military missions related to homeland security. Plans call for 6 to 8 of these cutters to replace the 12 existing 378-foot cutters. However, in order to carry out its mission effectively, the Coast Guard will also need to keep all of the Deepwater legacy assets operational until they can be replaced or upgraded.

Deepwater Legacy Assets Show General Decline in Condition, but Current Measures Do Not Capture True Extent

Coast Guard condition measures show that the Deepwater legacy assets generally declined between 2000 and 2004, but the Coast Guard's available condition measures are inadequate to capture the full extent of the decline in the condition of Deepwater assets with any degree of precision. Other evidence we gathered, such as information from discussions with maintenance personnel, point to conditions that may be more severe than the available measures indicate. The Coast Guard acknowledges that it needs better condition measures but has not yet finalized or implemented such measures.

Coast Guard's Condition Measures Show General Decline in Deepwater Assets, With Some Fluctuations

During Fiscal Years 2000 through 2004, the Coast Guard's various condition measures show a general decline, although there were year-to-year fluctuations (see table 2). For Deepwater legacy aircraft, a key summary measure of the condition—the availability index (the percentage of time aircraft are available to perform their missions)—showed that except for the HU–25 medium-range surveillance aircraft, the assets continued to perform close to or above fleet availability standards over the 5-year period. In contrast, other condition measures for aircraft, such as cost-per-flight-hour and labor hours per flight hour, generally reflected some deterioration. For cutters, a key summary measure of condition—percent of time free of major casualties[10]—fluctuated but generally remained well below target levels. The number of major casualties generally rose from Fiscal Years 2000 through 2003, and then dropped slightly in Fiscal Year 2004.[11]

Table 2: Synopsis of Deepwater Legacy Assets' Condition

Deepwater legacy asset	Synopsis of general asset condition
HC–130 aircraft	The percentage of time the HC–130 fleet was available to perform missions nearly met or exceeded the Coast Guard's target level during Fiscal Years 2000 through 2003, but dropped below the target level in Fiscal Year 2004.
HU–25 aircraft	The percentage of time the HU–25 fleet was available to perform missions varied from year to year, but was consistently below the Coast Guard's target level during Fiscal Years 2000 through 2004.
HH–60 aircraft	The percentage of time the HH–60 fleet was available to perform missions met or was just below the Coast Guard's target level during Fiscal Years 2000 though 2004.
HH–65 aircraft	The percentage of time the HH–65 fleet was available to perform missions consistently exceeded the Coast Guard's target level during Fiscal Years 2000 through 2004.
378-foot high-endurance cutters	The percentage of time the 378-foot cutter fleet has operated free of deficiencies in mission-essential equipment remained substantially below the Coast Guard's target level during Fiscal Years 2000 through 2004.
270-foot and 210-foot medium-endurance cutters	The percentage of time the 210-foot and 270-foot cutter fleets have operated free of deficiencies in mission-essential equipment was well below the Coast Guard's target level during Fiscal Years 2000 through 2004, but showed slight improvement in Fiscal Year 2004.

Table 2: Synopsis of Deepwater Legacy Assets' Condition—Continued

Deepwater legacy asset	Synopsis of general asset condition
110-foot and 123-foot patrol boats [a]	The percentage of time the patrol boat fleet has operated free of deficiencies in mission-essential equipment was below, but near the Coast Guard's target level during Fiscal Years 2000 and 2001, but declined in more recent years.

Source: GAO analysis of data provided by the U.S. Coast Guard.
[a] Data on the 123-foot patrol boats were not compiled until Fiscal Year 2004. That year's data were added to the 110-foot patrol boat data to arrive at totals for the patrol boat fleet.

Another, albeit less direct, measure of an asset's condition is deferred maintenance—the amount of scheduled maintenance that must be postponed on an asset in order to pay for unscheduled repairs. Such deferrals can occur when the Coast Guard does not have enough money to absorb unexpected maintenance expenditures and still perform all of its scheduled maintenance, thus creating a backlog. For example, in Spring 2004, while on a counter-drug mission, the 210-foot cutter Active experienced problems in the condition of its flight deck that were to be corrected during its scheduled depot-level maintenance. However, because of a shortage of maintenance funds, the maintenance was deferred and the flight deck not repaired. As a result, the cutter lost 50 percent of its patrol time, since the required support helicopters could not take off from or land on it.

As table 3 shows, deferred maintenance does not show a clear pattern across all classes of Deepwater legacy assets. For the Deepwater legacy aircraft, the overall amount of estimated deferred maintenance increased each year during Fiscal Years 2002 through 2004, from $12.3 million to about $24.6 million. However, most of the increase came for one type of asset, the HH–60 helicopter, and the increase came mainly from shortening the interval between scheduled depot-level maintenance from 60 months to 48 months—thereby increasing the scheduled maintenance workload—and not from having to divert money to deal with unscheduled maintenance. For the Deepwater cutters, the amount of estimated deferred maintenance increased from Fiscal Year 2002 to 2003, but then dropped significantly in Fiscal Year 2004. The decrease in Fiscal Year 2004 came mainly because: (1) the Coast Guard ceased maintenance on an icebreaker, thus freeing up some maintenance funds; and (2) the Coast Guard also received additional operational and maintenance funding, allowing it to deal with both scheduled and unscheduled maintenance. Thus, the drop in the estimate of deferred maintenance costs for Fiscal Year 2004 is not necessarily an indicator that the condition of the legacy assets was improving; it could result from the Coast Guard having more money to address the maintenance needs.

Table 3: Estimated Costs for Deferred Maintenance of Deepwater Legacy Aircraft and Cutters, Fiscal Years 2002–2004

Deepwater asset	Fiscal year 2002	Fiscal year 2003	Fiscal year 2004
HC–130	$4,691,000	$7,016,000	$5,737,000
HU–25	0	$201,000	0
HH–60	$7,630,000	$9,436,000	$18,824,000
HH–65	0	0	0
Subtotal for aircraft	$12,321,000	$16,653,000	$24,561,000
378-foot cutters	$2,556,000	$8,135,000	$3,000,000
270-foot cutters	$2,070,000	$870,000	0
210-foot cutters	$786,000	$1,137,000	0
110-foot patrol boats	$1,618,000	$1,961,000	$500,000
Subtotal for cutters	$7,030,000	$12,103,000	$3,500,000
Total for all Deepwater legacy assets	$19,351,000	$28,756,000	$28,061,000

Source: U.S. Coast Guard.
Note: The Coast Guard estimates the cost for aircraft deferred maintenance by multiplying a percentage of average depot maintenance costs by the number of aircraft overdue for depot maintenance overhauls, plus the annual cost for extension inspections each year. The Coast Guard generally does not track deferred maintenance costs by cutter class, but compiled these data at GAO's request for Fiscal Years 2002 through 2004. The Coast Guard estimated the costs of only the planned cutter maintenance that had to be deferred to the following year and not the amount of maintenance that should have been conducted and was not funded.

Current Condition Measures Not Robust Enough to Clearly Link Condition With Effect on Mission Capabilities

At the time we began our work, the Coast Guard's condition measures were not sufficiently robust to systematically link assets' condition with degradation in mission capabilities. As we discussed with Coast Guard officials, without such condition measures, the extent and severity of the decline in the existing Deepwater legacy assets and their true condition cannot be fully determined. As a result, the picture that emerges regarding the condition of the Deepwater legacy assets based on current Coast Guard condition measures should be viewed with some caution. While there is no systematic, quantitative evidence sufficient to demonstrate that its Deepwater legacy assets are "failing at an unsustainable rate" as the Coast Guard has asserted, this does not mean the assets are in good condition or have been performing their missions safely, reliably and at levels that meet or exceed Coast Guard standards. We identified two factors that need to be considered to put these condition measures in proper context.

The first factor deals with limitations in the measures themselves. Simply put, the Coast Guard's measures of asset condition do not fully capture the extent of the problems. As such, they may understate the decline in the legacy assets' condition. More specifically, Coast Guard measures focus on events, such as flight mishaps or equipment casualties, but do not measure the extent to which these and other incidents degrade mission capabilities. Here are two examples in which the Coast Guard's current measures are not sufficiently robust to systematically capture degradation in mission capabilities:

- The surface search radar system on the HC–130 long-range surveillance aircraft, called the APS–137 radar, is subject to frequent failures and is quickly becoming unsupportable, according to Coast Guard staff with whom we met. Flight crews use this radar to search for vessels in trouble and to monitor ships for illegal activity, such as transporting illicit drugs or illegal immigrants. When the radar fails, flight crews are reduced to looking out the window for targets, greatly reducing mission efficiency and effectiveness. A flight crew in Kodiak, Alaska, described this situation as being "like trying to locate a boat looking through a straw." Mission capability degradations such as these are not reflected in the Coast Guard's current condition measures.
- The 378-foot cutter JARVIS recently experienced a failure in one of its two main gas turbines shortly after embarking on a living marine resources and search and rescue mission. While JARVIS was able to accomplish its given mission, albeit at reduced speeds, this casualty rendered the cutter unable to respond to any emergency request it might have received—but did not in this case—to undertake a mission requiring higher speeds, such as drug interdiction. The Coast Guard condition measures are not robust enough to capture these distinctions in mission capability.

The second factor that needs to be kept in mind is the compelling nature of the other evidence we gathered apart from the Coast Guard's condition measures. This evidence, gleaned from information collected during our site visits and discussions with maintenance personnel, indicated deteriorating and obsolete systems and equipment as a major cause of the reduction in mission capabilities for a number of Deepwater legacy aircraft and cutters. Such problems, however, are not captured by the Coast Guard's condition measures. One example of this involves the HH–65 short-range recovery helicopter. While this helicopter consistently exceeded availability standards established by the Coast Guard over the 5-year period we examined, it is currently operating with underpowered engines that have become increasingly subject to power failures. As a result, Coast Guard pilots employ a number of work-arounds, such as dumping fuel or leaving the rescue swimmer on scene if the load becomes too heavy. Further, because of increasing safety and reliability problems, the Coast Guard has also implemented a number of operational restrictions—such as not allowing the helicopter to land on helipads—to safeguard crew and passengers and prevent mishaps until all of the fleet's engines can be replaced.

The Coast Guard has recently recognized the need for improved measures to more accurately capture data on the extent to which its Deepwater legacy assets are degraded in their mission capabilities, but as of April 2005, such measures had not yet been finalized or implemented. Subsequent to our inquiries regarding the lack of condition and mission capability measures, Coast Guard naval engineers reported that they had begun developing a "percent of time fully mission capable" measure to reflect the degree of mission capability, as well as measures to track cutter readiness. We agree that measures like this are needed—and as soon as possible. Further, current plans call for the measure, if approved, to be used for cutters, but not

for aircraft. Consequently, even if this measure were to be implemented across the Coast Guard, there would still be no measure to address degradation in mission capabilities for aircraft. We will be exploring this issue further in our follow-on report.

Actions To Maintain, Upgrade, and Better Manage Deepwater Legacy Assets Are Under Way, but Condition Issues Remain

The Coast Guard has taken several actions to maintain, upgrade, and better manage its Deepwater legacy assets. These include establishing a compendium of information for making decisions regarding maintenance and upgrades; performing more extensive maintenance between deployments; applying new business rules and strategies, at the Pacific Area Command, to better sustain the 378-foot high-endurance cutters through 2016; and exploring additional strategies for prioritizing the maintenance and capability enhancement projects needed on its legacy assets in an effort to provide more objective data on where to best spend budget dollars to achieve the greatest enhancements in mission capabilities. These additional efforts are likely helping to prevent a more rapid decline in the condition of these assets, but condition problems continue, and the efforts will likely involve additional costs.

Compendium of Needs Is Being Compiled and Used

Since 2002, the Coast Guard has annually issued a *Systems Integrated Near Term Support Strategy* compendium. Among other things, this compendium consolidates information needed to make planning and budgeting decisions regarding maintenance and upgrades to sustain legacy assets. Its purpose is to serve as a tool for senior Coast Guard management in setting priorities and planning budgets. From this strategic document, the Coast Guard has identified a number of upgrades to improve the capabilities of the Deepwater legacy aircraft and cutters. The most recent compendium (for Fiscal Year 2006) lists more than $1 billion worth of upgrades to the Deepwater legacy assets. The planned upgrades identified in the compendium that have been approved and received initial funding account for an estimated $856 million the Coast Guard anticipates it will need to complete those projects. The approved upgrades for Deepwater legacy assets are shown in table 4.

Table 4: Approved Upgrades for Deepwater Legacy Aircraft and Cutters

Deepwater asset	Synopsis of planned upgrades	Estimated costs and timeframes of upgrades
HC–130 aircraft	The Coast Guard is beginning to replace aircraft's dated and difficult to support surface search radar system.	The radar system replacement is projected to cost $78 million and be completed in Fiscal Year 2008. A total of $9 million has been allocated to date.
HH–60 aircraft	The Coast Guard has begun a service life extension plan and a replacement of the avionics suite.	The service life extension program is estimated to cost $16 million and be completed by Fiscal Year 2009. The avionics replacement program is projected to cost $121 million and be completed by Fiscal Year 2010. A total of $32.8 million has been allocated to date for these upgrades.
HH–65 aircraft	Serious safety and reliability problems with the engine led the Coast Guard to place operational restrictions on the HH–65 fleet in October 2003.	The Coast Guard plans to re-engine 84 HH–65 aircraft at a projected cost of $349 million, now estimated to be completed by February 2007. A total of $160.7 million has been allocated to date.

Table 4: Approved Upgrades for Deepwater Legacy Aircraft and Cutters—Continued

Deepwater asset	Synopsis of planned upgrades	Estimated costs and timeframes of upgrades
270-foot and 210-foot medium-endurance cutters	During Fiscal Year 2005 these cutters are to enter a legacy asset sustainment project known as the Mission Effectiveness Program (MEP) aimed at increasing their service lives until their replacement by a new cutter. The MEP includes upgrading major engineering subsystems such as evaporators, sewage systems, and gyrocompasses.	The MEP is projected to cost a total of $292 million and to be completed by Fiscal Year 2015. The medium-endurance cutters will ultimately be replaced by the offshore patrol cutter. A total of $12.5 million has been allocated to date.
Total		$856 million total needed to fund these projects, of which $215 million has been allocated to date.

Source: GAO analysis of data provided by the U.S. Coast Guard.

Note: While no funds have been allocated for upgrades to the HU–25 aircraft, the 378-foot cutters, or the 110-foot and 123-foot patrol boats, since all of these Deepwater legacy assets are scheduled to be replaced, each of these assets has upgrades listed in the *Systems Integrated Near Term Support Strategy* compendium. The HU–25 aircraft has an engine replacement project estimated to cost $78.1 million; the 378-foot cutter has an MEP estimated to cost $137.8 million; and the patrol boats have three projects—replacement of the fin stabilizer system that is estimated to cost $10.4 million, an MEP that is estimated to cost $162 million, and replacement of the ship service generators that is estimated to cost $20.7 million. If the Coast Guard were to request funding for all of these sustainment projects, it would cost an additional $409 million.

Among the projects already begun is the re-engining of the HH–65 helicopters to increase the helicopter's power and capabilities. The Coast Guard is also upgrading several other aviation systems in an effort to improve aircraft capabilities. Enhancements are also planned for certain classes of Deepwater cutters. For example, during this Fiscal Year, the Coast Guard is to begin a maintenance effectiveness project on the 210-foot and 270-foot cutters. This project includes replacing major engineering subsystems with the goal of extending the cutters' service lives until their replacement by the Offshore Patrol Cutter. Of the $856 million total estimated costs needed for the planned upgrades to the Deepwater legacy assets listed above, $215 million has been allocated through Fiscal Year 2005 and the Coast Guard has requested another $217.3 million in its Fiscal Year 2006 budget. The remaining estimated costs of $423.7 million would have to be funded beyond Fiscal Year 2006.

Increasing Amounts of Maintenance Are Being Performed, but Loss of Mission Capabilities Continues

Coast Guard personnel consistently reported to us that crew members have to spend increasingly more time between missions to prepare for the next deployment. For example, to prevent further corrosion-related problems, air station maintenance personnel at the locations we visited said they have instituted additional measures, such as washing and applying fluid film to the aircraft prior to each deployment. Similar accounts were told by personnel working on cutters. For example, officers of the 270-foot cutter *Northland* told us that because of dated equipment and the deteriorating condition of its piping and other subsystems, crew members have to spend increasingly more time and resources while in port to prepare for their next deployment. While we could not verify these increases in time and resources because the Coast Guard does not capture data on these additional maintenance efforts, the need for increasing amounts of maintenance was a message we consistently heard from the operations and maintenance personnel with whom we met.

Such efforts are likely helping to prevent a more rapid decline in the condition of these Deepwater legacy assets, but it is important to note that even with the increasing amounts of maintenance, these assets are still losing mission capabilities because of deteriorating equipment and system failures. For example, in Fiscal Year 2004, one 378-foot cutter lost 98 counterdrug mission days because of a number of patrol-ending casualties—including the loss of ability to raise and lower boats and run major electrical equipment—requiring $1.2 million in emergency maintenance. Another 378-foot cutter lost 27 counterdrug mission days in the Fall of 2004, when it required emergency dry-dock maintenance because of hydraulic oil leaking into the reduction gear.

New Initiative for Maintaining 378-Foot Cutters Is Under Way

One effort is under way at the Coast Guard's Pacific Area Command to improve maintenance practices for the 378-foot cutters.[12] Pacific Area Command officials have recognized that a different approach to maintaining and sustaining legacy cutters may be needed and, as a first step, they have undertaken an initiative applying what they refer to as "new business rules and strategies" to better maintain the 378-foot high-endurance cutters through 2016. Under the original Deepwater proposal, the final 378-foot cutter was to be decommissioned in 2013, but by 2005, that date had slipped to 2016. To help keep these cutters running through this date, Pacific Area Command officials are applying such rules and strategies as: (1) ensuring that operations and maintenance staffs work closely together to determine priorities, (2) recognizing that maintaining or enhancing cutter capabilities will involve trade-off determinations, and (3) accepting the proposition that with limited funding not all cutters will be fully capable to perform all types of missions. Pacific Area Command officials believe that in combination, these principles and strategies will result in more cost-effective maintenance and resource allocation decisions—recognizing that difficult decisions will still have to be made to balance maintenance and operations.

The Pacific Area Command's new initiative has the potential for assisting the Coast Guard in making more informed choices regarding the best use of their resources, but the approach will likely require that the Coast Guard allocate additional maintenance funds. In particular, the Pacific Area Commander told us that in order for the 378-foot cutters to be properly maintained until their replacements become operational; the Coast Guard will have to provide additional funding for sustaining the 378-foot cutters. So far, the Coast Guard's budget plans or requests do not address this potential need.

Coast Guard Is Developing a Strategy To Better Prioritize Upgrades and Maximize Asset Capabilities

In the past, we have recommended that the Coast Guard develop a long-term strategy to set and assess levels of mission performance.[13] We found this was an important step for the Coast Guard to take because it links mission performance levels to measurable outputs and goals so that the Coast Guard can better decide how limited budget dollars should be spent. The Coast Guard has recently begun to apply the principles behind such a strategy to (1) better prioritize the projects needed to upgrade legacy assets that will be part of the Deepwater Program and (2) obtain the greatest overall mix of capabilities for its assets within its budget in order to maximize mission performance. The tool it is developing is called the Capital Asset Management Strategy (CAMS).

CAMS, once fully implemented, is expected to help the Coast Guard to better manage its assets by linking funding decisions to asset condition. Unlike the Coast Guard's current compendium, CAMS is designed to provide analyses on the capability trade-offs for upgrades and maintenance projects across asset classes, thereby allowing the Coast Guard to determine which combination of projects will provide the most capability for the dollars invested. For example, when trying to decide among potential project upgrades such as a HC–130 weather radar replacement, an HH–65 sliding cabin door replacement, or a 110-foot patrol boat fin stabilizer replacement, CAMS, once fully implemented, could provide the program managers with a recommended mix of project upgrades that would achieve the greatest capability enhancements based on the available budget.

CAMS analyses are to be based on legacy asset condition and readiness data, asset retirement and replacement timelines, asset degradation estimates, project production rates, cost data, and mission utility rankings. Mission utility rankings will grade an asset's importance to specific missions, such as search and rescue or counterdrug operations. Rankings may also be assigned to an asset's critical subsystems, or may be altered based on an asset's geographic location. For example, a 378-foot cutter may be critical to the success of fisheries patrols in the Pacific, but may not be as important for alien/migrant interdiction operations in the Caribbean. In addition, the Coast Guard plans to rank its missions based on their relative importance.[14] Each of these elements is to form the basis for recommendations regarding which combination of upgrade and maintenance projects will provide the greatest enhancements to fleet capabilities.

CAMS recommendations are not intended to be a replacement for the budget development process, but rather are to augment the information currently provided to decision-makers and be reviewed by several internal Coast Guard officials before final funding decisions are made. Further, in order to prevent user "gaming"—making assumptions in such a way as to assure a positive recommendation or outcome

for a particular project—the Coast Guard is developing a series of job aids, manuals and training courses to ensure data consistency.

Coast Guard officials expect to have the CAMS fully implemented by September 2005 and intend to use it while developing the Coast Guard's Fiscal Year 2008 budget submission. Although it is too soon to assess the effectiveness of CAMS, we view this approach as a good faith effort toward knowledge-based budgeting for legacy asset sustainment.

Management Challenges Faced in Acquiring New Assets Remain Significant

Since the inception of the Deepwater Program, we have expressed concerns about the degree of risk in the acquisition approach and the Coast Guard's ability to manage and oversee the program. Last year, we reported that, well into the contract's second year, key components needed to manage the program and oversee the system integrator's performance had not been effectively implemented.[15] We also reported that the degree to which the program was on track could not be determined, because the Coast Guard was not updating its schedule.[16] We detailed needed improvements in a number of areas, shown in table 5. These concerns have a direct bearing on any consideration to increase the program's pace. Because the Coast Guard was having difficulty managing the Deepwater Program at the pace it had anticipated, increasing the pace by attempting to speed the acquisition would only complicate the problem.

Table 5: Summary of Deepwater Areas Needing Management Attention as Reported by GAO

Area of concern	Recommendations to the U.S. Coast Guard
Key components of management and oversight are not effectively implemented	Improve integrated product teams responsible for managing the program by providing better training, approving charters, and improving systems for sharing information between teams
	Ensure adequate staffing of the Deepwater program
	Provide field personnel with guidance and training on transitioning to new Deepwater assets
	Update the original acquisition schedule to support future budget requests, starting with the fiscal year 2006 request
Procedures for ensuring contractor accountability are inadequate	Develop measurable award fee criteria consistent with guidance from the Office of Federal Procurement Policy
	Provide for better input from technical representatives
	Hold system integrator accountable for improving effectiveness of integrated product teams
	Establish a time frame for putting steps in place to measure contractor's progress toward improving operational effectiveness
	Establish a baseline for determining whether the acquisition approach is costing the government more than a traditional asset replacement approach
	Establish criteria to determine when to adjust the project baseline and document the reasons for change
Control of future costs through competition remains at risk because of weak oversight	Develop a comprehensive plan for holding the system integrator accountable for ensuring adequate competition among suppliers
	For subcontracts over $5 million awarded by the system integrator to the two major subcontractors, require notification to the Coast Guard about decisions to perform the work in-house rather than contracting it out.

Source: Developed by GAO from our reports GAO-04-380 and GAO-04-695.

The Coast Guard agreed with nearly all of our recommendations and has made progress in implementing some of them. In most cases, however, while actions are under way, management challenges remain that are likely to take some time to fully address.

Improvement of Program Management and Contractor Oversight Is Mixed

We have seen mixed success in the Coast Guard's efforts to improve management of the program and contractor oversight. All four areas of concern—improving integrated project teams (IPT), ensuring adequate staff for the program, planning for human capital requirements for field units receiving new assets, and updating the program's schedule—have yet to be fully addressed.

Strengthening Integrated Product Teams

Although the Deepwater Program has made some efforts to improve the effectiveness of IPTs, we continue to see evidence that more improvements are needed for the teams to do their jobs effectively. These teams, the Coast Guard's primary tool for managing the program and overseeing the contractor, are generally chaired by a subcontractor representative and consist of members from subcontractors and the Coast Guard. The teams are responsible for overall program planning and management, asset integration, and overseeing delivery of specific Deepwater assets. Since our March 2004 report, the teams have been restructured, and 20 teams have charters setting forth their purpose, authority, and performance goals. And new, entry-level training is being provided to team members.

Despite this progress, however, the needed changes are not yet sufficiently in place. A recent assessment by the Coast Guard of the system integrator's performance found that roles and responsibilities in some teams continue to be unclear. Decisionmaking is to a large extent stovepiped, and some teams still lack adequate authority to make decisions within their realm of responsibility. One source of difficulty for some team members has been the fact that each of the two major subcontractors has used its own databases and processes to manage different segments of the program. Decisions on air assets are made by Lockheed Martin, while decisions regarding surface assets are made by Northrop Grumman. This approach can lessen the likelihood that a "system of systems" outcome will be achieved. Officials told us that more attention is being paid to taking a system-wide approach and that the Coast Guard has emphasized the need to ensure that the two major subcontractors integrate their management systems.

Ensuring Adequate Staffing for the Deepwater Program

The Coast Guard has taken steps to more fully staff the Deepwater Program, with mixed effects. In February 2005, the Deepwater Program executive officer approved a revised human capital plan. The plan emphasizes workforce planning, including determining needed knowledge, skills, and abilities and developing ways to leverage institutional knowledge as staff rotate out of the program. This analysis is intended to help determine what gaps exist between needed skills and existing skills and to develop a plan to bridge these gaps. The Coast Guard has also taken some short-term steps to improve Deepwater Program staffing, hiring contractors to assist with program support functions, shifting some positions from military to civilian to mitigate turnover risk, and identifying hard-to-fill positions and developing recruitment plans specifically for them. Finally, the Deepwater Program and the Coast Guard's acquisition branch have begun using an automated system for forecasting military rotation cycles, a step Deepwater officials believe will help with long-range strategic workforce planning and analysis.

Despite these actions, however, vacancies remain in the program, and some metrics that may have highlighted the need for more stability in the program's staff have been removed from the new human capital plan. As of January 2005, 244 positions were assigned to the program, but only 206 of these were filled, a 16 percent vacancy rate. A year ago, 209 staff were assigned to the program. Further, the new human capital plan removes a performance goal that measured the percentage of billets filled at any given time. Coast Guard officials acknowledged that the prior plan's goal of a 95 percent or higher fill rate was unduly optimistic and was a poor measure of the Coast Guard's ability to meet its hiring goals. For example, billets for military personnel who plan to rotate into the program in the summer are created at the beginning of the budget year, leading the metric to count those positions as vacant from the beginning of the budget year until summer. Other performance metrics that were included in the prior plan to measure progress in human capital issues have also been removed. For example, to help ensure that incoming personnel received acquisition training and on-the-job training, a billet was included in the prior plan to serve as a floating training position that replacement personnel could use for a year before the departure of military incumbents. This position was never funded, and the new plan removes the billet.

Improving Communication With Personnel Who Will Use the New Assets

The Coast Guard recognizes the critical need to inform the operators who are to use the Deepwater assets of progress in the program, and officials stated that, on the basis of our recommendations, they have made a number of improvements in this area. A November 2004 analysis of the Deepwater Program's communication process, conducted in coordination with the National Graduate School, found that the communication and feedback processes were inadequate. Emphasis has now been placed on outreach to field personnel, with a multi-pronged approach involving customer surveys, face-to-face meetings, and presentations. We have not yet evaluated the effectiveness of the new approach.

Human capital requirements for the Deepwater Program—such as crew numbers and schedules, training, and support personnel—will have an increasing impact on the program's ability to meet its goals as the pace at which assets are delivered to field units picks up. Recent assessments by Coast Guard performance monitors show this to be an area of concern.[17] Coast Guard officials have expressed concern about whether the system integrator is appropriately considering human capital in systems engineering decisions. The system integrator is required to develop a workforce management plan for Deepwater, as well as "human factors engineering" plans for each Deepwater asset and for the overall system of systems. The Coast Guard rejected the contractor's workforce management plan and several of the proposed human factors engineering plans as being inadequate. The rejections were due, in part, to the lack of an established and integrated system-level engineering approach that shows how issues relating to human capabilities and limitations of actually performing with the system will be approached. One performance monitor noted that, as of late 2004, requirements for staffing and training of maintenance facilities and organizations had yet to be determined. According to the Coast Guard, emphasis on a contractor's approach to addressing human capital considerations is necessary to ensure that Deepwater goals are met, especially as they pertain to operational effectiveness and total ownership cost.

Updating the Acquisition Schedule

The Coast Guard has recently undertaken efforts to update the original 2002 Deepwater acquisition schedule—an action that we suggested in our June 2004 report.[18] The original schedule had milestone dates showing when work on an asset would begin and when delivery would be expected, as well as the integrated schedules of critical linkages between assets, but we found that the Coast Guard was not maintaining an updated and integrated version of the schedule.[19] As a result, the Coast Guard could not demonstrate whether individual components and assets were being integrated and delivered on schedule and in critical sequence. As recently as October 2004, Deepwater performance monitors likewise expressed concern that the Coast Guard lacked adequate visibility into the program's status and that lack of visibility into the schedules for component-level items prevented reliable forecasting and risk analysis. The Coast Guard has since taken steps to update the outdated schedule and has indicated that it plans to continue to update the schedule each month for internal management purposes and semiannually to support its budget planning efforts. We think this is an important step toward improving the Coast Guard's management of the program because it provides a more tangible picture of progress as well as a baseline for holding contractors accountable. We will continue to work closely with the Coast Guard to ensure progress is made and to monitor how risks are mitigated.

Procedures for Ensuring System Integrator Accountability Are More Rigorous, but Concerns Remain

We have seen progress in terms of the rigor with which the Coast Guard is periodically assessing the system integrator's performance, but concerns remain about the broader issues of accountability for achieving the overarching goals of minimizing total ownership costs and maximizing operational effectiveness.

Improving Criteria for Assessing Performance

Improvements continue to be made to the criteria for assessing the system integrator's performance. In March 2004, we reported that the process for assessing performance against specific contract tasks lacked rigor. The criteria for doing so have since been revised to more clearly reflect those that are objective, (that is, measured through automated tools against established metrics), and those that are subjective, meaning the narrative comments by Coast Guard performance monitors. Weights have been assigned to each set of evaluation factors, and the Coast Guard continues to refine the distribution of the weights to reach an appropriate balance between automated results and the eyewitness observations of the performance monitors.

Coast Guard officials told us that they have also provided additional guidance and training to performance monitors. We found that efforts have been made to improve the consistency of the format used for their input in assessments of the system integrator's performance. Coast Guard officials said that they are continuing to make improvements to ensure that performance monitors' relevant observations are appropriately considered in making award fee determinations.

It is important to note that although performance monitor comments are considered subjective, they are valuable inputs to assessing the system integrator's performance, particularly when they are tied to measurable outcomes. It will be necessary for the Coast Guard to continue refining the award fee factors as the program progresses. In some cases, we noted that the performance monitors' assessments differed vastly from the results of automated, data-driven assessments. For example, while schedule management is discussed in the Coast Guard's most recent assessment of the system integrator's performance as a major area of challenge and risk, the objective measure showed 100 percent compliance in this area. Another metric assesses the extent to which integrated product teams consider the impact of their decisions on the overall cost and effectiveness of the Deepwater Program. Performance monitors reported that because system-level guidance had not been provided to the teams responsible for specific assets, they had a limited ability to see the whole picture and understand the impact of decisions on total ownership costs and operational effectiveness. However, the automated measure was again 100 percent compliance. Coast Guard officials said that, in some cases, the data-driven metrics do not accurately reflect the contractor's performance. For the next award fee assessment, Deepwater officials plan to revise the metrics and place more weight on the performance monitors' input, while ensuring that it is based on measurable outcomes.

Holding the System Integrator Accountable for Effectiveness of Project Teams

Changes have been made to the award fee metrics that place additional emphasis on the system integrator's responsibility for making integrated project teams effective. Award fee criteria now incorporate specific aspects of how the integrator is managing the program, including administration, management commitment, collaboration, training, and empowerment of these teams. However, as discussed above, concerns remain about whether the teams are effectively accomplishing their goals.

Evaluation of Operational Effectiveness and Total Ownership Cost

While the Coast Guard has developed models to measure the system integrator's performance in operational effectiveness and total ownership costs, concrete results have not yet emerged. Minimizing total ownership costs and maximizing operational effectiveness are two of the overarching goals of the Deepwater Program. The system integrator's performance in these two areas will be a critical piece of information when the Coast Guard makes a decision about whether to award the contractor the first contract option period of 5 years. Initial decisionmaking is to start next year.

With regard to the operational effectiveness of the program, measuring the system integrator's impact has yielded limited results to date because few of the new assets are operational. The Coast Guard has developed modeling capabilities to simulate the effect of the new capabilities on its ability to meet its missions. However, until additional assets become operational, progress toward this goal will be difficult to determine.

With regard to total ownership costs, the Coast Guard does not plan to implement our recommendation. It has not adhered to its original plan, set forth in the Deepwater Program management plan, of establishing as its baseline, a cost not to exceed the dollar value of replacing the assets under a traditional approach (*e.g.,* on an asset-by-asset basis rather than a system-of-systems approach). Although a cost baseline consistent with the program management plan's approach was initially established, this number has not been re-baselined, as has the system integrator's cost estimate baseline, and is not being used to evaluate the contractor's progress in holding total ownership costs down. In practice, the baseline being used to measure total ownership cost is the system integrator's own cost estimate. As we reported in March 2004, we believe that measuring the system integrator's cost growth compared with its own cost proposal will tell the government nothing about whether it is gaining efficiencies by turning to the system of systems concept.

Establishing Criteria and Documenting Changes to the Baseline

Coast Guard officials stated that the contract total ownership cost and operational effectiveness baseline is adjusted based on approved decision memorandums from the Agency Acquisition Executive, the Vice Commandant of the Coast Guard.

Coast Guard Has Taken Steps To Hold the System Integrator Accountable for Competition

The Coast Guard reported taking steps to address our recommendations concerning cost control through competition. Our recommendations pertained to competition among second-tier suppliers and notification of "make" decisions.[20]

- *Competition among second-tier suppliers.* Coast Guard officials told us that in making the decision about whether to award the first contract option, the government will specifically examine the system integrator's ability to control costs by assessing the degree to which competition is fostered at the major subcontractor level. The evaluation will consider the subcontractors' project management structure and processes to control costs, as well as how market surveys of similar assets and major subsystems are implemented. The Coast Guard is focusing its attention on those areas that were priced after the initial competition for the Deepwater contract was completed, such as the HH–65 re-engining and the C–130J missionization.[21] For example, a new process implemented for the C–130J missionization was a requirement for competition in subcontracting and government approval of all subcontracts exceeding $2 million in order for the Coast Guard to monitor the integrator's competition efforts.
- *Notification of make decisions.* According to the Federal Acquisition Regulation, the prime contractor is responsible for managing contract performance, including planning, placing, and administering subcontracts as necessary to ensure the lowest overall cost and technical risk to the government. When "make-or-buy programs" are required, the government may reserve the right to review and agree on the contractor's make-or-buy program when necessary to ensure negotiation of reasonable contract prices, among other things. We recommended that the Coast Guard be notified of make decisions over $5 million in order to facilitate controlling costs through competition. We suggested the $5 million threshold because Lockheed Martin, one of the major subcontractors, considers that amount to be the threshold for considering its suppliers major. The Coast Guard has asked the system integrator, on a voluntary basis, to provide notification 1 week in advance of a make decision of $10 million or more based on the criteria in the Federal Acquisition Regulation.[22] According to Coast Guard officials, to date, no make decision has exceeded $10 million since the request was made. The details implementing this recommendation have not yet been worked out, such as specifically who in the Coast Guard will monitor the subcontractors' make decisions to ensure that the voluntary agreement is complied with.

Concluding Observations

Our work to date suggests the costly and important Deepwater Program will need constant monitoring and management attention to successfully accomplish its goals. In this respect, we identified three points that should be kept in mind in considering how to proceed with the program.

- First, the need to replace or upgrade deteriorating legacy assets is considerable. While the Coast Guard is making progress on developing (1) measures that better demonstrate how the deteriorating condition of the legacy assets impact on mission capabilities and (2) a strategy to better prioritize upgrades and maximize capabilities, it is clear that the Deepwater legacy assets are insufficient for meeting all of the Coast Guard's missions.
- Second, although the need to replace and upgrade assets is strong, there still are major risks in the Coast Guard's acquisition approach. The cost increases and schedule slippages that have already occurred are warning signs. We will continue to work with the Coast Guard to determine how best to manage these risks so that the Deepwater missions can be accomplished in the most cost-effective way.
- Third, there are signs that as the Deepwater Program moves ahead, the Coast Guard will continue to report more problems with sustaining existing assets, together with the attendant need for additional infusions of funding to deal with them. Some of these problems, such as those on the 378-foot cutters, are included in the compendium the Coast Guard uses to set sustainment priorities and plan budgets, but the Coast Guard has not allocated funds because the problems pertain to assets that are among the first to be replaced. However, projects to address these problems are nevertheless likely to be needed. We will continue to work with the Coast Guard to determine if there is a more systematic and comprehensive approach to keeping the Congress abreast of the potential bill for sustaining these assets.

Mr. Chairman and members of the Subcommittee, this completes my prepared statement. I would be happy to respond to any questions that you or other Members of the Subcommittee may have at this time.

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ENDNOTES

[1] For purposes of this testimony, we use the term "legacy assets" to refer to the existing fleet of Deepwater aircraft and cutters. These legacy assets include the HC–130H, HU–25, HH–60, and HH–65 aircraft and the 378-foot high-endurance cutters, the 210-foot and 270-foot medium-endurance cutters, and the 110-foot and 123-foot patrol boats. We did not include the 213-foot ACUSHNET, the 230-foot STORIS, or the 282-foot ALEX HALEY, as part of our analyses of the Deepwater legacy assets because they are one-of-a-kind vessels.

[2] Intermediate-level and depot-level maintenance include repairs and upgrades that are too time-consuming or complicated to be performed at the unit level. For aircraft, this would include repairing, overhauling, or rebuilding parts, components, and end items and emergency manufacturing of unavailable parts. For cutters, intermediate- and depot-level maintenance would include preventive or corrective maintenance, as well as a major overhaul or complete rebuild of parts, assemblies, and end items; as well as major hull repairs, general modifications, and testing.

[3] To assess the reliability of the Coast Guard's data and condition measures, we questioned knowledgeable officials and reviewed existing documentation about the data and the systems that produced the data. We determined that the data were sufficiently reliable for the purposes of this testimony.

[4] In assessing the condition of Deepwater aircraft and cutters for this testimony, we analyzed what Coast Guard officials told us were the best available condition measures. For Deepwater aircraft, we reviewed the availability index (percentage of time aircraft were available to complete missions), cost per flight hour, labor hours per flight hour, programmed flight hours per year, scheduled versus unscheduled maintenance expenditures, and estimated deferred maintenance. For cutters, we reviewed the number of major casualties, the percent of time free of major casualties, scheduled versus unscheduled maintenance, and estimated deferred maintenance. We also reviewed data on mishaps and the dispatch reliability index for aircraft, and lost cutter days and unscheduled maintenance days for cutters. We did not use data on these measures, though, because the data were either not relevant to our analysis, incomplete, not available for the entire time period covered by our review, or not sufficiently reliable for our purposes.

[5] GAO, *Contract Management: Coast Guard's Deepwater Program Needs Increased Attention to Management and Contractor Oversight,* GAO–04–380 (Washington, D.C.: March 9, 2004).

[6] For purposes of this testimony, we use the term "systems" to include all the electrical; mechanical; heating, ventilation, and air conditioning; and other systems on the Deepwater assets.

[7] Current plans call for the Coast Guard to replace all of its Deepwater legacy cutters and patrol boats, beginning with the 378-foot cutters. The Coast Guard also plans to replace the HU–25 aircraft, but will upgrade the existing HC–130 aircraft and HH–60 and HH–65 helicopters to extend their service lives.

[8] The mission requirements include such things as the ability to (1) respond to 90 percent of all distress incidents within 2 hours; (2) detect and track targets of any material such that the probability of detection is at least 90 percent for small targets, such as a person in the water or a single-engine civil aircraft; and (3) respond to National Emergency Response Operations within 48 hours.

[9] See GAO, *Coast Guard: Deepwater Program Acquisition Schedule Update Needed,* GAO–04–695 (Washington, D.C.: June 14, 2004); *Coast Guard: Key Management and Budget Challenges for Fiscal Year 2005 and Beyond,* GAO–04–636T (Washington, D.C.: April 7, 2004); and GAO–04–380.

[10] A casualty is a deficiency in mission-essential equipment; a major casualty causes the major degradation or loss of at least one primary mission.

[11] However, major casualties for the 378-foot high-endurance cutters continued to increase in 2004.

[12] The Pacific Area Command is responsible for operations covering 74 million square miles, ranging from South America, north to the Arctic Circle and west to the Far East.

[13] GAO, *Coast Guard: Comprehensive Blueprint Needed to Balance and Monitor Resource Use and Measure;* GAO, *Coast Guard: Strategy Needed for Setting and Monitoring Levels of Effort for All Missions* (GAO–03–155, Washington, D.C.: November 12, 2002).

[14] A mission's relative importance will be determined by Coast Guard operational decisionmakers. These determinations will not be static, but rather will be reviewed and revised to reflect changing priorities.

[15] GAO–04–380.

[16] GAO–04–695.

[17] Performance monitors are contracting officers' technical representatives, who represent the contracting officer in monitoring the contractor's performance.

[18] GAO–04–695.

[19] Not maintaining a current and integrated schedule lessens the Coast Guard's ability to monitor the system integrator's performance and take early action to resolve risks that could become problems later. Maintaining such a schedule is an industry best practice; the Department of Defense is required to do so in order to be able to report any breaches in cost, schedule, or performance targets.

[20] A "make item" means an item or work effort to be produced or performed by the prime contractor or its affiliates, subsidiaries, or divisions.

[21] The C–130J missionization, planned for the Coast Guard's six C–130J aircraft, is intended to modify and install mission-essential equipment to convert the aircraft into C–130J long-range surveillance maritime patrol aircraft.

[22] Federal Acquisition Regulation § 15.407–2, "Make or Buy Programs."

Senator SNOWE. Thank you very much, Ms. Wrightson.

Mr. O'Rourke? Thank you.

STATEMENT OF RONALD O'ROURKE, SPECIALIST IN NATIONAL DEFENSE, CONGRESSIONAL RESEARCH SERVICE

Mr. O'ROURKE. Madam Chair, distinguished Members of the Subcommittee, it's an honor to be here today to talk about the Deepwater Program.

The Coast Guard believes the revised Deepwater force is the highest-performing force that can be acquired for $19 to $24 billion, and that it would generate much more performance than the baseline force. The Coast Guard also states, however, that the revised force might not have enough capacity to perform certain operations that might be of interest to policymakers. Specifically, the revised force might not have enough capacity to perform certain Level 2 operations, which include achieving an increased degree of maritime domain awareness and maintaining two cutters in the Bering Sea. The revised force almost certainly would not have enough capacity to perform certain Level 3 operations, which include operations for fully achieving long-term FY 05–FY 09 Government Performance and Results Act goals. And the revised force wouldn't have enough capacity to perform what can be called Level 4 operations, which include certain fisheries enforcement and counterdrug operations.

Potential oversight questions include the following:

First, Why was the revised force optimized within a cost of $19 to $24 billion?

Second, Why wasn't it, instead, optimized to fully meet the long-term GPRA goals at lowest cost?

Third, What are the potential operational risks of not having enough capacity for doing things like achieving a Level 2 degree of maritime-domain awareness, or maintaining two cutters in the Bering Sea, or fully meeting the long-term GPRA goals?

And, fourth, What would be the composition and cost of an optimized force that could perform all operations up through Level 2, or Level 3, or Level 4?

Supporters of the two shipyards that build the Navy's larger surface combatants are concerned there might not be enough work over the next several years to adequately support both of them. Accelerating procurement of Deepwater cutters could help support these yards while reducing total Deepwater acquisition costs. Accelerating procurement of these cutters might not increase the Coast Guard's Deepwater management burdens, and might actually reduce them, as long as design work is completed before procurement is accelerated. Procuring four or five large and medium Deepwater cutters per year, rather than the currently planned one to three cutters per year, could provide about as much shipyard work as procuring one of the Navy's planned DD(X) destroyers per year.

Some DOD officials have recently said that the Navy's new Littoral Combat Ship, or LCS, might be suitable, not just for its originally stated missions, but for homeland defense operations that Deepwater cutters, in some cases, might also be capable of performing. Although the revised Deepwater plan does not substantially increase the planned number of cutters, the Navy, this year, has substantially increased the planned number of LCSs.

This raises a question about whether the Coast Guard and Navy have a common view on the division of responsibilities for conducting ship-based homeland defense and homeland security operations, and whether the two services have adequately coordinated the numerical requirements for the two groups of ships.

Until April 29 of this year, Deepwater cost and schedule information available to Congress appears to have been much less detailed than information made available to Congress in February or March of each year on comparable Defense acquisition programs. The Congressional defense committees considered not just the delivery, but the timely delivery, early in the budget review season, of detailed cost and schedule information, as necessary for ensuring adequate program oversight.

This raises a question of whether the Coast Guard should be more explicitly required to provide Congress, in February or March, rather than late April or late May, with the same kind of detailed cost and schedule information that DOD provides to Congress in February or March on its major acquisition programs.

Last, the Deepwater Program and the Army's Future Combat System, or FCS Program, are both large system-of-systems acquisition programs for acquiring multiple types of equipment that are to operate in a networked environment. And both programs are being executed for the government by an industry entity acting as lead integrator. This approach appears to be a first for both services. Due partly to concerns over this approach, the Army program has been a recent focus of Congressional oversight, and the Army recently restructured the business aspects of the FCS program to strengthen the Army's arrangements for managing it.

The broad similarities in the Deepwater and FCS acquisitions strategies raise potential oversight questions regarding how the Coast Guard's arrangements for managing the Deepwater Program compare to the Army's arrangements for managing the FCS Program, and whether the two services have instituted a process for sharing ideas on how to better manage the two programs.

Madam Chair, this concludes my opening statement, and I'll be pleased to respond to any questions the Subcommittee might have.

[The prepared statement of Mr. O'Rourke follows:]

PREPARED STATEMENT OF RONALD O'ROURKE, SPECIALIST IN NATIONAL DEFENSE, CONGRESSIONAL RESEARCH SERVICE

Madam Chair, Senator Cantwell, distinguished members of the Subcommittee, thank you for the opportunity to appear before you to discuss issues relating to the Coast Guard's revised Deepwater Implementation Plan. My testimony will focus on the following:

- the level of overall mission performance that would be achieved under the revised implementation plan;
- the option of accelerating and possibly expanding procurement of Deepwater National Security Cutters (NSCs) and Offshore Patrol Cutters (OPCs);
- the relationship between Deepwater cutters and the Navy's planned Littoral Combat Ship (LCS) for homeland security/homeland defense operations;
- the timeliness of delivery to Congress of detailed Deepwater cost and schedule information, and potential implications for Congressional oversight of the Deepwater Program; and
- the acquisition strategy for the Deepwater Program and potential implications for government management of the program.

Mission Performance Under Revised Implementation Plan [1]

Deepwater Capability and Capacity Levels

In discussing the revised Deepwater Implementation Plan, the Coast Guard uses "capability" to refer to the kinds of tasks that individual Deepwater platforms (ships and aircraft) will be equipped to perform, and "capacity" to refer to the numbers of platforms that will be available for performing these tasks. The Deepwater force's overall mission performance, the Coast Guard says, will be a product of its capability and capacity. Differing combinations of capability and capacity, the Coast Guard says, would result in differing levels of overall mission performance.

The Coast Guard has identified the following Deepwater capability and capacity levels.

Capability Levels

- *Baseline* (or Increment 0), which is the capability of platforms as proposed under the original Deepwater plan;
- *Increment I,* the lowest-cost addition to the baseline, which the Coast Guard describes as the minimal additional capabilities needed to begin aligning the Deepwater platforms with Department of Homeland Security (DHS) goals;
- *Increment II,* the middle-cost addition to the baseline, which the Coast Guard describes as adding a larger amount of homeland security-related capabilities to a larger fraction of the platforms; and
- *Increment III,* the highest-cost addition to the baseline, which the Coast Guard describes as the changes that would fully align Deepwater platforms with DHS goals, but would still not meet the new Deepwater Program System Performance Specifications (SPS v2.0).

Capacity Levels

- *Baseline* (or Level 0), which the Coast Guard describes as the force levels sufficient to perform Coast Guard missions at 1998 (*i.e.,* pre-Deepwater) levels;
- *Level 1,* which the Coast Guard describes as the Baseline plus additional forces for performing the additional port, waterways, and coastal security operations that were added after 9/11;
- *Level 2,* which the Coast Guard describes as Level 1 plus additional forces for:
  - —achieving an increased degree of maritime domain awareness (MDA);
  - —maintaining continuous presence of two cutters (*i.e.,* 2.0 presence) in the Bering Sea; and
  - —performing additional air interdiction operations; [2]
- *Level 3,* which the Coast Guard describes as Level 2 plus additional forces for achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals; and

- *Level 4,* which the Coast Guard describes as Level 3 plus additional forces for:
  - —conducting fisheries enforcement in certain areas where fisheries enforcement is not currently performed; and
  - —performing additional counter-drug operations, should the Department of Defense (DOD) reduce its efforts in this area so as to make DOD resources available for other DOD missions.[3]

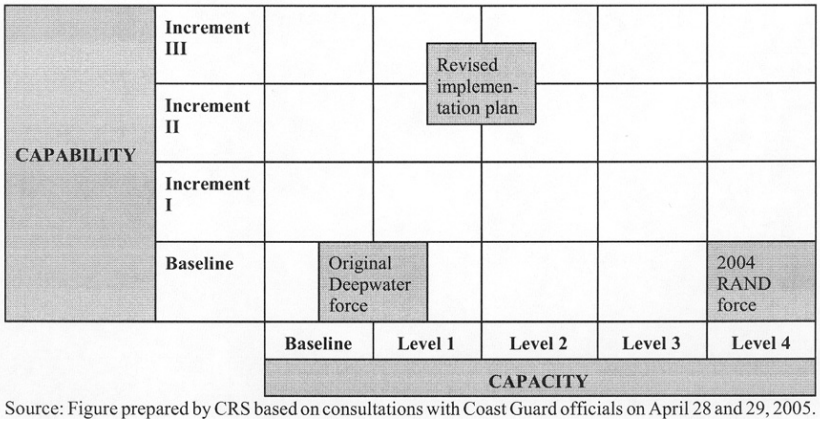
Level 4, the Coast Guard says, is the level that RAND used in its 2004 report on the Deepwater Program. The RAND report calculated force levels that would be required for fully performing both traditional Deepwater missions and emerging (*i.e.,* post-9/11) Deepwater responsibilities.[4]

Force Recommended Under Revised Implementation Plan

Figure 1 below, which was created by CRS on the basis of consultations with the Coast Guard, depicts in graphic form the Coast Guard's view of the combinations of capability and capacity recommended under the revised implementation plan, under the originally planned Deepwater force, and in the 2004 RAND report.

As can be seen in the figure, the Coast Guard states that the force recommended under the revised implementation plan falls between Increments 2 and 3 in terms of capability, and between Levels 1 and 2 in terms of capacity. In comparison, the Coast Guard states, the originally planned Deepwater force and the force recommended in the 2004 RAND report used platforms with baseline-level capabilities. In terms of capacity, the originally planned Deepwater force was between Baseline and Level 1, the Coast Guard states, while the force in the force in the 2004 RAND report was at Level 4.

Figure 1. Deepwater Capability and Capacity



Source: Figure prepared by CRS based on consultations with Coast Guard officials on April 28 and 29, 2005.

While the number of platforms in the revised implementation plan is not obviously higher than the number in the originally planned Deepwater force, the Coast Guard believes that the value of networking, superior knowledge, and better tools (*i.e.,* equipment) on the platforms will permit the revised Deepwater force to achieve a higher level of capacity per platform than the originally planned Deepwater force. In this sense, the Coast Guard's revised implementation plan is implicitly arguing, in a reversal of the old force-planning aphorism, that "quality has a quantity all its own."

A Force Optimized Within a Certain Resource Level

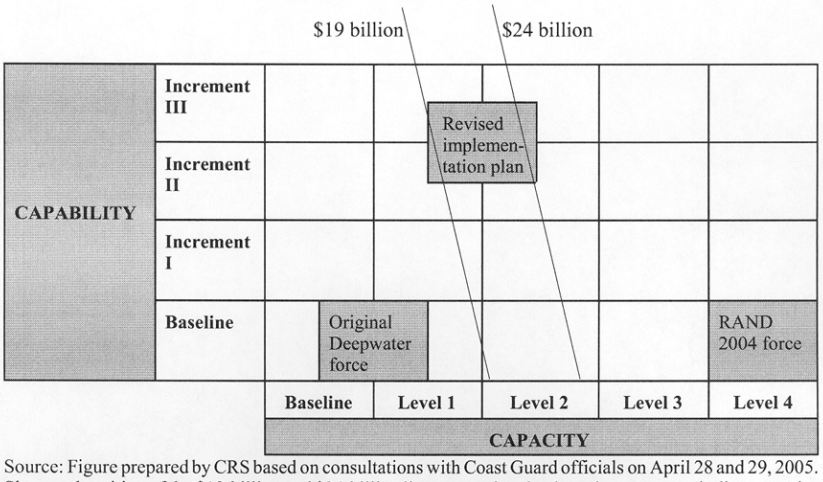
The Coast Guard believes that the force recommended under the revised implementation plan represents the highest-performing combination of capability and capacity with a total acquisition cost of $19 billion to $24 billion. The recommended force, in other words, can be viewed as one that the Coast Guard believes has been optimized for overall mission performance within a total acquisition resource level of $19 billion to $24 billion.

As shown by the sloped lines in *Figure 2* below, Deepwater forces consisting of other combinations of capability and capacity could be acquired for a total acquisition cost of $19 billion to $24 billion. The slope of the lines in the figure is notional and is intended only to illustrate the general principle that, within a certain total acquisition cost, capability and capacity can be traded against one another. The

Coast Guard believes, based on its analysis, that other capability-capacity combinations lying along these lines would result lower levels of overall mission performance than its recommended force.

Forces with total acquisition costs lower or higher than $19 billion to $24 billion would lie along sloped lines that would be shifted to the left and right, respectively, of the lines in Figure 2.

Figure 2. Deepwater Capability and Capacity
(sloped lines notionally illustrate capability-capacity tradeoffs within $19 billion-$24 billion total acquisition cost; Coast Guard believes its recommended force would be the highest-performing force lying along these lines)



Source: Figure prepared by CRS based on consultations with Coast Guard officials on April 28 and 29, 2005. Slope and position of the $19-billion and $24-billion lines are notional only and not meant to indicate precise tradeoffs.

Performance of the Revised Force

Although the Coast Guard states that the Deepwater force recommended under the revised implementation plan would generate much more overall mission performance than the originally planned force, and would be able to meet certain DHS and Coast Guard long-range performance goals, the Coast Guard also stated to CRS that the revised Deepwater force:

- might not have enough capacity for performing certain operations included in Level 2;
- almost certainly would not have enough capacity for performing certain operations included in Level 3, which includes operations for fully achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals; and
- would not have enough capacity for performing certain operations included in Level 4.

Potential Oversight Questions for Congress

Potential oversight questions for Congress arising out of this discussion include the following:

- Why was a range of $19 billion to $24 billion, rather than some lower or higher figure, used as the acquisition cost range within which to optimize the revised Deepwater force?
- Rather than optimizing the force to achieve the highest possible performance within an acquisition cost of $19 billion to $24 billion, why was the force not optimized to fully meet the long-term (FY 2005–FY 2009) GPRA goals at the lowest cost?

- What are the potential operational risks of not having enough capacity for certain operations included in Levels 2, 3, and 4? What are the operational potential risks, in other words, of not having enough capacity to:
  —achieve a Level 2 degree of maritime domain awareness?
  —maintain a 2.0 cutter presence in the Bering Sea?
  —conduct Level 2 air interdiction operations not conducted by other agencies?
  —conduct Level 3 operations needed to fully meet the long-term (FY 2005–FY 2009) GPRA goals?
  —conduct Level 4 fisheries enforcement and counter-drug operations?
- What would be the most cost-effective combination of capability and capacity that could perform all Level 2 operations (or all Level 3 operations, or all Level 4 operations)? What would be the composition of this force in terms of platform types, platform numbers, and platform features? What would be the acquisition cost of this force?

Accelerating and Possibly Expanding NSC/OPC Procurement

Congressional Interest

There has been interest in Congress since 2002 in the idea of accelerating Deepwater procurement so as to compress the program's acquisition period from 20 or more years to as little as 10 years.[5] Supporters of accelerating Deepwater procurement argue that it would reduce total Deepwater acquisition costs and more rapidly increase Coast Guard capabilities toward post-9/11 requirements.

Surface Combatant Industrial Base

As discussed in CRS reports on the Deepwater Program and Navy ship-acquisition programs, accelerating procurement of Deepwater National Security Cutters (NSCs) and Offshore Patrol Cutters (OPCs) could help support the two shipyards that have built the Navy's larger surface combatants in recent years—General Dynamics' Bath Iron Works (GD/BIW) of Bath, ME, and Northrop Grumman's Ingalls Shipyard of Pascagoula, MS, which forms part of Northrop Grumman Ship Systems (NGSS).[6]

GD/BIW and Ingalls currently face some uncertainties regarding the amount of Navy surface combatant construction work they will receive over the next several years. The FY 2006–FY 2011 Future Years Defense Plan (FYDP) reduces planned DD(X) destroyer procurement to one per year in FY 2007–FY 2011. In addition, the Navy is interested in changing the shipyard portion of the acquisition strategy for the DD(X) program.[7] Estimated DD(X) procurement costs, moreover, have recently increased significantly, raising questions about the DD(X) program's prospective affordability and cost effectiveness. These developments have heightened concerns among supporters of GD/BIW and Ingalls regarding the futures of the two yards.

Potential Annual Rates and Total Procurement Quantities

Ship deliveries as shown in the revised Deepwater Implementation Plan suggest that the plan would procure National Security Cutters (NSCs) at a rate of one per year over the next few years, and Offshore Patrol Cutters (OPCs) at a rate of one per year starting a few years from now, growing to two or three per year a few years after that. It appears that a combined NSC–OPC procurement rate of three ships per year is reached around the end of this decade or early in the next decade, depending on which funding plan is pursued, and that in almost all cases, the three ships procured each year are all OPCs.

Although the shipyard skill mix for building NSCs and OPCs is somewhat different from the shipyard skill mix for building DD(X)s, based on their light-ship displacements, procuring a total of four or five NSCs and OPCs per year might provide about as much total shipyard work as procuring one DD(X) per year. The Coast Guard currently estimates that, in FY 2002 dollars, NSCs will cost about $277 million each to procure (or somewhat more if the design is expanded to include certain additional equipment), and that OPCs would cost an average of about $200 million each to procure. The Navy currently estimates that in FY 2002 dollars, follow-on DD(X)s would cost roughly $2.1 billion each to procure. Using these figures, procuring four or five NSCs and OPCs per year would cost roughly half as much as procuring one DD(X) per year.

If the scope of the Deepwater Program is expanded to include a higher level of capacity, the total number of NSCs and OPCs might increase. The 2004 RAND report recommended a Deepwater Force with Level 4 capacity that included, among other things, 44 NSCs and 46 OPCs. As shown earlier in *Figure 1,* however, the RAND analysis used Deepwater platforms equipped with a Baseline-level of capability. The force levels recommended under the Coast Guard's revised implementa-

tion plan suggest that, if Deepwater platforms are equipped with a level of capability equivalent to Increment II or III, then a Deepwater force with Level 4 capacity might include substantially fewer than 44 NSCs and 46 OPCs, and that a Level 3 or Level 2 force would include even smaller numbers.

Even so, an optimized Deepwater force with increased unit capability and Level 3 or –4 capacity would likely include more than the total of 31 to 33 larger cutters (6 to 8 NSCs and 25 OPCs) that are included in the revised implementation plan. Since differences in recommended ship numbers between the revised plan and the 2004 RAND report are more dramatic for NSCs than they are for OPCs, increasing the Deepwater Program to an optimized force with Level 3 or Level 4 capacity might increase the number of NSCs more dramatically than the number of OPCs. An optimized Deepwater force with increased unit capability and Level 2 capacity might include slightly more than 31 to 33 cutters.

Management Burden of Cutter Acceleration

Accelerating the entire Deepwater Program could increase the Coast Guard's burden in managing the large and complex Deepwater Program, and thereby increase program risk. Accelerating procurement of NSCs and OPCs only, however, might not materially increase the Coast Guard's management burden—provided that design work on each class of cutter was completed before procurement of that class was accelerated—because NSCs and OPCs are to incorporate proven rather than developmental systems and because the Coast Guard already plans to overlap procurement of the two classes.

Indeed, accelerating NSC and OPC procurement might actually reduce the Coast Guard's Deepwater management burden by eliminating more quickly the management challenges associated with maintaining legacy cutters, and by shortening the period during which the Coast Guard would have to manage NSC and OPC procurement.

Summary of Potential Advantages and Disadvantages

Potential Advantages. Potential advantages of accelerating and possibly expanding procurement of NSCs and OPCs include the following:

- reducing NSC and OPC unit procurement costs by achieving better production economies of scale (*i.e.,* more economic rates of production);
- more quickly replacing the high operation and support (O&S) costs of legacy cutters with the lower O&S costs of new cutters;
- more quickly increasing the Coast Guard's capabilities toward post-9/11 requirements;
- more quickly eliminating the management burdens associated with maintaining legacy cutters and supervising procurement of the new cutters; and
- providing additional work for GD/BIW and Ingalls during a period of uncertain Navy surface combatant construction work.

Potential Disadvantages. Potential disadvantages of accelerating and possibly expanding procurement of NSCs and OPCs include the following:

- increased annual funding requirements for the next several years for procurement of NSCs and OPCs, which could require, in a situation of constrained funding, offsetting reductions in annual funding for procurement of other Deepwater assets, other Coast Guard priorities, or other DHS priorities;
- a shorter procurement time period to learn about better technologies and incorporate them into cutters that have not yet been built;
- increased shipyard (as opposed to Coast Guard) management burdens associated with supervising a larger number of workers involved in building NSCs and OPCs;
- increased Coast Guard management burdens associated with training crews for the new cutters; and
- a more compressed cutter retirement period (*i.e.,* bloc obsolescence) years from now, when the new Deepwater cutters reach the ends of their service lives, possibly requiring a similarly compressed procurement period at that point to replace the retiring ships.

Navy LCSs vs. Coast Guard Cutters for Homeland Defense

The Littoral Combat Ship (LCS) is a planned new Navy surface combatant. The Navy announced the start of the LCS program in November 2001 as part of a larger restructuring of its surface combatant acquisition efforts. The LCS is to be a small,

fast ship that would use modular "plug-and-fight" mission payload packages, including unmanned vehicles (UVs).

The LCS, with a full load displacement of 2,500 to 3,000 tons, is to be close in size to the 3,200-ton OPC. Navy officials in the early stages of the LCS program said that the LCS might prove suitable as the basis for the OPC design, but the Coast Guard did not adopt this approach, apparently in part because of the LCS's cost. The Navy wants each LCS to cost no more than $220 million to procure, exclusive of its modular mission packages, while the OPC, as mentioned earlier, is to cost an average of about $200 million, including all of its built-in mission equipment.

The Navy's primary intended missions for the LCS are countering enemy mines, submarines, and fast attack craft (*i.e.,* "swarm boats") in heavily contested littoral (near-shore) waters. Secondary LCS missions, also to be performed in littoral waters, include intelligence, surveillance, and reconnaissance (ISR); maritime intercept; special operations forces (SOF) support; and logistics support for movement of personnel and supplies.

In recent months, some DOD and Navy officials have stated that the LCS might also be suitable for homeland defense operations.[8] Such missions, however, might also be performed by NSCs, OPCs, and other Deepwater assets.

Navy officials earlier spoke about building a total of perhaps 30 to 60 LCSs. A March 2005 report to the Congressional defense committees on potential future Navy force levels, however, shows a potential total force level of 63 to 82 LCSs.[9] The Chief of Naval Operations has spoken of the possibility of building a total of 75 to 100 LCSs.[10]

Navy statements about the LCS's possible suitability for homeland defense, and the recent apparent increase in the Navy's planned number of LCSs, raise several potential oversight questions for Congress, including the following:

- Do the Coast Guard and Navy have a common view on the division of responsibilities between Navy LCSs and Coast Guard NSCs, OPCs, and other Deepwater assets for performing homeland defense and homeland security missions? Have the two services adequately coordinated their plans for procuring assets that can perform homeland defense and homeland security missions, consistent with the Navy-Coast Guard National Fleet policy statement? [11]
- Does the Coast Guard believe that the LCS would be better than NSCs, OPCs, or other Deepwater assets for performing certain homeland defense and homeland security missions? If so, which ones, and why? If the Coast Guard believes the LCS would be better for performing these missions, should the revised Deepwater plan be amended to include the procurement of LCSs for the Coast Guard?
- Was the Coast Guard's revised Deepwater Implementation Plan influenced by an awareness that the Navy might be interested in using the LCS for homeland defense missions, and if so, in what way was the plan influenced?
- What role, if any, did the homeland defense mission play in the Navy's decision to increase the planned procurement quantity of LCSs from a range of 30 to 60, to a range of 63 to 82 (or possibly 75 to 100)?

Timeliness of Detailed Cost and Schedule Information

The Deepwater Program is comparable in terms of total acquisition cost, complexity, and lengthy period of acquisition to major DOD acquisition programs. Until the submission to Congress on April 29, 2005, of the Deepwater supplement to the Coast Guard's FY 2006 budget,[12] however, information available to Congress on the cost and procurement schedule of the Deepwater Program, particularly for years beyond FY 2006, appears to have been much less detailed and complete than information that is normally made available to Congress in February or March of each year on the costs and procurement schedules of typical DOD ship or aircraft acquisition programs.

For DOD acquisition programs, information on the costs and procurement schedules of major acquisition programs for the Fiscal Year under consideration and the next four or 5 years (*e.g.,* FY 2006 and FY 2007–FY 2011, respectively) is presented in detail in the Future Years Defense Plan (FYDP) and extensive supporting budget-justification documents. This information is usually submitted each year soon after the initial submission of the top-line DOD budget in early February. The defense committees of Congress consider this detailed information on costs and procurement schedules necessary, even critical, to ensuring adequate Congressional oversight of these programs. Receiving this detailed information in February or March permits the defense committees to review it in depth in preparing for their budget-review hearings in February, March, and early April. Receiving it in late April, after most or all of these hearings are usually concluded, would significantly

reduce its value in supporting the defense committees' oversight and markup activities.

In past years, when planned Coast Guard acquisition programs were not of the scale and complexity contemplated in the Deepwater Program, the absence until late April of detailed future-year cost and procurement schedule information may have had only a limited effect on Congress' ability to conduct effective oversight of Coast Guard acquisition efforts. With the advent of the Deepwater Program, however, the absence of this kind of detailed information until late April raises the following potential issues for Congress:

- If the submission to Congress in February or March of detailed, multi-year information on costs and procurement schedules of major DOD acquisition programs is considered necessary, even critical, to ensuring adequate Congressional oversight of these DOD programs, why would the submission to Congress in February or March of detailed, multiyear information on costs and procurement schedules of the Deepwater Program or other large Coast Guard (or DHS) acquisition programs not be necessary or critical to ensure adequate oversight of these Coast Guard (or DHS) programs?
- If, for the Deepwater Program, Congress lacks, until late April, the kind of detailed, multiyear information on costs and procurement schedules that is typically made available to Congress in February or March for major DOD acquisition programs, how might this affect Congress' ability to consider potential adjustments to the Deepwater Program that could affect procurement schedules and funding requirements in future years?
- Should the Coast Guard (or DHS) be required, for the Deepwater Program or other major acquisition efforts, to provide Congress in February or March with the same kind of detailed, multiyear information on costs and procurement schedules that DOD provides to Congress in February or March for its major acquisition programs?
- Should the Coast Guard be given more autonomy to share with Congress detailed information on costs and procurement schedules for the Deepwater Program or other acquisition programs?

Deepwater Acquisition Strategy

The Government Accountability Office (GAO) has testified and reported several times on the Deepwater Program's acquisition strategy and the issues this strategy raises regarding Coast Guard management of the program.

In addition to this work, it can be noted that the Deepwater acquisition strategy appears similar in certain basic respects to the acquisition strategy for the Army's Future Combat System (FCS), which aims at acquiring an integrated collection of manned and unmanned ground vehicles, air vehicles, sensors, and munitions for the Army.[13] In particular, the Deepwater and FCS programs are both large, system-of-systems acquisition programs for acquiring multiple types of equipment that are to operate in a networked environment, and both programs are being executed for the government by an industry entity acting as the prime contractor and system integrator. For the Deepwater Program, the prime contractor and system integrator is Integrated Coast Guard Systems (ICGS), a business entity jointly owned by Northrop Grumman and Lockheed Martin, while for the FCS program, the lead system integrator (LSI) is Boeing and Science Applications International Corporation (SAIC). Using a private-sector lead integrator to execute a large, system-of-systems acquisition program appears to be a first for both services.

Using a private-sector lead integrator to execute a large, system-of-systems acquisition program offers potential advantages for the government in terms of taking full advantage of the lead integrator's knowledge of available technologies and integration approaches, and giving the lead integrator flexibility to make tradeoffs between individual systems so as to optimize the government's investment at the overall, system-of-systems level. As a consequence of these potential advantages, some observers believe that the lead-integrator approach may offer a potential model for future system-of-systems acquisition efforts by DHS, DOD, or other executive branch departments.

Other observers, while acknowledging these potential benefits, are concerned that relying on a private-sector lead integrator to execute a large, system-of-systems acquisition program can also create one or more of the following risks for the government:

- Cost control and overall system optimization might be reduced because the lead integrator, in deciding who should provide various parts of the system, might not always employ full and open competition between potential supplier firms,

or might sometimes face a conflict of interest in assessing bids from its own subsidiaries against those made by other firms.

- Cost control and innovation might be reduced because the lead integrator, as the incumbent on a large, complex effort, might face little or no real risk of losing the contract in any subsequent competition, and might reject innovations offered by outside firms that could threaten the lead integrator's chosen approach to the problem.
- The government's visibility into program costs and tradeoffs might be inadequate, and the government's in-house capacity for making independent assessments concerning the program might atrophy, possibly making the government overly dependent on information from the lead integrator for tracking, assessing, or making key decisions about the program.

Due in part to concerns over its acquisition strategy, the FCS program, in recent months, has been a matter of oversight concern in Congress.[14] On April 5, 2005, the Army announced that it was restructuring the business aspects of the FCS program. The restructuring included, among other things, the following actions intended to strengthen the Army's management of the program:

- The Secretary of the Army and the Chief of Staff of the Army will conduct an indepth review of the program at least three times a year.
- The Secretary and the Chief of Staff will serve as the lead Army officials for all major changes to the program.
- The Army will establish an Army Modular Force Integration Office to ensure that FCS technologies are incorporated into the Army as soon as they are ready, and to integrate and coordinate the FCS program with evolving Army warfighting doctrine and the Army's emerging global communication and information infrastructure. The new office will be overseen by the Acting Under Secretary of the Army and the Vice Chief of Staff of the Army.
- As an additional oversight measure, the Army Audit Agency, the Army Science Board, and an outside panel of advisors will conduct periodic independent assessments of program cost, schedule, and technical viability.[15]

As points of comparison with the last of the above actions by the Army, the Coast Guard, has done, or is doing, the following:

- During the source-selection phase of the Deepwater Program, the Coast Guard used an Independent Analysis Government Contractor (or IAGC, staffed originally by the MITRE Corporation and later by Booz Allen Hamilton) to provide the Coast Guard with independent assessments of the bids submitted by the three industry teams that competed for the right to become the Deepwater Program prime contractor. The IAGC was stood down following the completion of source selection.[16]
- During the source-selection phase and on two subsequent occasions (including, most recently, during the analysis that led to the revised implementation plan), the Coast Guard turned to the Logistics Management Institute (LMI) for independent cost estimates relating to the Deepwater Program.[17]
- In early 2004, the Coast Guard used MITRE to perform an independent assessment of the process the Coast Guard had developed for performing the Performance Gap Analysis (PGA) that eventually led to the revised Deepwater Implementation Plan.[18]
- As of late-April 2005, a third-party assessment of the use of competition by ICGS was in progress.[19]

The broad similarities between the Deepwater and FCS acquisition strategies, and the Army's recent actions to strengthen its management of the FCS program, raise the following potential oversight questions for Congress:

- How do the Coast Guard's arrangements for managing the Deepwater Program compare to the Army's arrangements, as recently restructured, for managing the FCS program?
- Are the Army's arrangements for managing the FCS program stronger in some ways than the Coast Guard's arrangements for managing the Deepwater Program, and if so, should the Coast Guard consider adopting the stronger Army measures?
- How does the Coast Guard compare to the Army in terms of in-house acquisition-management and system-integration expertise? Does the Coast Guard have enough in-house system-integration expertise to conduct complete and fully

independent assessments of ICGS decisions and recommendations regarding the Deepwater Program's system-integration approach?

- Should the Coast Guard establish a standing independent organization—perhaps similar to the Deepwater source-selection IAGC (but permanent in nature), or to the Army's outside board of advisors for the FCS program—to provide periodic and ongoing assessments of ICGS decisions and recommendations regarding the Deepwater Program, including decisions relating to the program's system-integration approach, or to solicit and assess, on an ongoing basis, proposed innovations for the Deepwater Program, particularly from firms outside the ICGS team?
- Have the Coast Guard and Army established a regular process for sharing with each other their experiences in managing the Deepwater and FCS programs, and for trading ideas for improving their management of the programs? If not, would the Coast Guard and Army benefit from establishing such a process?

Madam Chair, Senator Cantwell, distinguished Members of the Subcommittee, this concludes my testimony. Thank you again for the opportunity to appear before you to discuss these issues. I will be pleased to respond to any questions you might have.

ENDNOTES

[1] This section is based largely on an April 28, 2005, Coast Guard briefing to CRS and follow-on April 29, 2005, telephone discussion with CRS, on the performance gap analysis and force structure determination process underlying the revised Deepwater Implementation Plan, and on supporting documents provided by the Coast Guard to CRS.

[2] Coast Guard officials stated that the Bureau of Immigration and Customs Enforcement (ICE) is, for the time being, performing the fixed-wing portion of these operations.

[3] The briefing materials used by the Coast Guard for its April 28, 2005, briefing to CRS show an unlabeled capacity level beyond Level 3 that fits the description provided here. Coast Guard officials agreed at the briefing that, for purposes of this discussion, this capacity level could be called Level 4.

[4] 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 Corporation, Santa Monica (CA), 2004. See especially Table 4–2 on page 70.

[5] For example, Section 888(i) of H.R. 5005/P.L. 107–296 of November 25, 5 2002, the bill that established DHS, required a report to Congress on feasibility and potential implications for cost, capability, readiness, and operational efficiency of compressing Deepwater procurement from 20 years to 10 years.

[6] See CRS Report RS21059, *Navy DD(X) and CG(X) Programs: Background and Issues for Congress,* by Ronald O'Rourke; CRS Report RL32109, *Navy DD(X), CG(X), and LCS Ship Acquisition Programs: Oversight Issues and Options for Congress,* by Ronald O'Rourke; and RS21019, *Coast Guard Deepwater Program: Background and Issues for Congress,* by Ronald O'Rourke.

[7] Until recently, the DD(X) was being developed by a national industry team lead by NGSS and Raytheon. The team also included GD/BIW as well as Lockheed Martin, Boeing, and several other companies. Under the Navy's DD(X) acquisition strategy of record, which was approved by DOD in February 2004, the first DD(X) would be built by NGSS, the second DD(X) would be built GD/BIW, and contracts for building the first six DD(X)s would be equally divided between NGSS and GD/BIW.

In February 2005, Navy officials announced that they would seek approval from DOD to instead hold a one-time, winner-take-all competition between NGSS and GD/BIW to build all DD(X)s. On April 20, 2005, DOD deferred this proposal as premature, but agreed to a Navy proposal to separate the DD(X) system-development and software-development contracts from the DD(X) detailed-design effort. Section 1019 of the Emergency Supplemental Appropriations Act for 2005 (H.R. 1268/P.L. 109–13 of May 11, 2005) effectively prohibits a winner-take-all competition to build all DD(X)s. The provision does not prohibit the Navy from shifting to a new DD(X) acquisition strategy that somehow involves a second shipyard, even if that involvement were limited, for example, to building only one ship in the DD(X) program.

On May 25, 2005, the Navy announced that, in light of Section 1019, it wants to shift to a DD(X) acquisition strategy under which two DD(X)s would be procured in FY 2007, with one to be designed and built by NGSS and the other by GD/BIW. Each ship might be split-funded (*i.e.,* incrementally funded) in FY 2007 and FY 2008. The two yards might then compete for the right to build all subsequent DD(X)s, in which case this strategy could be viewed, at that point, as a "winner-takes-all-remaining-ships" approach.

[8] See, for example, John T. Bennett, "Defense Officials Say Littoral Combat Ships Could Defend U.S. Shores," *Inside the Pentagon,* October 21, 2004.

[9] For more on the LCS program, see RS21305, *Navy Littoral Combat Ship (LCS): Background and Issues for Congress,* by Ronald O'Rourke, and CRS Report 32109, op cit.

[10] A recent press article stated that Admiral Vernon Clark, the Chief of Naval Operations, is "absolutely convinced" there will be "a rush to [build] 50," and then a move to construct another 25 or 50 ships. "I think well see more than" just 50 or 60 of the vessels, he said in an interview.

> (Dave Ahearn, "CNO Clark Sees LCS Fleet Of 75–100 Ships," *Defense Today,* June 3, 2005: 1–3. Bracketed word as in the article.)

An earlier article stated that in a January 2005 speech at the annual Surface Navy Association symposium,

> the CNO acknowledged that "the navy is not correctly balanced and optimised for the world of the future, and . . . faces a three-decade-long effort to fully reform its forces to accommodate national security needs such as anti-terrorism and homeland security."
>
> "This is going to be a dramatically different navy," Adm Clark concluded. "I expect to have 50 to 75, maybe even 100 LCSs out there. Why? Because I think that's the kind of platform you're going to need for the world that we're living in."

(Scott C. Truver, "Transformation: A Bridge Too Far," *Jane's Navy International,* March 2005: 24–26, 28–31. Ellipsis as in the article.)

[11] The National Fleet policy statement is a joint Navy-Coast Guard document first signed in 1998 and updated in 2002 that commits the two services to coordinate their activities in several areas, including acquisition. Among other things, the document commits each service "to build a National Fleet of multi-mission surface combatants, major cutters, patrol boats, and aircraft to maximize our effectiveness across all naval and maritime missions."

[12] U.S. Coast Guard, *Budget Estimates, Fiscal Year 2006, Integrated Deepwater System.* 50 pp. Page ii of the document states that it is a supplement to the Coast Guard's FY 2006 budget submission. The Coast Guard submitted this document to Congress on April 29, 2005, and provided CRS a copy on May 3, 2005. The Coast Guard submitted to Congress another document containing additional information on May 31, 2005, and provided CRS a copy on June 15, 2005.

[13] 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.

[14] See, for example, Jen DiMascio, "McCain Questions Army Leaders About FCS Contracting Agreement," *Inside the Army,* March 21, 2004; Jonathan Karp and Andy Pasztor, "Army Program Run By Boeing Faces Challenge By Sen. McCain," *Wall Street Journal,* March 15, 2005: 4. See also John Liang, "Wynne: LSI Concept Working Well For Army's Future Combat System," *InsideDefense.com,* February 13, 2005; Scott Nance, "Army Likely To Increase Use Of Systems Integration Contractors," *Defense Today,* January 10, 2005: 1, 2; Dave Ahearn, "Boeing Doesn't Eclipse Army Oversight Of FCS: General," *Defense Today,* October 27, 2004.

[15] U.S. Army News Release, "Army Announces Business Restructuring of the FCS Program," April 5, 2005. [*http://www4.army.mil/ocpa/print.php?story_id_key=7125*] See also Jen DiMascio, "Army Announces Future Combat System Contract Restructuring," *Inside the Army,* April 11, 2005; and Jonathan Karp and Andy Pasztor, "About-Face: Army's Decision On Boeing Changes Philosophy," *Wall Street Journal,* April 6, 2005.

[16] Source: Telephone consultation with Deepwater Program office, May 3, 2005.

[17] *Ibid.*

[18] MITRE Corporation, *Independent Assessment of U.S. Coast Guard Deepwater Performance Gap Analysis Process,* McLean (VA), 2004. (Version 1.0, March 30, 2004, MITRE Center for Enterprise Modernization, McLean, Virginia) A copy of this report was provided to CRS by the Coast Guard during the April 28, 2005 briefing.

[19] U.S. Coast Guard. *Oversight and Management of the Coast Guard's Integrated Deepwater System,* Washington, 2005. (Rear Adm. Patrick M. Stillman, USCG, Program Executive Officer, Integrated Deepwater System, U.S. Coast Guard Headquarters, Washington, D.C., 27 April 2005) p. 5.

Senator SNOWE. Thank you. Thank you all very much.

Admiral Collins, in just, you know, evaluating this plan, getting back to the original question as to why the Coast Guard would be

recommending a decreasing number of ships from the pre-9/11 plan to the post-9/11 plan. On what basis is that recommendation made?

Admiral COLLINS. Actually, it's—of course, the new implementation plan is a range that is recommended, and the range from—as you can see, the numbers are very, very close to what the pre-9/11 numbers were. So, the—from my perspective, the default setting, going in here, is the high-end of the range, and should be tempered by actual performance that we continue to examine and model. We're underway with the fourth level of a—or performance gap analysis will—the very—all the specific numbers now in that range will be modeled, through the course of this summer and into the fall, to simulate and gain detailed numbers on the operational effectiveness of the specific implementation plan in the respective ranges.

Our emphasis in 2006 is to get the capability part right, as a priority. It's very, very important, in this phase of this systems-of-systems, to get the lineup correct, and lineup in terms of what—when do we introduce what platform, on what set of capabilities? How to get that right is a matter of priority as we go and design, and so forth, the systems. Where we are in time mandates that we do that as a matter of priority. That's where we put—that's where we put our priorities this year. And I'm very, very pleased that we did get a new mission needs statement approved in the Department, a new mission needs statement approved in the White House, and a strong receptivity on the Hill, in terms of these capabilities.

So, that's been our priority. We will temper the capacity part, the numbers part, for the duration of the project. And I see that as a dynamic process, not as a static process. If we find that the promised performance enhancements of this new enhanced system-by-system that we're developing doesn't pan out, then we're going to have to adjust those numbers. But I see it as a dynamic process, not as a point estimate in time, but something you temper with modeling and actual performance after the systems get delivered. And we will continue to do that, and that's our full intent.

Senator SNOWE. Well, my concern is the fact that, in terms of the numbers here, that the primary investments are made, and, obviously, retrofitting current assets, aging assets, and not really making a request for new and additional assets. I do not think that it reflects reality, to be honest with you. I have always been told—and I used to chair the Sea Power Subcommittee, that quantity was a quality of its own. And I know Mr. O'Rourke said in his statement, that this is turning it on its head here now, that it's quality is a quantity all of its own. And I know in this environment and what you are requested to do each and every day, I just do not see how this is going to bear out, in terms of realistic demands on the Coast Guard.

Admiral COLLINS. Let me just make a—if I could, Madam Chairman, just a point in clarification on the money invested in legacy systems. The type of investment we're making in the legacy system, the nature of the investment, is crucial here, because if you look at the total amount of money that we're investing in legacy systems in 2006, under the President's request, the vast preponderance of that is not for sustainment. The vast preponderance of that is conversion, and it's to take the assets and make them Deepwater

assets. So, that's a long-term investment that'll pay off in the 40-year framework. The true maintenance/sustainment part is only—is mostly focused on the surface fleet. And in the case of the 2006 budget, it's $37.5 million, what we call a mission-effectiveness program. So, the real focus put the Band-Aids on the systems and keep them running—is $37.5. The enhancement part is all the rest of that money, $133 million of which, alone, is for the new engines on the helicopter, and that's the Deepwater investment.

Senator SNOWE. Well, I am going to disagree on the fundamental premise, on the issue of capacity versus capabilities. I just think that the demand is much greater on Coast Guard, and particularly in the homeland-security area, and, obviously, in the traditional missions of the Coast Guard. I understand, on the conversions and enhancing performance—I mean, I think we all understand that. But the fact that you're diminishing the numbers here is what concerns me in this environment. If you were requesting that pre-9/11, and now we're saying, "Well, we can do more with less"—I know we're refitting, I know we're converting, but you're still sustaining the legacy assets in maintenance is drawing 25 percent of the Deepwater Program currently. And that will only get worse over time.

Ms. Wrightson—and I would like to have you address this, as well, Admiral Collins and Mr. O'Rourke—the issue of acceleration. You know, which is worse? Being able—you know, the degrading readiness of the Coast Guard's assets or trying to grapple with the idea of acceleration that in—many of the studies have indicated it will save taxpayers money. If you go from a 10- to 15-year program, it'll save $4 billion.

Ms. WRIGHTSON. I knew you'd ask the question, so I prepared my response.

First, I want to agree with the Commandant that the statistics that have been talked about, in terms of how much money is actually going into sustained legacy assets that are planned for replacement is now 3.9 percent of the requested proposal. That is less than is going into management of the contract. That's important.

In terms of acceleration, the real issue here is about balancing the risks. There is no doubt that there could be cost savings in a perfect world, where you could simply put another asset on the water, or in the air. However, managing the risk, going forward, is not a simple issue, and it won't—it doesn't allow me a simple answer.

I want to say one thing that I think you would like to hear, which is that if the Coast Guard were to—and if we're able to—see a quick implementation over the year of our recommendations, to the point where GAO would be able to close those recommendations, then we would think there would be far less risk to moving forward. That said, it also makes sense for the Coast Guard to consider targeted accelerations of assets that are proven and tested on the water, rather than just putting money into the program and pushing every acquisition forward. The former is a much less risky approach. So, for example, it might for the NSC versus, say, putting it into all the other assets all at once. So, that's a less risky approach to the situation.

Senator SNOWE. Mr. O'Rourke—thank you for that comment—Mr. O'Rourke, what is your opinion on that?

Mr. O'ROURKE. My testimony about accelerating is focused on accelerating the procurement of the larger cutters in the program, and I have focused on that because there is a linkage between this issue and an issue concerning the Navy's surface combatant industrial base.

When I testify on Navy shipbuilding issues, I try to sensitize people to the option of looking to the Deepwater Program as a way of helping to maintain the surface combatant industrial base. And, in my work with people who work on Coast Guard issues, I try and sensitize them to the fact that the Deepwater Program can help maintain the Navy's shipbuilding capacity in that area. I think each side needs to be sensitive to how something on the other side can link into this.

My view is that, because these larger cutters are not revolutionary designs—they are designs that will incorporate well-understood hull forms and technologies—and because the Coast Guard is not attempting something tremendously new with these cutters, that the risk in accelerating them would not be great, as long as you locked down the design of the ships before you began accelerating them.

And, further, it might actually reduce the Coast Guard's management burdens over time to accelerate the procurement of these ships, once they're designs were stabilized, because you would have less time involved in managing the procurement of those ships, and because you would have a shorter period of time during which you would have to devote management attention to the sustainment of the older cutters.

Senator SNOWE. Thank you.

Chairman Stevens?

The CHAIRMAN. It seems the CRS and GAO have the luxury of accelerating when there's no money. I don't know if you realize the President requested $66 million for Deepwater. The Senate appropriations currently is at $906. The House is at $466. And the House authorization is $1.4 billion. I think that the responsibility for this modernization lies in the Congress, not in the White House, not in the Coast Guard. I do believe so.

Admiral Collins, have you ever tried to work out a joint procurement schedule with the Navy? Why do we have these two ships that are so close together in size and function, and being built by different specifications, different shipyards? Industrial base is one thing, but do we need two industrial bases?

Admiral COLLINS. We've been closely allied with the Navy on the performance requirements of this whole program. When we developed the performance specification for Deepwater, we did it in conjunction with the Navy. We went to the Navy and asked what their—we call it Navy—Naval operational requirements, we need to embed in the performance contract. We did that.

But they're fundamentally two different missions—the missions set. If you take a look at the Littoral Combat Ship, for example, that's a premium on speed. It's a premium on speed, in modular approach to their mission. We're—we have a different mission dynamic. Ours is persistent presence for interdiction, apprehension,

prosecution, arrest. And we get the speed, not through the platform; we get the speed through a—of the system—the fast small boat, the fast helicopter, with the ship. And we think that's a—for us, it's a better-value proposition.

Speed costs a bunch of money. You buy a 45-knot ship, and it's a very expensive ship. Our—the comparable ship to the Littoral Combat Ship is our medium ship, the offshore patrol cutter. It will be a much more affordable ship for the United States Coast Guard, designed to cost $200 million. The Littoral Combat Ship is a $200 to $300 million ship, before you put one mission module on there. That's going to be pushing upward to $400 million by the time it's through.

So, I think it's a better-value proposition for us. It's built-in Navy requirements into it, so it can—it's interoperable with the Navy. And we have, of course, a national fleet policy statement that ensures that we manage and deploy our ships synergistically. So, I think we've got the best balance, Senator, on the mission, the requirement, and the collaboration with the Navy under the present approach.

The CHAIRMAN. Good. I appreciate your answer. That clarifies it.

Ms. Wrightson, what do you say about that answer?

Ms. WRIGHTSON. I'm going to defer to the Coast Guard on that. We haven't done an analysis of the relationship between the Navy acquisition and the Coast Guard acquisition. Perhaps Mr. O'Rourke wants to comment.

The CHAIRMAN. Mr. O'Rourke?

Mr. O'ROURKE. I guess what I would say is that, on the industrial base, the linkage is not with the Littoral Combat Ship; it's with the Navy's DD(X) destroyer program. The Navy has reduced planned procurement of that ship to one per year, and there's concern about whether a one-per-year rate would be enough to sustain the two yards that build the Navy's larger surface combatant. So, from an industrial-base perspective, you look at the DD(X) program and what might happen to that, and use that to inform a decision on how Coast Guard procurement of larger cutters might be able to help that situation.

The CHAIRMAN. Well, did CRS and GAO look at the problem the Coast Guard has, in terms of the increasing cost of maintenance of aging vessels, when there is no funding for replacement?

Mr. O'ROURKE. I understand that in a situation of constrained resources, if you were to accelerate cutter procurement, you're going to have to get that money from somewhere, and you're going to have to reduce something else to do it. In the longer run, if you accelerate cutter procurement, you will reduce the cost of those cutters through better economies of scale, and you'll also reduce the legacy costs associated with maintaining the older cutters sooner.

The CHAIRMAN. Are you implying that Congress ought to have a BRAC process to tell the Coast Guard to shut down some of these aging ships?

Mr. O'ROURKE. I guess what I'm saying is that, in a constrained funding environment, Congress will have to make difficult choices, but they should at least understand what some of their options are, and what the tradeoffs are involved in those options.

The CHAIRMAN. Is one of the options to shut down some of these old vessels that cost so much to maintain?

Mr. O'ROURKE. The option I'm suggesting, that people at least be aware of, is purchasing the cutters sooner, once their design was locked down, getting a better price on them, and saving money there, and also possibly saving money because you're getting rid of the older cutters sooner, as a consequence of getting the new cutters into service sooner.

The CHAIRMAN. Ms. Wrightson?

Ms. WRIGHTSON. Yes, we attempted to do an analysis of whether or not there would be cost savings to accelerate the program, but it was—in the end of the day, the Coast Guard really didn't have the data that we would need to look at it from a systems-of-systems perspective. From an asset-by-asset procurement, you probably could do that analysis, although it still is an open question as to whether we would have the data for it.

I want to make two points about the acceleration. You can't—when you think about whether or not you should accelerate, it's not just about the impact on the industrial base, although that certainly is important. You also ask—have to ask about risks. And one that hasn't been mentioned is human systems engineering. You know, we already recognize that as a major risk, and that's the people aspect of Deepwater. So, there's training, operations, and maintenance——

The CHAIRMAN. Stop right there, ma'am. I want to hear Admiral Collins——

Ms. WRIGHTSON. Sure.

The CHAIRMAN.—and my time's already up. What do you say about that, Admiral?

Admiral COLLINS. Sir, about—of course, I bristle at the thought of laying up ships without replacement, Senator, because that just exacerbates further our capacity issue. I mean, we have ships that—particularly up in your great State of Alaska, elderly ships holding up the——

The CHAIRMAN. They're almost as old as I am, Admiral.

Admiral COLLINS. Sir, they're mature. We call them mature cutters.

[Laughter.]

Admiral COLLINS. But to retire them without replacement is—would be a huge impact on our readiness and our mission accomplishment, so——

The CHAIRMAN. That's the answer I expected. You don't have that option.

Admiral COLLINS. No, sir. I think the—what we're doing is trying to invest prudently in the current systems to keep them at the readiness level they are, and then to move as quickly as affordability issues and budget constraints and everything else would allow us to do.

Example: the Fast Response Cutter. We——

The CHAIRMAN. I'm out of time. Thanks.

Admiral COLLINS. Yes, sir.

The CHAIRMAN. Yes, go ahead.

Admiral COLLINS. Sir, we've advanced that from—that's originally a 2017 entry into the fleet—we've moved that up from—to

2007. That is—because why? Because that is one of the legacy systems that are old and tired, wearing out, and we've got to get on with that. We also advanced, by 5 years, the design of the medium cutter—originally, like, a 2012 type of thing, and we're designing that as we speak. So, we've taken an asset-by-asset look, and say, "What are the old tired ones? What are the ones we have to advance?" So, we—part of the implementation plan was moving those two systems forward, and we had to make some tradeoffs because of affordability and budget constraint. We had to move some of the aircraft to the right, to keep it in balance. So, that's our dilemma, Senator.

The CHAIRMAN. In view of the generosity of the Chairman, do you want to finish, Ms. Wrightson?

Ms. WRIGHTSON. If I could. The—I agree with what the Commandant has said about the cutters, the decision to take a look at those and to, sort of, target your risks in order to make sure that the assets that you're investing in are the ones you need the most. That makes sense.

The human systems engineering point I was going to make is an important one, because, right now, what we're seeing, that is a growing risk in the Deepwater Program. It's the people side of this program. And, currently, even the Coast Guard is dissatisfied with ICGS there. So, going forward, when we look at the mission needs statement in this coming year, and analyze it, and when we look at the management of the program, we're going to focus on this issue, as well as others related to the adequacy and sufficiency of the MNS plan to see if it really does the things the Coast Guard's going to need. So—and you've requested us to do that.

Thank you.

Senator SNOWE. Thank you.

Co-Chair Inouye?

Senator INOUYE. Admiral Collins, at the present time you have in your inventory 91 legacy cutters, is that correct?

Admiral COLLINS. Depending on—it's over 200 if you include patrol boats and the whole fleet, Senator.

Senator INOUYE. But the big ones?

Admiral COLLINS. The big ones, the—yes, that's the approximate number. Yes.

Senator INOUYE. How many did you have on 9/11?

Admiral COLLINS. I think that a side-by-side comparison, I'll have to provide for the record. It——

Senator INOUYE. About the same, isn't it? No increase.

Admiral COLLINS. No, we're not increasing over the pre-9/11 levels. There are even less assets than the pre-9/11 levels. And our whole acquisition strategy is not a one-for-one replacement; it's looking at the performance of the system, is our approach.

Senator INOUYE. And your legacy cutters are the oldest vessels now floating?

Admiral COLLINS. Of 41 nations, Senator, that have comparable coast guards or navies, we rank 39th oldest out of 41. Philippines and Mexico are the only nations that have older fleets.

Senator INOUYE. Should we be proud of that?

Admiral COLLINS. No, sir.

Senator INOUYE. Now, as to legacy aircraft, do we have more since 9/11, or do we have less?

Admiral COLLINS. Our implementation plan, if you look at the numbers prior to 9/11—this is the HU–25, the C–130, the helicopter, the two helicopters we have—it's about the same in our revised plan, at the upper limit—about the same number, and we're just replacing some with a different type. And including—if I might add—and including unmanned airborne vehicles to the mix, so it actually enhances the overall surveillance capability of the fleet.

Senator INOUYE. So, you have some of the oldest vessels floating on this globe, plus no increase in aircraft, but yet you've had an increase in assignments, your wartime assignments in the Gulf and surrounding waters have not diminished?

Admiral COLLINS. Yes, sir.

Senator INOUYE. Do you still think you can do it?

Admiral COLLINS. I think that we're going to have to keep evaluating the numbers. And I think it'll be—as I mentioned before, it'll be a dynamic process, year by year. We'll keep modeling. We'll look at the performance. This should be a performance-driven budget evolution that will allocate budget based upon performance of the system. And, if it's inadequate—they will continue to model, and we look forward to the GAO's participation in that—continue to model, and if the performance isn't right, I'll be the first one to push that up—that range up to the right—you know, increase that—based upon what we find, over time.

Senator INOUYE. My last question. You've added 40,000 officers since 9/11. Is that correct?

Admiral COLLINS. No, we've added about—we've gone about 12.5 percent to a 47,000 total workforce, including about 7,000 civilians.

Senator INOUYE. What are you doing with the increased personnel if you have no ships?

Admiral COLLINS. Sir, the number—part of those—that workforce growth was to go to new units that we've created. Their focus is security. Example: maritime safety and security teams. We created 13 of these teams around the country—70-person active-duty, augmented with reservists. And they went—the additional folks that we've got—the 12.5 percent force-structure growth—went to building those units, brand-new units, to give enhanced security capability to the Nation. And we also added people to oversee the new port and vessel security code that we put—regulation that the Maritime Transportation Security Act called for. And we added over—close to 500 people, if I have my numbers correct, to ensure compliance with those new standards—security standards. So, those are a couple of examples of where the new resource, the new force structure, has gone.

Senator INOUYE. At the rate we're progressing, when do you think we'll have the tenth newest fleet in the world?

Admiral COLLINS. Again, sir, what will be the——

Senator INOUYE. You said our fleet is the third oldest fleet in the world. When will we have the tenth newest?

Admiral COLLINS. I don't know. I'll give you a—it depends on the funding. I'll—this all revolves on the funding. And we talk about the—my biggest challenge—take a look at the 2006 budget. Senator Stevens mentioned it. It's a reflection of the cash-flow and sta-

ble funding. Right now, I have a House mark that lopped off $466 million out of the President's request. The President and OMB were—very strongly supported our revised plan, to the tune of $966 million, substantial growth over prior years. My challenge is support in the Hill. I've got—when I get a mark like that in the House, and I—we didn't get the President's request on the Senate side, either, although a great—very favorable consideration on the Senate side; it's much closer to the target. But that's the challenge, Senator. I need to have at least the President's request. Prior to, even, the implementation plan being changed, up and through, like, 2005, we were, cumulatively, down over $200 million from what the baseline capital funding for Deepwater was.

So, we've been continually shorted in this program. The marks that we have currently for 2006, both in the House and the Senate, cause me great concern that this project, if we don't recover from those kind of marks, will implode. This acquisition strategy in this project will implode.

So, I guess it's—you know, you—first, you keep the ship from sinking, you know, in terms of a damage control, and we've got to stop the hemorrhaging here, from the budget perspective—that's my greatest challenge, sir.

Capacity issue certainly is a relevant issue. We've got to keep hammering away what the right number is. Capacity is high—capability—getting the capability right—that means getting the ship designs right—is a real priority. But, also, getting the budget flow right. And that's what I'm really concerned about, sir.

Senator INOUYE. I thank you very much, Admiral.

Thank you, Madam Chair.

Senator SNOWE. Thank you.

Senator Cantwell?

Senator CANTWELL. Thank you, Madam Chair. I know there's a vote on, so I will try to be brief.

Admiral, the Coast Guard did a series of analyses of different levels of performance and capability based on different levels of investment. But I think those were all done prior to submitting this particular plan. Is that correct? This plan doesn't have an accurate assessment of what these capabilities will actually produce?

Admiral COLLINS. We did—we've done a series of—phases of studies in modeling—phase one, two, and three. And they first looked at gaps, and they ranked gaps, and they did—we've done risk analysis. The last phase, or the fourth performance gap assessment work—that's what we call it—will take a look at—model the specific numbers in ranges that are reflected in the current implementation plan. But all that work was supportive of that implementation plan. It's just doing a simulation in modeling on the specific numbers. Because those numbers have danced around. As we've gone through the budget process, they've danced a bit, you know, upon review after review. And now we've, in the terms of this implementation plan, fixed them, and we'll do with—the last refined operational effectiveness modeling here with the specific numbers.

Senator CANTWELL. And when can we expect that? Because, obviously, our challenge here is to debate, with less resources, what our capabilities really are and what capacity we will get with this par-

ticular proposal. So, how can we get that information so we can do a better job at oversight?

Admiral COLLINS. Let me ask Admiral Stillman, who is the guy in the hot-seat managing the project, in the specifics on what the timeline is on that last phase of the assessment.

Admiral STILLMAN. Senator, that will be done in August of this year, as far as the campaign-level modeling. But I would also add that there are different types of analysis models that we're using. If you look at this particular system, and assess the capability of the national security cutter, the ship in production right now, compared to the 378-foot cutter that sails out of Washington and other states, we will quadruple our surveillance capability with respect to those platforms.

Senator CANTWELL. I think what we want is an accurate assessment, so we're all looking at the same set of numbers.

Admiral STILLMAN. You bet.

Senator CANTWELL. We need accurate data, so that we can then discuss whether we think issues of acceleration need to be further considered, or whether we don't think they're wise. I think that's the big mystery here, right? We want to see the actual analysis of capability that goes with this particular proposal that's been submitted.

Admiral COLLINS. But we would anticipate, Senator, by the end of the summer, that, you know, we'd be able to provide you that information. And, as I mentioned earlier in my testimony, we see this as not a done deal. We'll continue to evaluate and evaluate as this project matures and as we actually deliver the asset and it's in actual operation. So, it's—I think this is a never-ending journey. We continue to refine the information and make the best assessments we possibly can.

Senator CANTWELL. Can I ask another question? Because then we're going to be out of time. The lead-system integrator approach—which seems like the Army is the only other Armed Service that uses that—is that really the best way to keep cost controls in the system? And since the Army is backing away from that approach, shouldn't the Coast Guard look differently on that particular model of controlling costs?

Admiral COLLINS. Well, I—it's interesting. It's a common question we get. I think, when we were initially going into this, and we looked at the risks—and I think you've got to look at risk and cost schedule and performance, all three of those, and what are the greatest risks—we felt, after extensive study and third-party oversight—we brought in acquisition specialists—third-party private firms in to look at it—the biggest—the most powerful risk mitigator—although it's still high risk, this project—the biggest risk mitigator was the systems integration. I can't imagine us trying to tie all these assets together and do—be our own integrator. The risks will go up dramatically, in terms of cost schedule and performance. And every way we've looked at that, we've come to that conclusion.

The early estimate would be another 15 percent, at least, in cost that it would cost us to do individual procurements. And then we wouldn't end up with a system of systems; we've end up with individual things that may or may not be tied together.

So, we've looked at this since the mid-1990s, every which way to Sunday. We've come back to the same conclusion, that the systems integrator is the most——

Senator CANTWELL. What would you say, Admiral, is unique about the Coast Guard, then, juxtaposed to other parts of our Armed Services, with respect to this approach?

Admiral COLLINS. I think one of the things that was unique, that, Senator, all these assets were coming at the end of their service life—*i.e.,* reaching technological obsolescence at the same time. And I don't think any other service had a full range of its assets expiring at the same time. And so, this lent itself, clearly, to that approach. And our capacity to manage, you know, 15–16 individual contracts was beyond the scope of our organization.

Senator CANTWELL. Thank you, Admiral.

Senator SNOWE. Thank you, Senator Cantwell.

And I'll just ask a final question, and then I'll close out the hearing, because we have a luncheon at the White House at 11:30.

But I just want to follow up on this issue, because obviously, the Congress bears responsibility, as well, in terms of the funding. And, obviously, the House has its issues, seeking more information from the Coast Guard with respect to the recent cut, at least from what I've read. I hope that that will be honored so that we can get that squared away and bring it back up to a higher level. But, second, what is driving this process? In the end, I think we all understand, it's being driven on a theoretical budgetary model that is being, obviously, galvanized by the Office of Management and Budget. And that's what we have to deal with here today. I have no doubt that if we were to put forward a proposal that provides significantly more funding, we would still be facing and discussing the same challenges that we are here today. It's the focus of this hearing. Because I know all of the analysis that's been done, whether it's the RAND study or the Center for Naval Analysis, even your own internal performance-gap analysis, when I look at the contrasting plans internally, and the numbers, you obviously were proposing a higher number. I don't have any doubt that you would have proposed a higher number, given what your service is facing in the challenges each and every day.

So, that's what we're dealing with here. It's a number that's driven by the Office of Management and Budget. And, obviously, Congress has contributed to that with the erratic nature and inconsistent levels of funding year to year. But it is a problem that we must address and grapple with, both on our end, as well as, obviously, down at the other end, as well. Pennsylvania Avenue, when it comes to these issues—I mean, this is the reality. We can postpone the reality, but the reality is going to continue to exist, at great cost to this country, and great cost to the men and women who have to serve in these aging assets. It speaks volumes. The Coast Guard is 40 out of 42 of the oldest naval fleets in the world. That is not going to get better over time; it's going to get worse.

And so, we obviously have our part to do, in our role and our responsibility, but I just think that it would be a major omission here if we didn't discuss what's driving this, as well. Because I don't know that anybody has asked, ultimately, in all the bases, all the studies—internally, externally, and otherwise—suggesting that we

should have a decreased number of assets in this moment in time in our Nation's history.

So, I hope we all understand that. I look at the numbers of your own Deepwater force-structure studies and the issues that Ron O'Rourke raised, as well, in his analysis, where you should be in that spectrum, and what will happen as a result of not being in that spectrum—and so, that's what we have to grapple with. We're all going to play this numbers game. And unfortunately, you bear the brunt, as well, and that's what we—I think, we have to deal with here. What can we do? My colleagues have to recognize that responsibility, as well. So, I think, the Office of Management and Budget, that is what is really driving this revised implementation plan. And I think we all have to know what the consequences are.

Admiral COLLINS. Clearly, the President's request was—coming forward in 2006, was a function of our participation in the Department of Homeland Security, participation in OMB. We all have perspective on this requirement, and, obviously, it was a joint effort to come to the conclusions we did, relative to the level.

Let me say—let me say this, that I'm extraordinarily pleased that we were able to submit a budget at a $966 million level. That was a huge breakthrough for us. And, I tell you——

Senator SNOWE. It could have been worse——

Admiral COLLINS.—it——

Senator SNOWE.—I understand that.

Admiral COLLINS.—it took a lot of work——

Senator SNOWE. I understand.

Admiral COLLINS.—to get to that level.

Senator SNOWE. I understand that.

Admiral COLLINS. And the other thing that—so, that's—that reflects even—you know, it's strong support by OMB to support that level. That was a huge thing for them to bite off on and support that level for us. And it reflects their interest in this program.

The other thing that was a major win, I think—and I know you're as much interested in the capacity part as the capability part; it's very, very obvious—but the—but to get our capability enhancements reviewed and approved at the departmental level and at OMB, I think, is a major, major victory. That is a significant uptick in the acquisitions costs—you know, in terms of the range, the 20—up to $24 billion—$19 to $24——

Senator SNOWE. Yes, 20 years from now, though.

Admiral COLLINS. Yes, I—well, everything—we'll——

Senator SNOWE. I know.

Admiral COLLINS.—tackle one challenge at a time. But that was a huge, huge——

Senator SNOWE. Really.

Admiral COLLINS.—advance for this program. So, I'm very pleased with the $966 million. I'm very pleased that we got the capability part approved. And I hope—my next-biggest challenge is to get the support in Congress for the President's request. If we don't—I mean, that's challenge number uno right now—if we don't, then all of these things are going to set back. For example, just one example, one of the things in both the House mark and the Senate mark was that they rescinded the money—patrol-boat money. If that stays, then all the progress we've made on replacing the Fast

Response Cutter, advancing that from 2017 to the current time, is going to go right down the tube. So, again, the priority is to get the capability right and get the President's request, and then we can continue to examine and evaluate the capacity part, and continue to get that right, over time.

Senator SNOWE. Well, I appreciate it. I wish we could continue on this whole discussion, but I have to depart. My time has expired in the vote. And so, lucky for you.

But, in any event, I appreciate that. We're going to have a number of follow-up questions. And, also, on the whole issue of targeting the acceleration and some of the assets that both Ms. Wrightson and Mr. O'Rourke have also raised, I'd like to evaluate that. And also, Mr. O'Rourke, what you're talking about in the Littoral Combat Ship and the Deepwater assets, what can we do, in that respect, to, sort of, integrate—complement these programs, and so on? I think that's an interesting question that we ought to continue to explore. And I will work with Chairman Stevens, as well, on these issues.

But, suffice it to say we have significant challenges, and, obviously, we assume responsibility, as well, you know, for what we haven't done. But I just think that it requires both branches of government to understand the enormous ramifications if we defer this so far out into the future that will invite, exponentially greater problems, without question. And we know the anecdotal evidence that comes in, as you well do, Admiral Collins, and our inability, because of these failing assets, and what that does to jeopardize the men and women who have to use these assets on a daily, life-threatening circumstance.

So, I thank you all. I thank you for your contributions. I'm going to follow up with a number of questions on a number of the issues that you have raised.

This hearing stands adjourned.

[Whereupon, at 11:25 a.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. OLYMPIA J. SNOWE TO ADMIRAL THOMAS H. COLLINS

Question 1. How will the Coast Guard maintain heightened operation levels as well as surge response with fewer available assets as this plan indicates?

Answer. The 25-year, $24 billion Revised Deepwater Implementation Plan gives the Coast Guard greater capability than that planned in the original Deepwater baseline plan. The end-state asset numbers reflected in the revised plan represent a net increase in total force strength above the original Deepwater baseline level with an additional 17 fixed-wing aircraft and 8 helicopters. Moreover, the revised plan leverages improved capabilities on all assets to increase system-wide surveillance, detection, identification, classification, and prosecution. These capabilities enhance the Coast Guard's ability to maintain heightened levels of operations and meet surge needs with fewer assets than the Legacy system being retired. For example, a force package composed of 1 National Security Cutter (NSC), 1 Multi-Mission Cutter Helicopter (MCH), and 2 Vertical Unmanned Aerial Vehicles (VUAVs) will be able to conduct surveillance over 56,000 square miles compared to a current 378′ High Endurance Cutter (WHEC) force package which only covers about 13,500 square miles on a daily basis. Furthermore, the NSC force package will be programmed to operate 230 days/year compared to 185 days/year for a 378′ WHEC.

Question 2. Do you believe that acceleration of Deepwater is not necessary, or simply not possible due to the amount of funding you receive?

Answer. The Fiscal Year 2006 President's request of $966 million for Deepwater makes a strong statement regarding the urgency of this program by advancing critical elements such as HH–65 re-engining by 5 years, Fast Response Cutter development by 10 years, and OPC design and materials procurement by 5 years while keeping essential NSC construction on schedule.

Implementing the revised Deepwater plan, as submitted by the Administration, will recapitalize and modernize the Coast Guard with enhanced maritime safety and security capabilities necessary to ensure operational success across all of our missions at a rate that balances risk and affordability.

Question 3. What level of funding would have to be provided in Fiscal Year 2006 to accelerate the revised Deepwater Program to a 15-year completion date? Can you estimate what savings would be achieved by accelerating the program to a 10-year timeline? 15-year?

Answer. Accelerating Deepwater to a 15-year completion date (from the 2002 contract award) would require completion of the program funding by 2016. Currently, the $24 billion acquisition cost is spread out over 25 years. Approximately $2.18 billion has been expended in the first 4 years of the acquisition. Spreading the remaining $21.8 billion dollars over the period from Fiscal Year 2006 through 2016 would require an average annual investment of $1.98 billion dollars beginning in Fiscal Year 2006. Completion of the Deepwater Program on a 10-year timeline would require its funding be completed by Fiscal Year 2011. Given the complexity and number of assets involved in the Deepwater system of systems acquisition, the Coast Guard does not believe the program could be executed by 2011. Completing the system by 2016 (a 15-year timeline) could be executed and would potentially yield savings. The Coast Guard has conducted some informal assessments as to the potential cost savings and cost avoidance if the acquisition was completed sooner. To date, our assessments have identified the following potential savings:

- *Contract Performance Management:* If Deepwater were to be completed sooner, total project cost of system integrator and government contract management personnel would be reduced. Additionally, a shorter contract term will lessen the number of performance award fee determinations paid out contributing to further future years savings. These award fees typically average approximately $5 million, minus 10 percent, and will undoubtedly grow with inflation and asset delivery in future years.

- *Legacy Cutter Maintenance Costs:* Legacy cutters could be retired much sooner. Due to increasing age and continued high-op tempo, legacy cutter maintenance costs have been increasing at a rate much greater than estimated in our Deepwater pre-9/11 baseline planning. The early retirement of these assets will stop these increasing costs sooner. It will also reverse the trend of increasing lost days due to unscheduled maintenance to repair casualties.
- *Legacy Asset Modernization and Service Life Extension:* If replacement assets were provided sooner, currently anticipated service life extension projects such as 210-foot Medium Endurance Cutter (WMEC) sustainment projects or aircraft avionics upgrades would no longer be required.

Question 4. What are the cost estimates for legacy asset sustainment in the coming years? Will it be more than 25 percent of the Deepwater budget that is now requested?

Answer. The cost estimates for out-year legacy asset projects have been provided to Congress in the Deepwater Fiscal Year 2006 Capital Investment plan. The Coast Guard places Deepwater legacy asset Acquisition, Construction, and Improvement (AC&I) maintenance projects into three categories: sustainment, enhancement, and conversion. These projects will amount to $1.945 billion, less than 8.25 percent of the overall Deepwater acquisition cost and are further described below.

- Sustainment projects are designed to maintain existing legacy asset capabilities and ensure the reliability of these assets until they are replaced by their Deepwater counterparts. An example of a sustainment project is the Mission Effectiveness Project planned for Coast Guard's 210-foot and 270-foot WMEC fleet, where obsolete and failing engineering subsystems are being renewed. The Coast Guard's legacy asset maintenance plan includes $338 million in sustainment projects, or approximately 1.5 percent of the total Deepwater acquisition cost.
- Enhancement projects are designed to improve capabilities onboard legacy assets in the interim before these assets are replaced by their Deepwater counterpart, per the Revised Deepwater Implementation Plan. An example of an enhancement project is the upgrade of Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) equipment onboard WMECs and WHECs. The Coast Guard's legacy asset maintenance plan includes $103 million in enhancement projects, or less than half of 1 percent of the total Deepwater acquisition cost.
- Conversion projects are designed to renovate and upgrade existing legacy assets to the point where they are incorporated as part of the final Integrated Deepwater Solution (IDS) force structure. An example of a conversion project is the ongoing HH–60J avionics modernization project. The Coast Guard's legacy asset maintenance plan includes $1.504 billion in conversion projects. Legacy conversions total approximately 6.25 percent of the overall Deepwater acquisition cost.

Question 5. How do you explain moving forward with Deepwater under the onus of "more capable" versus "more capacity"?

Answer. The answer is in the post-9/11 capabilities added to the Deepwater System in the revised implementation plan. They include the improved C4ISR, greater speed and stopping power, airborne use-of-force, and intelligence capabilities Deepwater delivers. These capabilities will enable the Coast Guard to put the right asset in the right place at the right time for years to come. The Coast Guard has already seen results with the use of these new capabilities recently installed on legacy assets. For example, enhanced C4ISR capabilities enable better use of intelligence, which when combined with airborne use-of-force capabilities, is the primary reason the Coast Guard has shattered drug interdiction records in recent years. These are revised Deepwater capabilities in action; once they are installed in the new Deepwater assets the Coast Guard will see similar performance across all its mission areas. Having more capable assets is the first step to increased performance.

More capable assets will be able to do a great deal more than those reflected in the pre-9/11 Deepwater construct—just as modern power tools and materials enable a carpenter to build a home in a shorter amount of time than the days when hand saws and hammers were the norm.

Furthermore, our risk analysis indicates that the same capabilities added for increased performance across all the missions are essential for lowering the risk for a variety of the most consequential maritime terrorist threat scenarios.

Question 6. When the 110-foot patrol boats were being delivered to the Coast Guard, the Coast Guard established a pre-commissioning facility in New Orleans to support the pre-commissioning crew during its familiarization period prior to delivery of each cutter, as well as after delivery of each cutter as each crew developed

proficiency in operating the cutter before transiting to homeport. The facility was located relatively close to the construction shipyard so that warranty items identified by the crew could be quickly resolved prior to the cutter's departure for homeport. Naval Station Pascagoula seems ideally situated to serve as such a facility for the Deepwater cutters being constructed in Mississippi. Does the Coast Guard intend to establish a similar facility for those cutters, and if so, would the Coast Guard consider locating it at Naval Station Pascagoula?

Answer. The Coast Guard is establishing a Gulf Coast Primary Crew Assembly Facility (PCAF) to support the training and on-site logistics demands of the NSC and Offshore Patrol Cutter (OPC) pre-commissioning crews. The initial PCAF crew of 6 military personnel will be operating from contractor-provided spaces at Northrop-Grumman Ship Systems Ingalls Shipyard in Pascagoula, MS, to support the NSC and OPC.

Question 7. Admiral Collins, in a previous response, you indicated that the HH–65 helicopter re-engining program would send two helos to Columbus, MS in FY05 and six helos there in FY06. However, Columbus has the capacity to perform more conversions during those 2 years and the Coast Guard plans to deliver 10 helos to ARSC during FY07. Additionally, the total number of helos delivered to ARSC and Columbus combined is planned to be 29 in FY05 and 51 in FY06. It seems to me that the re-engining project could be completed faster if more helos were sent to Columbus, especially in FY05. Why is this not being done?

Answer. In December 2004, to accelerate the HH–65 re-engining project, the Coast Guard delivered a helicopter to Columbus, MS. With its Deepwater contractor, Integrated Coast Guard Systems (ICGS), the Coast Guard is examining the quality and suitability of this second re-engining facility. The Columbus facility projects completing this first re-engining in September 2005. This first job is currently 80 percent complete. If the Columbus facility meets quality and suitability requirements, the Coast Guard plans to fund a total of five helicopters for conversion in Columbus with Fiscal Year 2005 funds and seven in Fiscal Year 2006.

Along with awaiting the completion and assessment of the first aircraft to be re-engined in Columbus, there are two other factors that limit the rate at which re-engining can be accomplished. First, the schedule for conversions is dependent on the availability of engines and airframe kits. The manufacturer is producing these items as quickly as possible. Second, removing more helicopters from service than called for in the current schedule could jeopardize the Coast Guard's ability to respond to operational missions. These two factors have been carefully considered in developing an ambitious schedule to re-engine all operational aircraft by February 2007.

Question 8. Admiral Collins, the Coast Guard and MariTEL Inc. have been struggling to find a resolution to their seemingly conflicting concerns: the Coast Guard wants to use the VHF–FM spectrum differently than originally envisioned and MariTEL wants to retain enough useable VHF–FM spectrum to develop a viable business. The difficulty in achieving both objectives seems to be technological, in that their respective uses of the VHF–FM spectrum present potential interference problems with each other. MariTEL believes that a technological solution to this interference problem that would enable both the Coast Guard and MariTEL to fully develop this spectrum for their respective purposes does not currently exist, but may be possible to develop. Does the Coast Guard agree with this assessment?

Answer. The Coast Guard does not concur with this assessment.

The Coast Guard is not using the VHF–FM spectrum differently than originally envisioned as the question assumes. The use of the VHF–FM maritime spectrum has not changed since the Coast Guard originally supported the designation of two VHF–FM channels for an Automatic Identification System (AIS) by the International Telecommunications Union World Radio Conference in 1997. Additionally, the Federal Communications Commission set aside frequencies for AIS in 1998, *before* MariTEL purchased VHF–FM frequencies at auction. While the Coast Guard's designed use of the VHF–FM spectrum has not changed, the events of September 11 and the subsequent adoption of the Maritime Transportation Security Act of 2002 (MTSA) expedited the implementation of AIS and expanded AIS carriage requirements.

With regard to a technological solution to potential interference problems within the VHF–FM spectrum, confirmed by a study conducted by the Department of Defense Joint Spectrum Center in February 2004, the Coast Guard has identified readily available interference mitigation techniques that would permit: (1) the mandated nationwide implementation of AIS operations in accordance with the MTSA for maritime safety and homeland security communications; and (2) the development of the rest of the spectrum by MariTEL for commercial maritime communication services.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. INOUYE TO ADMIRAL THOMAS H. COLLINS

Question 1. The revised Deepwater plan lists a number of enhanced capabilities that will be provided to the Coast Guard. Understandably, most of these capabilities are aimed at the Coast Guard's security mission. How will these new capabilities also help the Coast Guard fulfill its non-security related missions, such as fisheries enforcement?

Answer. The Coast Guard is acquiring a future fleet that is made up of a balanced system consisting of the right blend of capability (the individual ability of each asset) and capacity (the total number and mix of assets). These capabilities are designed to enhance multi-mission performance. Although our re-baselining effort focused on homeland security missions, the capabilities selected for inclusion into the system enhance performance in other critical mission areas such as search and rescue, fisheries enforcement, and drug and migrant interdiction. Fisheries enforcement, for example, will benefit from the enhanced surveillance, detection, and classification capability built into the NSC and OPC which will extend about four times the number of square miles that a WHEC provides today.

Question 2. I am a bit concerned that the new plan reduces the total number of assets, especially given the need for physical presence in areas like the Western and Central Pacific. Being able to see and to identify an illegal foreign fishing vessel with this cutting-edge technology is all well and good, but how will the Coast Guard catch them unless a cutter is out there too?

Answer. Though the Revised Deepwater Implementation plan provides fewer major cutters than the current legacy Coast Guard fleet, it provides 97 percent of the total number of current patrol days due to increased operational efficiencies. The revised Deepwater plan also provides 21 percent more fixed-wing aircraft and 18 percent more patrol boats. Under this more efficient force structure, the increased numbers of patrol boats assume more duties in the littoral waters and free major cutters to patrol further offshore, such as in the Western and Central Pacific.

Significantly improved intelligence gained from the new Deepwater system including the use of Unmanned Aerial Vehicles (UAV), Automatic Identification Systems (AIS) and common operation picture will enable our new Deepwater assets to patrol much more efficiently and effectively. These capabilities are true force multipliers and will allow us to leverage our assets for far beyond the current fleet's ability and capacity.

System	Patrol Days/Hrs	Number Assets	Total
Legacy Major Cutters	185 Days	42	7,770
Deepwater Major Cutters	230 Days	33	7,590
Legacy Patrol Boats	1900 Hrs	49	93,100
Deepwater Patrol Boats	3000 Hrs	58	174,000
Legacy Fixed-Wing	800 Hrs	48	38,400
Deepwater Fixed-Wing	800/1200 Hrs	58	60,800

Question 3. Given all of the problems that the Coast Guard has experienced with its two major legacy programs thus far, the HH–65 helicopters and the 110′ cutter conversions, I am surprised to see that the new plan would upgrade rather than replace 22 of your C–130 aircraft, and all of your HH–60 helicopters. (1) Why did the Coast Guard make this significant change in the plan? (2) Is this really the best decision in your opinion, in terms of long-term performance?

Answer. (1) The Coast Guard is confident that conversion of legacy aviation assets to meet post-9/11 mission requirements today and in the future will be the most operationally effective and affordable final Deepwater solution. The Coast Guard agrees that the 123′ project has had problems, but would disagree with the characterization of HH–65s as problematic. The HH–65 power and reliability has been a significant problem in the past, but the HH–65 re-engining project is very much a success. It is consistent with the original Deepwater MCH conversion plan and has given the Coast Guard positive insight into successful strategies for other aviation conversion projects. The first re-engined HH–65 was flying within 8 months of initiation of the project. The seven HH–65s delivered to date are performing as required and the project is scheduled to be complete in February 2007 instead of the projected date of July 2007. The success of the HH–65 re-engining was one input used to make the decision to upgrade and convert C–130 and HH–60 aircraft into Deepwater end-state assets. The 123′ conversion was a very different kind of project. Cutters and aircraft are designed to different standards and specifications and are

maintained in an entirely different manner. Aircraft are enrolled in a very specific and systematic maintenance program while cutters have a more flexible, "on-condition" based maintenance schedule. The 123′ conversion project involved major structural alterations with the addition of 13 feet to the hull. The MCH, like the other legacy aviation conversions, is not receiving major structural alterations but will incorporate more reliable, commercially available off-the-shelf engines, upgraded main transmission, sensors, and avionics.

(2) Yes. The Coast Guard is confident that conversion of legacy aviation assets will assure their long-term performance. The revised Deepwater Implementation Plan calls for extending the service life of Coast Guard HC–130s, HH–60s, and HH–65s in order to keep them in service for 20+ more years. This service life extension is possible due to the sound depot-level maintenance practices employed by the Coast Guard's Aircraft Repair and Supply Center in Elizabeth City, NC. The aircraft are taken down to bare metal and re-built every 4–6 years, giving the airframes and many aircraft subsystems renewed service life. Extended aircraft service life is not unique to the Coast Guard. The Air Force fleet of B–52s began service in the 1940s and is currently projected to remain in service through at least 2015.

Question 4. How can we be sure that the HH–60 and C–130 aircraft will not have problems in the long run? The Air Force has found that the older C–130J aircraft have cracks in the wing-boxes. And in December 2004, during an attempted search and rescue of the fishing vessel, the NORTHERN EDGE, 3 out of 4 of the Coast Guard's HH–60 helicopters were forced to return to Cape Cod Air Station due to mechanical problems. Five of the NORTHERN EDGE crew member died. Did the Coast Guard inspect its entire C–130 fleet prior to deciding to keep them in use? Has the Coast Guard fully inspected all of its HH–60s recently?

Answer. The Coast Guard's Aircraft Repair and Supply Center (ARSC) performs routine Programmed Depot Maintenance (PDM) on all HH–65s, HH–60s, and HU–25s. PDM is an intrusive corrosion inspection/structural repair done every 48 months. The Coast Guard has also established original equipment manufacturer support for all legacy airframes well into the future.

As seen in the photos below, this "routine" aircraft maintenance is extensive, involving stripping each aircraft to the "green" frame and rebuilding it. Currently, contractor support is used to provide PDM on the Service's HC–130Hs. ARSC is establishing organic HC–130H PDM capability by Fiscal Year 2006.

In March 2005, the C–130 manufacturer, Lockheed Martin Aero (LMA), changed the inspection guidelines for C–130 wing-boxes based on cracking found in Air Force C–130s of about the same age as Coast Guard C–130s. The wing-box problem is not unique to the Coast Guard, but applies to all C–130s worldwide. As a result of flight hour limitations/restrictions identified in LMA Service Bulletin (SB1), the 5 Coast Guard 1500 series airframes are limited to restricted operations until they are properly inspected over the next 6 months. The second service bulletin, overdue from LMA, will provide the non-destructive inspection procedures for determining the condition of the wing-box. The decision to keep HC–130Hs in use was made prior to LMA SB1 notification. If the 1500 series center wing-boxes are found undamaged, operating restrictions will likely be lifted. If serious structural cracking is found during inspections, the Coast Guard will have to make a decision on whether to refurbish the affected aircraft at an approximate cost of $10M per aircraft to keep them in service for another 25 years or remove them from service.

The HH–60J failed sorties on the NORTHERN EDGE search and rescue case were associated with component failures. Each HH–60J failed sortie was caused by a different component, and these specific component failures are rare in the HH–60J fleet. One failure, a frozen fuel selector, was the first time that problem had

ever been encountered. The entire HH–60J fleet is inspected daily through pre-flight/thru-flight/post-flight inspections and preventive maintenance. The pre-flight inspection is accomplished prior to the first flight of the day and remains effective for 24 hours, provided no subsequent maintenance has been performed. The pre-flight inspection consists of checking the aircraft for flight preparedness by performing visual examinations and operational tests to discover defects and maladjustments which, if not corrected, could adversely affect safety or mission accomplishment.

Question 5. Why did the Coast Guard submit not one, but two different funding scenarios for its revised Deepwater plan? Which one do you really want?

Answer. The Coast Guard is going to use the $24B/25-Year Capital Investment Plan (CIP).

The asset deployment schedule (a.k.a. table runner) for this plan is attached. It shows the delivery timeline of the assets in the plan. The delivery timeline lags behind the funding timeline shown in the Capital Investment Plan based on design/construction schedules of the individual assets. The table runner is a graphic description of the current notional plan. The actual out-year delivery schedule is predicated on funding availability and Coast Guard priorities. Future Coast Guard budget submissions may include additional sustainment, enhancement, and conversion projects within the AC&I account. This account is subject to yearly availability of appropriations.

Question 6. Does the fact that the Coast Guard submitted a $24 billion plan mean that the $19 billion plan will not in fact allow the Coast Guard to achieve its performance goals for all of its many missions?

Answer. The Coast Guard is going to use the $24 billion/25-year CIP plan.

Previously, the Coast Guard submitted a plan that delivered a range of assets funded at between $19 billion and $24 billion. The $19 billion force level would only achieve Coast Guard performance goals if the system actually out-performed projections. The $24 billion force level assures a minimum threshold of performance as projected by models used in the planning process.

Question 7. Why are both of the plans significantly more expensive than the original projection of $17 billion for completion of the program? Are all of the costs attributable to the new capabilities Coast Guard would acquire?

Answer. The new plan is more expensive because it buys enhanced post-9/11 capabilities. In addition, legacy asset sustainment projects are funded in this plan at a higher rate than in the original plan, but still amount to less than half of 1 percent of the overall acquisition cost.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO ADMIRAL THOMAS H. COLLINS

Question 1. Will the new mix of capability and capacity of assets ensure that the Coast Guard will be able to meet its performance goals for all of its security and non-security missions?

Answer. Yes. The new mix of assets in our revised Deepwater Implementation plan will enable the Coast Guard to meet its pre- and post-9/11 mission requirements. Post-9/11 mission capabilities added include:

- Network-Centric C4ISR Interoperability
- Maritime Security Capability
- Helicopter Airborne Use of Force and Vertical Insertion and Delivery
- Additional Fixed-wing Aircraft
- Anti-Terrorism/Force Protection
- Chemical, Biological, Radiological (CBR) Detection and Defense

Optimizing the Coast Guard's mission performance outcomes across all the long-term goals was a key driver for selection of these particular homeland security capability enhancements. Each capability contributes across multiple missions.

Question 2. Which level of funding—$19 billion or $24 billion—is needed for the Coast Guard to implement all of its missions? Does the inclusion of a $24 billion plan mean that the $19 billion plan—$2 billion higher than the original cost estimate for Deepwater—will somehow fall short?

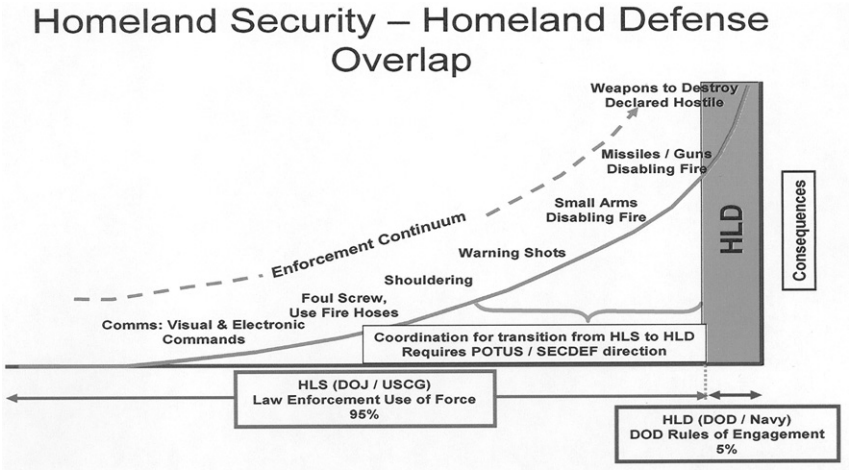
Answer. The Coast Guard is going to use the $24 billion/25-year CIP.

Previously, the Coast Guard submitted a plan that delivered a range of assets funded at between $19 and $24 billion. The $19 billion force level would achieve Coast Guard performance goals if the system actually out-performed projections.

The $24 billion force level assures a minimum threshold of performance as projected by models used in the planning process.

Question 3. What steps has the Coast Guard or ICGS taken to examine other assets such as the Littoral Combat Ship that Navy is acquiring, as an alternative to the cutters in the Deepwater Program? Could you describe what kind of analysis was done to evaluate the benefits of such alternatives as part of this revised plan?

Answer. There is a limited amount of operational overlap between the Littoral Combat Ship (LCS) and the Deepwater Program. The Coast Guard cutters in the Deepwater Program are multi-mission assets designed to meet all the Coast Guard's homeland security and non-homeland security missions. Just as the Coast Guard's statutory authority differs greatly from the Navy's, so too do the tasks required of the Deepwater cutters differ from LCS tasking. The diagram below highlights some of these differences.



There is an overlap between Homeland Security (HLS) and Homeland Defense (HLD) mission tasking that the Coast Guard fills because of its law enforcement and military authority. The Coast Guard is uniquely suited to ensure a seamless hand-off when necessary between HLS and HLD tasking. To achieve this hand-off, all the Deepwater assets are designed to be interoperable with DOD assets, and where appropriate, have similar technologies to accomplish this tasking. As appropriate, Deepwater assets are taking advantage of LCS design work.

To achieve this, the Coast Guard has been closely engaged with the LCS program since its inception. Admiral Stillman, the Deepwater Program Executive Officer, was a member of the evaluation board for the LCS and the Coast Guard has a Memorandum of Understanding with the LCS program office. The Coast Guard is partnering with the LCS where it makes sense to do so. For example, Deepwater and the LCS project are both contracting with Lockheed Martin for integration, and command and control technology.

The Deepwater cutters are being designed with the requirements to be interoperable with all Navy ships, not just the LCS. The Deepwater Program has been jointly developing the MK110 57MM gun with the Navy's LCS and DD(X) programs. Deepwater cutters are also expected to share a common integrated combat management system with LCS. Additionally, both programs are using vertical take-off and landing UAVs with a common landing system, and are relying upon similar small boat stern launch technology.

Question 4. Since you haven't yet completed the Performance Gap Analysis on the fleet mixture contained in the revised Deepwater plan, how can you be confident that you have achieved the proper mix of capabilities and quantities of assets?

Answer. Though Part IV of the Performance Gap Analysis (PAG) study has not been completed, sufficient information was provided by Parts I through III to make a reasoned determination of the fleet mixture needed in the revised Deepwater plan.

Part I of the PGA involved 40 operations, C4ISR and logistics experts from around the Coast Guard, supported by Coast Guard and industry operations research analysts. The team incorporated previous bodies of work including the Deepwater studies from CNA and the aviation studies, research from Brookings, and oth-

ers. Using a variety of force structure projection models, the PGA I team captured the capability and capacity gaps of the 2002 baseline Deepwater proposal, proposed a revised System Performance Specification that closed capability gaps, and projected three candidate force structures to close capacity gaps.

Part II of the PGA study assessed the Operational Effectiveness (OpEff) of the three force structures developed by the PGA I process using the Coast Guard's Deepwater Maritime Operational Effectiveness Simulation (DMOES) campaign model. This modeling effort simulated PGA I force structures with the *same baseline capabilities as the 2002 baseline Deepwater proposal.* The study concluded that, though the larger force resulted in increased OpEff, capacity alone would not maximize system-wide performance and that a proper balance of capability *and* capacity would be required to ensure alignment of the IDS with post-9/11 mission demand.

Concurrent with the PGA II process, the PGA team initiated an effort to determine the new asset capabilities that would be required to meet post-9/11 mission requirements. These capabilities have been grouped into the following functional capabilities:

1. Network-Centric Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Interoperability
2. Maritime Security Capabilities
3. Helicopter Airborne Use of Force and Vertical Insertion and Delivery
4. Fixed-Wing Aircraft
5. Anti-Terrorism/Force Protection
6. CBR Detection and Defense

Part III of the PGA assessed and prioritized the application of these capabilities on the Deepwater system. The PGA III effort developed three increments of capability application and assessed their impact on the system. The PGA III also developed a qualitative description of the return on investment for the improved capabilities across all mission sets. For example, the airborne use-of-force capability yields significant positive results not only for the homeland security mission but for traditional counter-drug and law enforcement missions.

PGA I provided a force structure framework that PGA II and III enhanced with the needed capabilities. These studies provided modeled parameters from which the final force structure and capabilities in the revised Deepwater Implementation Plan were interpolated. The PGA, like any modeling analysis, is simply a tool for seasoned, experienced decisionmakers. Leaders use models, but are not led by them alone. The Coast Guard is confident that PGA IV, which will model the final force structure with the final enhanced capabilities, will support the decisions it made in the revised Deepwater Implementation Plan.

Question 5. Is it possible, given the needs for shore-based facilities and personnel training, for the Coast Guard to implement its entire Deepwater plan in a shorter time frame?

Answer. The Office of Management and Budget, the Department of Homeland Security, the Government Accountability Office (GAO), non-governmental third party reviewers like the RAND Corporation, and the Coast Guard have reviewed the time to implement the Deepwater project. There are various factors that limit the speed of build-out including those noted in the question. The Coast Guard has concluded that the $24 billion over 25 years is the most appropriate time period.

Question 6. What new assets would be easiest to accelerate and could be accelerated with the least risks in terms of the GAO concerns?

Answer. GAO's concerns were that accelerating several platforms would require design and development efforts. These multiple, simultaneous development efforts were assessed as overly risky. The Coast Guard has advanced the scheduled delivery of the Fast Response Cutter by 10 years and the OPC by 5 years. Selectively accelerating one asset over another is not the most efficient implementing tactic for Deepwater, and in fact, would not deliver the operating benefits derived from Deepwater's System of systems design. To achieve improved operations, assets must be acquired in concert with each other in order to achieve the desired level of operational results and interoperability of the IDS. For example, accelerating the NSC ahead of the VUAV and MCH would result in delivery of an incomplete "Force Package" and a NSC with decreased operational capability. This would also result in a decrease to system performance.

Question 7. GAO has raised concerns about what acceleration would mean in terms of program management. Do you share those concerns?

Answer. GAO's concerns were that accelerating several platforms would require design and development efforts. These multiple, simultaneous development efforts

were assessed as overly risky. The Coast Guard has advanced the scheduled delivery of the Fast Response Cutter by 10 years and the OPC by 5 years. Developing these new major assets while also developing and building the NSC and other assets currently in development, is a major challenge and no doubt presents risks. However, there are also significant risks to continuing to watch the readiness of Coast Guard assets decline. The Coast guard will continue making every effort to exercise due diligence and mitigate any and all contracted risks.

Question 8. I'd like for all the witnesses to elaborate on this question I posed to Admiral Collins during the hearing. The Army—the only other Armed Service to use the "Lead Systems Integrator" approach—recently backed away from that approach in their Future Combat Systems procurement due to concerns over lack of cost control. These are similar to the concerns that GAO raised on the Deepwater Program. (1) Are the Army's new arrangements for managing this contract similar to those that the Coast Guard has in place? (2) Should the Coast Guard use this approach to ensure that the costs are kept down?

Answer. (1) Currently, the Coast Guard relies upon ICGS for both system integration and the supplier function. Were the Coast Guard to serve as its own general contractor for the system, the work and the risk for the Coast Guard would increase significantly. The Coast Guard would not only have to ensure cost, schedule, and performance of the integrator for multiple contracts, the Coast Guard would also have to resolve differences between those contractors in order to achieve systems integration. ICGS can leverage its industrial position and long-standing relationships to shape the integrated solution and derive savings in ways that the Coast Guard simply could not. ICGS manages both the system integrator and general contractor role, effectively reducing risk and making the overall acquisition more efficient. The risk GAO refers to would not be resolved by a change in approach. That risk can best be mitigated by meeting the challenge to shape the existing partnership.

(2) The Coast Guard had a study conducted by an independent Federally Funded Research and Development Center (FFRDC), Logistics Management Institute (LMI) on pursuing Deepwater as a traditional asset replacement acquisition where each asset was stove-piped. These are the ten major projects I discussed. LMI found that in using a traditional acquisition approach the projected government cost goal would be $62.9B in FY 1998 dollars to replace Deepwater assets and that there would be an estimated 15 percent cost avoidance by using the Deepwater system of systems approach with a systems integrator. Even if the cost avoidance is only 5 percent, the Coast Guard can put these savings to better use in performing the mission instead of using the funds to hire a large number of Federal employees to acquire Deepwater.

Question 9. Should the Coast Guard conduct an analysis of alternatives to ensure the Deepwater Program is on the right track?

Answer. Consistent with departmental major acquisition guidance, the Coast Guard conducted an assessment of alternatives prior to awarding the contract to ICGS. This assessment was at the asset and system levels. At the same time, the Coast Guard organized its oversight of the Deepwater acquisition into three parts. The interplay of these three organizational elements obviates the need for an additional assessment of alternatives at this time.

The first element is the program organization, the Deepwater Directorate, headed by the Program Executive Officer (PEO). The PEO is the acquirer and is responsible for ensuring that the Deepwater contract is efficiently ensuring that all cost, schedule and performance parameters are being achieved. The PEO is also responsible for the process by which ICGS is regularly evaluated and will be evaluated for the award term recommendation of whether or not to retain ICGS as the Deepwater contractor in future years.

The second Coast Guard organization element charged with overseeing the Deepwater acquisition is the Deepwater sponsor organization. The sponsor organization is independent of the PEO and represents the operational customer who will ultimately use the Deepwater system to achieve Coast Guard mission performance requirements. The sponsor organization participates in the Deepwater enterprise at the asset and system development level. At the asset level, the sponsor is represented in the Integrated Product Teams, delivering operational expertise to the shaping of each asset. At the system level, the sponsor is represented in the overarching matrix team and other flag-level Deepwater decisionmaking events. The sponsor prepared the Deepwater Performance Gap Analysis and revised Mission Need Statement reflecting post-9/11 mission requirements. At both the asset and the system level, the sponsor challenges ICGS' proposed solutions and offers alternatives to meet operational requirements.

The third Coast Guard organizational element that shapes Deepwater acquisition is the Agency Acquisition Executive (AAE). The role of the AAE is played by the Vice Commandant of the Coast Guard, the number two person in the Coast Guard. The AAE reviews any major changes to the Deepwater acquisition, like the extensive modification to the NSC, and exercises senior leadership by serving as a final appeal authority when the program and sponsor organizations differ over ICGS' proposed asset and system level solutions.

The Coast Guard is actively engaged in the critical oversight of ICGS from both a contract performance and an alternative solution perspective. No ICGS decision is beyond scrutiny.

Question 10. How many of the issues GAO raised have been successfully dealt with or "Closed"? Why is it taking so long to proceed with the other recommendations?

Answer. It is the Coast Guard's intent to close out all eleven items in the GAO report. Three have been closed to date and significant action has started on the other eight. The Coast Guard feels that all the GAO findings and recommendations related to improving the Deepwater Program are important and will continue to first resolve each issue and mitigate the risk and then work with GAO to reach agreement that the issue has been resolved and the identified risk has been sufficiently mitigated.

Question 11. Should the Coast Guard use an independent entity to help evaluate the decisions by the prime contractor, ICGS, (1) such as decisions to purchase certain assets, or (2) decisions to build such assets in-house rather than subcontract them to another company?

Answer. As the largest acquisition ever undertaken by the Coast Guard, every dollar spent by the Deepwater acquisition is rigorously overseen and internally challenged. Three internal Coast Guard organizational elements exercise this governance and reflect the tight-fisted ethos.

The first element is the program organization, the Deepwater Directorate, headed by the PEO. The PEO is the acquirer and is responsible for ensuring that the Deepwater contract is efficiently executed by ensuring that all cost, schedule, and performance parameters are being achieved, and that appropriate make-buy decisions are made. This began early at the proposal development phase, when the ICGS proposal was accepted with several major components (e.g., 123′ WPB conversions, CASA MPA, and VUAVs) of the ICGS solution were not made by the ICGS' partners Lockheed Martin and Northrop Grumman. During the execution phase the PEO has acted to ensure that ICGS' make or buy decisions deliver the best value while meeting the performance requirements. PEO oversight has been shaped by GAO best practices as well as GAO audit recommendations.

The second Coast Guard organization element charged with overseeing the Deepwater acquisition is the Deepwater sponsor organization. The Sponsor organization is independent of the PEO and represents the operational customer who will ultimately use the Deepwater system to achieve Coast Guard mission performance requirements. The sponsor organization participates in the Deepwater enterprise at the asset and system development level. At the asset level, the sponsor is represented in the integrated product teams delivering operational expertise to the shaping of each asset. At the system level, the sponsor is represented in the Overarching Matrix Team and other flag-level Deepwater decisionmaking events. As the final customer, the sponsor is an active watchdog of the Deepwater procurement interjecting best-value judgments in each decision.

The third Coast Guard organizational element that shapes Deepwater acquisition is the AAE. The role of the AAE is played by the Vice Commandant of the Coast Guard, the number two person in the Coast Guard. The AAE ensures that the funds appropriated for all Coast Guard major acquisitions are spent wisely and exercises senior leadership by serving as a final appeal authority when the program and sponsor organizations differ over ICGS' proposed asset and system level solutions.

The interplay of the PEO, the Sponsor, and the AAE bolstered by GAO's constructive engagement ensure that limited Deepwater dollars are wisely spent. It would be an unnecessary additional expense to hire an independent entity to review ICGS' make-buy decisions.

Question 12. What is being done by ICGS and the Coast Guard to improve competition for subcontracts?

Answer. Competition for subcontractors below the first tier of the Integrated Coast Guard System partners, Lockheed-Martin and Northrop Grumman, was provided during the award process of the Deepwater prime contract. The principle of competition has been central to the Deepwater Program since inception. The initial competition started with four industry teams. From these four teams, there was a

down-select to three teams. Their proposals included who was designated to actually do the task orders such as ICGS partners or the next level subcontractors, with full cost and pricing data, for the first 5 years. Based on that background, the GAO agreed with the Coast Guard that any deliveries planned for the first 5 years met the criteria for full and open competition. These included the 123′ conversion, the NSC, the short range prosecutor small boat, the long range interceptor small boat, the HH–65 conversion to the MCH, VUAV, and maritime patrol aircraft.

The post-9/11 revised Deepwater Implementation Plan retains all of those assets with the exception of the VRS helicopter; the functionality of the VRS will be filled by the current HH–60 being converted to a Deepwater end-state asset. Effectively, there are really only three major assets where new competition will make a difference: the OPC, FRC, and eventually the high altitude/high endurance UAV.

The Coast Guard has made provisions for ensuring that it manages cost aggressively by using third-party independent cost estimates for the OPC and FRC to ensure that cost remains paramount as these assets are acquired. Given the phenomenal rate of technical advancements, the Coast Guard will ensure that a full and open competition is conducted to obtain high altitude/high endurance UAV services. Subcomponents of the VUAV, such as the control system and radar, will also be competed.

The Coast Guard also recently conducted a third-party competition review that included a review of the competitive procedures of the purchasing and/or contracting departments both contractors had in place and determined that these procedures were being followed. The Coast Guard plans to conduct this review on a recurring basis. This review is in addition to the regularly scheduled Defense Contract Audit Agency monitoring of both major contractors purchasing and/or contracting departments.

Given this background and Coast Guard actions to date, adequate competition was ensured for the first 5 years and will be achieved in the future for any Deepwater subcontracts.

Question 13. GAO recommended in its 2004 report last year, that the Coast Guard should compare the growing total ownership costs of the prime contractor's Deepwater solution against a neutral baseline of what the costs would be in a traditional procurement. Instead, the Coast Guard is measuring the actual costs against the prime contractor's own original cost estimates. GAO states that "measuring the system integrator's cost growth compared with its own cost proposal will tell the government nothing about whether it is gaining efficiencies by turning to the 'system of systems' concept." Why isn't the Coast Guard following GAO's advice on this matter?

Answer. The Coast Guard had a study conducted by an independent Federally Funded Research and Development Center (FFRDC), Logistics Management Institute (LMI) on pursuing Deepwater as a traditional asset replacement acquisition where each asset was obtained by a separate major acquisition project and then traditional Coast Guard efforts were employed to integrate these separate acquisitions. LMI reported that using a traditional acquisition approach would have projected a government cost of $62.9 billion in Fiscal Year 1998 dollars to replace Deepwater assets. The system integrator's projected baseline for the same period was $50.4 billion in Fiscal Year 1998 dollars.

Since the system integrator's cost was lower than a traditional acquisition approach cost, the Coast Guard used it as a baseline. From this baseline the Coast Guard projected the annual amount of Total Ownership Cost (TOC) from 2002 to 2041 in Then-Year dollars. Along with projecting the TOC, the Coast Guard measured the actual 2002 and 2003 TOC using a standard, repeatable methodology and the results are shown below. The current *trend is positive* with the *actual TOC* being $200 million lower than the annual baseline amount in Fiscal Year 2002, and $280 million lower in Fiscal Year 2003.

Total Ownership Cost	2002	2003
Annual Baseline	$1.82	$2.13
Actual	$1.62	$1.85
Variation from Annual Baseline	$0.20	$0.28

In Billion "Then-Year" dollars

The Fiscal Year 2004 actual data is being prepared and will be available by October 2005.

It is the Coast Guard's position that given the significantly lower cost, $50.4B v. $62.9B, delivered by the LMI study that any updated study of the same question

would deliver a similar lower cost for a system acquisition. Any further study of comparative TOC projections would not be a good investment. Instead the Coast Guard focuses on monitoring actual TOC.

Question 14. What kind of impacts are the maintenance issues on the 378-foot cutters having on mission performance and time at sea? What is Coast Guard is doing to address these problems? If this issue is as serious as it sounds, why did the replacement date slip from 2013 to 2016?

Answer. WHEC 378 maintenance issues are having an increasing negative impact on mission performance. The percent of time free from a deficiency in mission critical equipment which causes a major degradation or loss of a primary mission decreased from 26 percent in Fiscal Year 2003, to 7 percent in Fiscal Year 2004. Additionally, unscheduled maintenance days (lost underway days) for the WHEC fleet have increased from 49 in Fiscal Year 2003, to 229 in Fiscal Year 2004.

The Coast Guard has identified the top ten maintenance issues for the WHEC 378 class. Repair strategies have been developed and funded for six of these issues. Implementation plans are proceeding.

The original plan reflected the desire to decommission 378s as rapidly as possible. The new plan reflects the desire to decommission the 210s and 378s. The material condition of the different cutters in a class varies. Effectively, the new plan saves the "best" of the 378s for a couple years so that the "worst" of the 210 can be decommissioned.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. OLYMPIA J. SNOWE TO MARGARET T. WRIGHTSON

Question 1. Have you investigated the progress that the Coast Guard has made in addressing and implementing GAO's recommendations since the release of the report?

Answer. In 2004, we reported that well into the contract's second year, key components needed to manage the program and oversee the system integrator's performance had not been effectively implemented.[1] We also reported that the degree to which the program was on track could not be determined because the Coast Guard was not updating its schedule.[2] They are depicted in Table 5 of my prepared statement (pg. 32 of this hearing).

As of July 2005, we have seen mixed success in the Coast Guard's effort to improve management of the program and contractor oversight. Three of the recommendations—updating the Deepwater Integrated Master Schedule, developing measurable award fee criteria consistent with guidance from the Office of Federal Procurement Policy and subcontractor notification to the Coast Guard of decisions over $5 million—have been fully addressed. The Coast Guard has made progress on implementing most of the remaining recommendations, though we continue to see evidence that more improvements are needed.

Although the Coast Guard has been responsive to our concerns over the past year, three issues remain highly significant and, notwithstanding the progress we have seen thus far, likely will take some time to resolve. These are: (1) the effectiveness of the Coast Guard's primary tool for overseeing the system integrator (integrated product teams); (2) the attention paid to the affect of programmatic decisions on overall costs and capabilities (operational effectiveness and total ownership cost); and (3) proper planning for transitioning Coast Guard personnel to the new assets in terms of operations, training, and logistics (human systems engineering).

Assessing the Coast Guard's performance in implementing the remaining recommendations will be a focus of our follow-on review of the Deepwater revised implementation plan that is to commence in August 2005. To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this Subcommittee and to the Coast Guard.

Question 2. Has the Coast Guard taken steps to hold the systems integrator more accountable for the performance of and costs incurred by subcontractors?

Answer. In 2004 we (GAO) made several recommendations to improve procedures to hold the contractor more accountable for the performance of and costs incurred by subcontractors. Of these, one recommendation has been fully addressed—developing measurable award fee criteria—and progress has been made on most of the

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[1] GAO, *Contract Management: Coast Guard's Deepwater Program Needs Increased Attention to Management and Contractor Oversight,* GAO–04–380 (Washington, D.C.).

[2] GAO, *Coast Guard: Deepwater Program Acquisition Schedule Update Needed,* GAO–04–695 (Washington, D.C.: June 14, 2004).

remaining recommendations, such as holding the contractor accountable for improved integrated product team effectiveness and establishing criteria and documenting change to the program baseline.

In terms of improving criteria for assessing performance, the Coast Guard has fully addressed our recommendation by providing additional rigor to the performance criteria used to measure contractor performance to reflect those measures that are clearly objective and those that are subjective, meaning the narrative comments by Coast Guard performance monitors. Weights have been assigned to each set of evaluation factors, and the Coast Guard continues to refine the distribution of the weights to achieve an appropriate balance between automated results and the eyewitness observations of the performance monitors.

With regard to holding the system integrator accountable for effectiveness of product teams, the Coast Guard has also made changes to the award fee measures that place additional emphasis on the system integrator's responsibility for making integrated product teams effective. Award fee criteria now incorporate specific aspects of how the integrator is managing the program, including administration, management commitment, collaboration, training, and empowerment of these teams. However, concerns remain about whether the teams are effectively accomplishing their goals.

Further, concerns remain about the broader issues of accountability for achieving the overarching goals of minimizing total ownership cost and maximizing operational effectiveness. While the Coast Guard has developed models to measure the system integrator's performance in operational effectiveness and total ownership cost, concrete results have not yet emerged. In terms of modeling operational effectiveness, the Coast Guard's models are capable of simulating the effect of the new asset capabilities on its ability to meets its missions; however, until additional assets become operational, progress toward this goal will be difficult to determine.

With regard to total ownership cost, the Coast Guard does not plan to implement our recommendation. Despite concurring with it at the time of our March 2004 report, the Coast Guard has not adhered to its original plan, set forth in the Deepwater Program management plan, of establishing as its baseline a cost not to exceed the dollar value of replacing the assets under a traditional approach (*e.g.,* on an asset-by-asset basis rather than a system of systems approach). Although the Coast Guard initially established a cost baseline consistent with the program management plan's approach, the Coast Guard has not updated it to reflect changes made to the system integrator's cost estimate baseline, and therefore, is not being used to evaluate the contractor's progress in holding down total ownership cost. As a result, the cost baseline being used to measure total ownership cost is not the Coast Guard's, but rather is the system integrator's own cost estimate. As we reported in March 2004,[3] we believe that measuring the system integrator's cost growth compared with its own cost proposal will tell the government nothing about whether it is gaining efficiencies by turning to the system of systems concept rather than the traditional asset-by-asset approach. Although the Deepwater Program has undergone a number of alterations since the contract was awarded in 2002, the Coast Guard has not studied whether the system of systems approach is still more cost effective as opposed to a traditional acquisition approach. Thus, the Coast Guard will lack this information as it prepares to decide whether to award the first contract option beginning in June 2006.

The Coast Guard has made progress in implementing our recommendation to establish criteria and document changes to the Deepwater Program baseline. Coast Guard officials stated that the contract total ownership cost and operational effectiveness baseline is adjusted based on approved decision memorandums from the Agency Acquisition Executive, the Vice Commandant of the Coast Guard. Such memorandums were originally approved by the Program Executive Officer on a case-by-case basis. As we reported in March 2004,[4] establishing a solid baseline against which to measure progress in lowering total ownership cost is critical to holding the contractor accountable.

Assessing the Coast Guard's performance in continuing to implement these recommendations will be a focus of our follow-on review of the Deepwater revised implementation plan that is to commence in August 2005. To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this Subcommittee and to the Coast Guard.

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[3] GAO–04–380.
[4] GAO–04–380.

Question 3. Is the systems integrator awarding subcontracts on a competitive basis?

Answer. The Coast Guard has made progress in implementing our recommendations aimed at ensuring adequate competition among subcontractors. To that end, the Coast Guard reported that it is taking steps concerning cost control through competition among second-tier suppliers and notification of "make" decisions.[5] While we have not assessed the effectiveness of the Coast Guard's actions regarding competition among second-tier suppliers, we are satisfied with its efforts regarding notification of make decisions. It should be noted, though, that we have not assessed the effectiveness of the following actions.

Coast Guard officials told us that in making the decision about whether to award the first contract option, the government will specifically examine the system integrator's ability to control costs by assessing the degree to which competition is fostered at the major subcontractor level. The evaluation will consider the subcontractors' project management structure and processes to control costs, as well as how market surveys of similar assets and major subsystems are implemented. The Coast Guard is focusing its attention on those areas that were priced after the initial competition for the Deepwater contract was completed, such as the HH–65 re-engining and the C–130J missionization.[6] For example, a new process implemented for the C–130 missionzation was a requirement for competition in subcontracting and government approval of all subcontracts exceeding $2 million in order for the Coast Guard to monitor the integrator's competition efforts.

According to the Federal Acquisition Regulation, the prime contractor is responsible for managing contract performance, including planning, placing, and administering subcontracts as necessary to ensure the lowest overall cost and technical risk to the government. The Federal Acquisition Regulation further provides that when "make-or-buy programs" are required, the government may reserve the right to review and agree on the contractor's make-or-buy program when necessary to ensure negotiation or reasonable contract prices, among other things. We recommended that the Coast Guard be notified of make-or-buy decisions over $5 million in order to facilitate controlling costs through competition. We suggested the $5 million threshold because Lockheed Martin, one of the major subcontractors, considers that amount to be the threshold for considering its suppliers major. The Coast Guard has asked the system integrator, on a voluntary basis, to provide notification 1 week in advance of a make decision of $10 million or more based on the criteria in the make-or-buy program provisions of the Federal Acquisition Regulation. According to Coast Guard officials, to date, no make decision has exceeded $10 million since the request was made. While we are satisfied with the Coast Guard's progress on this issue thus far, the details implementing this recommendation have not yet been worked out, such as specifically who in the Coast Guard will monitor the subcontractors' make decisions to ensure that the voluntary agreement is complied with.

While these are important improvements in internal controls, it is too soon to know whether they have resulted in adequate competition or whether other actions may be needed. We will continue to monitor the Coast Guard's progress in implementing this recommendation during our pending review of the revised Deepwater Implementation Plan that is to commence in August 2005. To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this Subcommittee and to the Coast Guard.

Question 4. In GAO's opinion, which is the greater problem, the documented rapid degradation of the Coast Guard's assets, or the potential management problems with an accelerated Deepwater acquisition schedule?

Answer. The question as posed is difficult to answer in general because (1) the asset conditions vary with some being worse off than others, (2) some new assets are further along on the acquisition timeframe than others, and (3) acceleration does not necessarily translate into a more efficient replacement strategy, particularly if it results in performance problems or assets that when fielded do not meet requirements. GAO would be far more comfortable with an accelerated acquisition schedule if and when our recommendations are implemented; we will review the Coast Guard's progress in implementing these recommendations in the upcoming year. Perhaps the Coast Guard could consider a less risky acceleration strategy using a

[5] A "make item" means an item or work effort to be produced or performed by the prime contractor or its affiliates, subsidiaries, or divisions.

[6] The C–130J missionization, planned for the Coast Guard's six C–130J aircraft, is intended to modify and install mission-essential equipment to convert the aircraft into C–130J long-range surveillance maritime patrol aircraft.

targeted approach that considers both the condition of particular assets and the acquisition schedule for their replacements on a more integrated schedule, as discussed below.

The current Deepwater fleet faces a number of well-documented logistical and maintenance challenges, such as accelerated aging through accumulated wear and tear and systems obsolescence, though the extent of degradation varies among asset types. Much of the critical equipment on many cutters, for example, is highly maintenance intensive in the event of failure and becoming unsupportable. Potentially compounding this problem is the fact that AC&I funding typically used for major asset sustainment projects is now grouped in the same funding stream as new Deepwater asset acquisition dollars, which forces these legacy asset sustainment projects to "compete" with new Deepwater acquisitions (or conversion into new Deepwater assets) for funding. In addition, a substantial portion of legacy asset sustainment AC&I funds in recent years have gone toward the re-engining of the HH–65 helicopter, leaving fewer funds available for other legacy asset sustainment projects that might be needed.

Acceleration of the Deepwater acquisition schedule, of course, poses its own set of challenges. Testing of the new assets is a critical factor when considering acceleration; we feel that bringing a few new assets online and having them fielded and tested before considering accelerating their production would carry far less risk to the program than accelerating untested, unproven assets. Also, though the Coast Guard has made progress in implementing a number of our prior recommendations regarding program management, GAO would feel more confident about any possible acceleration if our recommendations were implemented in full. We plan to engage in a constructive review of the Coast Guard's progress in fully implementing our recommendations in the upcoming year.

If the Coast Guard does consider accelerating its acquisition of new assets, it could perhaps consider a less risky strategy using a targeted approach that considers both the condition of particular assets and the acquisition schedule for their replacements on a more integrated schedule. For example, the National Security Cutter (NSC) could be a target of opportunity for acceleration, since the condition of the 378-foot high endurance cutter (which it is replacing) has been particularly problematic. Once the first NSC is fully tested, accelerating production of the remaining NSCs would pose little risk.

Question 5. In your opinion, does the Coast Guard have the performance measures necessary to prioritize legacy asset maintenance/repair needs and to weigh the costs and benefits of performing continued maintenance versus the acceleration of new asset production?

Answer. We do not believe the Coast Guard currently has the performance measures it needs to effectively weigh the costs and benefits of performing continued maintenance versus the acceleration of new asset production, but it is making progress in this area. Our recent review of Coast Guard Deepwater legacy assets found that the Coast Guard's available measures are inadequate to capture the full extent of the decline in the condition of Deepwater assets with any degree of precision and are insufficient for determining the impact on mission capabilities. More specifically, the Coast Guard measures we assessed focus on events, such as flight mishaps or equipment casualties, but do not measure the extent to which these and other incidents degrade mission capabilities. On the basis of our inquiries and discussions, the Coast Guard has begun developing improved measures to more accurately capture data on the extent to which its Deepwater legacy assets' deteriorating condition affects mission capabilities. In addition, the Coast Guard is developing a knowledge-based model to provide more objective data on where to best spend budget dollars to achieve the greatest enhancements in mission capabilities. These Coast Guard efforts are described below.

To improve the performance measures for its Deepwater legacy aircraft, the Coast Guard is working to improve its dispatch reliability index measure, which provides causal information on delayed, aborted, or canceled missions. The Coast Guard can use the dispatch reliability index—in conjunction with data captured by unit-level and depot-level maintenance staff—to determine which components and systems are failing most frequently, and thus, causing degradation in aircraft availability and mission performance. For its cutters, Coast Guard naval engineers are finalizing a "percent of time fully mission capable" measure. As part of this measure, the Coast Guard is developing mission criticality codes, which would rank the degree of importance of each piece of a cutter's equipment to each mission that the cutter performs. These codes would then be linked to electronic casualty reports for each cutter to provide the engineers and operators with information on the impact that the equipment casualties would have on each type of mission. This casualty report/mission criticality linkage will then be factored into the calculation of the percent of time

fully mission capable measure for each cutter class and mission type. Coast Guard officials could then review this measure to determine, for example, the degree of capability that its 270-foot medium endurance cutter fleet has to conduct search and rescue missions at any given time. Because these measures have not been finalized or fully implemented, we were unable to assess their effectiveness. However, we view these tools as a positive step toward providing Coast Guard decisionmakers with more detailed information on the primary factors leading to mission degradation.

In addition to improving its performance measures, the Coast Guard is also developing a knowledge-based model to (1) better prioritize the projects needed to upgrade legacy assets that will be part of the Deepwater Program and (2) obtain the greatest overall mix of capabilities for its assets within its budget in order to maximize mission performance. The tool it is developing is called the Capital Asset Management Strategy (CAMS). Once fully implemented, CAMS is designed to provide analyses on the capability trade-offs for upgrades and maintenance projects across asset classes, thereby allowing the Coast Guard to determine which combination of projects will provide the most capability for the dollars invested. For example, when Coast Guard officials are trying to decide among potential project upgrades such as a HC–130 weather radar replacement, an HH–65 sliding cabin door replacement, or a 110-foot patrol boat fin stabilizer replacement, CAMS, once fully implemented, could provide the officials with a recommended mix of project upgrades that would achieve the greatest capability enhancements based on the available budget.

CAMS analyses are to be based on legacy asset condition and readiness data, asset retirement and replacement timelines, asset degradation estimates, project production rates, cost data, and mission utility rankings. Mission utility rankings will grade an asset's importance to specific missions, such as search and rescue or counterdrug operations. Rankings may also be assigned to an asset's critical subsystems or may be altered based on an asset's geographic location. Each of these elements is to form the basis for recommendations regarding which combination of upgrade and maintenance projects will provide the greatest enhancements to fleet capabilities.

According to Coast Guard staff, CAMS recommendations are not a replacement for the existing budget development process, but rather are to augment and make more consistent the information currently provided to decisionmakers. Because the recommendations are to be based, in part, on user assumptions, CAMS recommendations are to be reviewed by several internal Coast Guard officials before any final funding requests are made. Further, in order to prevent user "gaming"—making assumptions in such a way as to ensure a positive recommendation or outcome for a particular project—the Coast Guard is developing a series of job aids, manuals, and training courses to ensure data integrity and consistency.

Coast Guard officials expect to have the CAMS fully implemented by September 2005 and intend to use it while developing the Coast Guard's Fiscal Year 2008 budget submission. Although it is too soon to assess the effectiveness of CAMS, we view this approach as a good faith effort toward knowledge-based budgeting for legacy asset sustainment.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. INOUYE TO MARGARET T. WRIGHTSON

Question 1. The revised Deepwater plan lists a number of enhanced capabilities that will be provided to the Coast Guard. Understandably, most of these capabilities are aimed at the Cost Guard's security mission. How will these new capabilities also help the Coast Guard to fulfill its non-security related missions, such as fisheries enforcement?

Answer. GAO has not performed the audit work necessary to examine the potential impact of the new asset requirements and capabilities as outlined in the mission needs statement and revised implementation plan. On the face of it, it is clear that many of these enhancements are designed to provide the Coast Guard with increased capabilities for its law enforcement and ports, waterways, and coastal security (PWCS) missions. However, other enhancements, such as command, control, communications, computer, intelligence, surveillance, reconnaissance (C4ISR), and supporting logistics equipment would appear to also benefit non-homeland security missions. Without a more detailed analysis, it would be impossible for us to draw firm conclusions as to how these new capabilities will differentially affect the Coast Guard's various missions.

Question 2. I am a bit concerned that the new plan reduces the total number of assets, especially given the need for physical presence in areas like the Western and

Central Pacific. Being able to see and it identify an illegal foreign fishing vessel with this cutting-edge technology is all well and good, but how will the Coast Guard catch them unless a cutter is out there too?

Answer. As the Coast Guard has asserted, under the Deepwater plan, the system of assets will have greater technological and surveillance capabilities, which should result in greater performance of the system as a whole. On the other hand, your point is a good one—in the final analysis, getting "steel on target" is a necessary component of the Coast Guard's various enforcement missions. Ultimately, it will be difficult to tell what synergies will be realized by improved system capabilities without seeing these new assets in operation.

Question 3. Given all of the problems that the Coast Guard has experienced with its two major legacy programs thus far, the HH–65 helicopters and the 110-ft cutter conversions, I am surprised to see that the new plan would upgrade rather than replace 22 of your C–130 aircraft, and all of your HH–60 helicopters. Why did the Coast Guard make this significant change in the plan? Is this really the best decision in your opinion, in terms of long-term performance?

Answer. We have not examined the Coast Guard's rationale for the changes it has made to the program. As you know, as part of the review we will conduct at the request of this Subcommittee, we will examine capability and capacity issues under the revised implementation plan. However, even after conducting such an analysis, the performance-based "system of systems" approach used in implementing the Deepwater plan make it very difficult to draw conclusions regarding whether specific assets provide the best value to the government. Since Deepwater is not intended to be an asset-by-asset replacement, it is difficult if not impossible to address the advisability of the replacement of each asset type, since the performance of one would affect the performance of all.

Question 4. How can we be sure that the HH–60 and C–130 aircraft will not have problems in the long-run? The Air Force has found that the older C–130J aircraft have cracks in their wing-boxes. And in December 2004, during an attempted search and rescue of the fishing vessel, the NORTHERN EDGE, 3 out of 4 of the Coast Guard's HH–60 helicopters were forced to return to Cape Cod Air Station due to mechanical problems. Five of the NORTHERN EDGE crew members died. Did the Coast Guard inspect its entire C–130 fleet prior to deciding to keep them in use? Has the Coast Guard fully inspected all of its HH–60s recently?

Answer. It would be impossible to know with complete assurance whether these assets will encounter problems in the long run, although the Air Force's findings are indeed troubling. Neither GAO nor the Department of Homeland Security's Office of Inspector General has reviewed the incident in question.

We defer to the Coast Guard regarding their inspection procedures for HC–130 and HH–60 aircraft.

Question 5. Does the fact that the Coast Guard submitted a $24 billion plan mean that the $19 billion plan will not in fact allow the Coast Guard to achieve its performance goals for all of its many missions?

Answer. While we have not assessed the Deepwater revised implementation plan, according to Coast Guard documents, the two cost estimates reflect potential differences in funding streams, time-lines (20 to 25 years), and potentially capacity. According to the Coast Guard, they are modeling the plans to determine their affect on potential performance. They intend to refine their models and update performance projections based on the lessons learned from real world operations as Deepwater assets and capabilities are introduced.

The Deepwater revised implementation plan will be a focus of our follow-on review that is to commence in August 2005. To that end, we are working on an audit plan that will assess the revised implementation plan and will report the results on a timely basis to this subcommittee and to the Coast Guard.

Question 6. Why are both of the plans significantly more expensive than the original projection of $17 billion for completion of the program? Are all of the costs attributable to the new capabilities Coast Guard would acquire?

Answer. We have not conducted the work needed to properly respond to this question. That said, this will be a focus of our upcoming review of the revised implementation plan scheduled to commence in August 2005. We are currently working on an audit plan that will assess the revised implementation plan and will report the results on a timely basis to this subcommittee and to the Coast Guard.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO MARGARET T. WRIGHTSON

Question 1. Will the new mix of capability and capacity of assets ensure that the Coast Guard will be able to meet its performance goals for all of its security and non-security missions?

Answer. We have not yet performed the audit work necessary to answer this question. However, this question will be a focus of our follow-on review of the Deepwater revised implementation plan that is to commence in August 2005. To that end, we will report the results of our work on a timely basis to this Subcommittee and to the Coast Guard.

Question 2. Which level of funding—$19 billion or $24 billion—is needed for the Coast Guard to implement all of its missions? Does the inclusion of a $24 billion plan mean that the $19 billion plan—$2 billion higher than the original cost estimate for Deepwater—will somehow fall short?

Answer. While we have not assessed the Deepwater revised implementation plan, according to Coast Guard documents, the two cost estimates reflect potential differences in funding streams, time-lines (20 to 25 years), and potentially capacity. According to the Coast Guard, they are modeling the plans to determine their affect on potential performance. They intend to refine their models and update performance projections based on the lessons learned from real world operations as Deepwater assets and capabilities are introduced.

The Deepwater revised implementation plan will be a focus of our follow-on review that is to commence in August 2005. To that end, we are working on an audit plan that will assess the revised implementation plan and will report the results on a timely basis to this subcommittee and to the Coast Guard.

Question 3. What steps, if any, should the Coast Guard or ICGS take to examine other assets such as the Littoral Combat Ship that Navy is acquiring, as an alternative to the cutters in the Deepwater Program?

Answer. Certainly, as we have said in other GAO reports, the Coast Guard will need to exploit its partnerships with other Federal agencies in order to fulfill is missions as efficiently and economically as possible. To that end, according to Coast Guard documents, the Navy and the Coast Guard have formed a working group specifically designed to ensure close coordination and cooperation between the two programs. Specifically, the working group is intended to identify common technologies, systems, and processes critical to both the Navy's Littoral Combat Ship (LCS) and the Deepwater Program's National Security Cutter (NSC), medium endurance cutter (MEC), and patrol boat developments, and to recommend those areas that will benefit both programs through a cooperative organization, business, and/or technical approach to the program sponsors.

While we have not examined the extent of the coordination or cooperation between the two programs, the Coast Guard will need to exploit its partnerships with other Federal agencies in order to fulfill its missions as efficiently and economically as possible. Certainly, as we have said in the past, it makes eminent good sense to engage in such efforts.

Question 4. Is it possible, given the needs for shore-based facilities and personnel training, for the Coast Guard to implement its entire Deepwater plan in a shorter time frame?

Answer. The question is not whether it is possible, but how well an acceleration of the program could be executed. Increasing the pace of the acceleration does not increase its likelihood of success and can inject a great deal of additional risk into the program. As stated in testimony, although the Coast Guard is making progress on a number of our recommendations, some recommendations, will take time to resolve. The least well-developed aspect of the Deepwater Program may be its planning for the transition of Coast Guard personnel to the new assets, particularly in terms of operations, training, and logistics. The risk of a measured, targeted acceleration could lessen the risk were the Coast Guard to demonstrate full and appropriate integration between this aspect of the Deepwater Program coupled with the stable acquisition of hard assets.

Question 5. What new assets would be easiest to accelerate, and could be accelerated with the least risks in terms of the GAO concerns?

Answer. If the Coast Guard does consider accelerating its acquisition of new assets, it could perhaps consider a less risky strategy using a targeted approach that considers both the condition of particular legacy assets and the acquisition schedule for their replacements on a more integrated schedule. For example, the National Security Cutter (NSC) could be a target of opportunity for acceleration, since the condition of the 378-foot high endurance cutter (which it is replacing) has been particu-

larly problematic. Once the first NSC has been delivered and is fully tested, accelerating production of the remaining NSCs could pose little risk. That said, in order to avoid injecting additional risk into a targeted acceleration plan, the Coast Guard would have to ensure that proper planning and necessary actions for transitioning personnel to the new assets on an accelerated scale are implemented.

Question 6. I'd like for all the witnesses to elaborate on this question I posed to Admiral Collins during the hearing. The Army—the only other Armed Service to use the "Lead Systems Integrator" approach—recently backed away from that approach in their Future Combat Systems procurement due to concerns over lack of cost control. These are similar to the concerns that GAO raised on the Deepwater Program. Are the Army's new arrangements for managing this contract similar to those that the Coast Guard has in place? Should the Coast Guard use this approach to ensure that the costs are kept down?

Answer. We have not carried out the analysis on the developments within the Army's Future Combat Systems program, and how similar actions may be applied to the Coast Guard's Deepwater Program, required to answer this question.

We are continuing to monitor and assess the Coast Guard's progress on implementing our recommendations from our recent reports pertaining to Deepwater Program management issues, as it will be a focus of our follow-on review of the Deepwater revised implementation plan that is to commence in August 2005.[1] To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this subcommittee and to the Coast Guard.

Question 7. Should the Coast Guard conduct an analysis of alternatives to ensure the Deepwater Program is on the right track?

Answer. The Department of Defense requires an analysis of alternatives at major milestone decisions for all major defense acquisition programs. Analyses of alternatives (AOA) are an important element of the defense acquisition process. An AOA is an analytical comparison of the operational effectiveness, suitability, and life-cycle cost of alternatives that satisfy established capability needs. While an AOA is usually required at Milestone B (which usually represents the first major funding commitment to the acquisition program), the AOA is used to justify the rationale for formal initiation of the acquisition program. An AOA normally is not required at Milestone C (prior to low-rate initial production) unless significant changes to threats, costs, or technology have occurred, or the analysis is otherwise deemed necessary by the Milestone Decision Authority.

We have not performed the audit work necessary to adequately answer this question as it pertains specifically to the Deepwater Program. That said, this will be a focus of our follow-on review that is to commence in August 2005.

Question 8. How many of the issues GAO raised has been successfully dealt with or "Closed"? Why is it taking so long to proceed with the other recommendations?

Answer. In 2004, we reported that well into the contract's second year, key components needed to manage the program and oversee the system integrator's performance had not been effectively implemented.[2] We also reported that the degree to which the program was on track could not be determined because the Coast Guard was not updating its schedule.[3] We made a series of recommendations that are depicted in Table 5 of my prepared statement (pg. 32 of this hearing).

As of July 2005, we have seen mixed success in the Coast Guard's effort to improve management of the program and contractor oversight. Three of the recommendations—updating the Deepwater Integrated Master Schedule, developing measurable award fee criteria consistent with guidance from the Office of Federal Procurement Policy and subcontractor notification to the Coast Guard of decisions over $5 million—have been fully addressed. The Coast Guard has made progress on implementing most of the remaining recommendations, though we continue to see evidence that more improvements are needed.

Although the Coast Guard has been responsive to our concerns over the past year, three issues remain highly significant and, notwithstanding the progress we have seen thus far, likely will take some time to resolve. These are: (1) the effectiveness of the Coast Guard's primary tool for overseeing the system integrator (integrated product teams); (2) the attention paid to the affect of programmatic decisions on

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[1] GAO, *Contract Management: Coast Guard's Deepwater Program Needs Increased Attention to Management and Contractor Oversight,* GAO–04–380 (Washington, D.C., March 7, 2004) and GAO, *Coast Guard: Deepwater Program Acquisition Schedule Update Needed,* GAO–04–695 (Washington, D.C.: June 14, 2004).

[2] GAO–04–380.

[3] GAO–04–695.

overall costs and capabilities (operational effectiveness and total ownership cost); and (3) proper planning for transitioning Coast Guard personnel to the new assets in terms of operations, training, and logistics (human systems engineering).

Assessing the Coast Guard's performance in implementing the remaining recommendations will be a focus of our follow-on review of the Deepwater revised implementation plan that is to commence in August 2005. To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this Subcommittee and to the Coast Guard.

With regard to your question as to why it is taking so long for the Coast Guard to implement these recommendations, we would defer to the Coast Guard for a proper response.

Question 9. Should the Coast Guard use an independent entity to help evaluate the decisions by the prime contractor, ICGS, such as decisions to purchase certain assets, or decisions to build such assets in-house rather than subcontract them to another company?

Answer. GAO's general approach to assessing acquisition oversight issues is to comment on the adequacy of an agency's processes, procedures, and internal controls. GAO has not examined whether the independent entity is needed to help evaluate decisions or what standards or criteria would be applied.

Question 10. What is being done by ICGS and the Coast Guard to improve competition for subcontracts?

Answer. The Coast Guard has made progress in implementing our recommendations aimed at ensuring adequate competition among subcontractors. To that end, the Coast Guard reported that it is taking steps concerning cost control through competition among second-tier suppliers and notification of "make" decisions.[4] While we have not assessed the effectiveness of the Coast Guard's actions regarding competition among second-tier suppliers, we are satisfied with its efforts regarding notification of make decisions. It should be noted, though, that we have not assessed the effectiveness of the following actions.

Coast Guard officials told us that in making the decision about whether to award the first contract option, the government will specifically examine the system integrator's ability to control costs by assessing the degree to which competition is fostered at the major subcontractor level. The evaluation will consider the subcontractors' project management structure and processes to control costs, as well as how market surveys of similar assets and major subsystems are implemented. The Coast Guard is focusing its attention on those areas that were priced after the initial competition for the Deepwater contract was completed, such as the HH–65 re-engining and the C–130J missionization.[5] For example, a new process implemented for the C–130 missionzation was a requirement for competition in subcontracting and government approval of all subcontracts exceeding $2 million in order for the Coast Guard to monitor the integrator's competition efforts.

According to the Federal Acquisition Regulation, the prime contractor is responsible for managing contract performance, including planning, placing, and administering subcontracts as necessary to ensure the lowest overall cost and technical risk to the government. The Federal Acquisition Regulation further provides that when "make-or-buy programs" are required, the government may reserve the right to review and agree on the contractor's make-or-buy program when necessary to ensure negotiation or reasonable contract prices, among other things. We recommended that the Coast Guard be notified of make-or-buy decisions over $5 million in order to facilitate controlling costs through competition. We suggested the $5 million threshold because Lockheed Martin, one of the major subcontractors, considers that amount to be the threshold for considering its suppliers major. The Coast Guard has asked the system integrator, on a voluntary basis, to provide notification 1 week in advance of a make decision of $10 million or more based on the criteria in the make-or-buy program provisions of the Federal Acquisition Regulation. According to Coast Guard officials, to date, no make decision has exceeded $10 million since the request was made. While we are satisfied with the Coast Guard's progress on this issue thus far, the details implementing this recommendation have not yet been worked out, such as specifically who in the Coast Guard will monitor the subcontractors' make decisions to ensure that the voluntary agreement is complied with.

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[4] A "make item" means an item or work effort to be produced or performed by the prime contractor or its affiliates, subsidiaries, or divisions.

[5] The C–130J missionization, planned for the Coast Guard's six C–130J aircraft, is intended to modify and install mission-essential equipment to convert the aircraft into C–130J long-range surveillance maritime patrol aircraft.

While these are important improvements in internal controls, it is too soon to know whether they have resulted in adequate competition or whether other actions may be needed. We will continue to monitor the Coast Guard's progress in implementing this recommendation during our pending review of the revised Deepwater Implementation Plan that is to commence in August 2005. To that end, we are working on an audit plan to assess the additional progress the Coast Guard has made and will report the results on a timely basis to this Subcommittee and to the Coast Guard.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. OLYMPIA J. SNOWE TO RONALD O'ROURKE

Question 1. Is there replication within Deepwater and the LCS program that can be avoided in hopes of acquiring a cost savings to the Nation?

Answer. Although the Navy's Littoral Combat Ship (LCS) was originally justified primarily in connection with performing certain missions in enemy littoral (nearshore) waters overseas, some DOD and Navy officials in recent months have stated that the LCS might also be suitable for homeland defense operations. The Navy in recent months has also increased the total number of LCSs that it wants to build, from an earlier potential range of 30 to 60 to a new potential range of 63 to 82. The Chief of Naval Operations has spoken of the possibility of building 75 to 100.

The Navy has not explained in detail why its desired number of LCSs has increased in recent months. The absence of such a detailed explanation, combined with statements concerning the potential suitability of the LCS for homeland defense operations, raise the possibility that homeland defense operations form part of the Navy's basis for increasing its desired number of LCSs.

Since the homeland defense operations that the Navy has in mind for the LCS might also be performed by Deepwater assets such as National Security Cutters (NSCs) and Offshore Patrol Cutters (OPCs), these recent developments concerning the LCS program raise the question of whether the Navy and Coast Guard have adequately coordinated their force structure (*i.e.,* numerical) requirements for LCSs and Deepwater assets such as NSCs and OPCs.

When asked about coordination between the LCS and Deepwater Programs, Navy and Coast Guard officials have generally responded by noting how the two services have worked to ensure that LCSs and Deepwater cutters will take maximum advantage of opportunities for using common technologies and components. This is not the same, however, as coordinating the force structure requirements for the two programs. It also does not address the question of whether the homeland defense operations the Navy has in mind for the LCS could be performed more cost effectively by LCSs or by Deepwater assets such as NSCs and OPCs.

Potential questions that arise out of this situation, particularly for those who follow the Coast Guard and the Deepwater Program, include the following:

- Is the Navy, as part of an effort to justify an increase in its desired number of LCSs, seeking to appropriate some of the Coast Guard's homeland defense or homeland security responsibilities?
- Would the homeland defense operations that the Navy has in mind for the LCS be performed more cost effectively by LCSs, or by Deepwater assets such as NSCs and OPCs?

If the answer to the first question is yes, then there may be some duplication in mission justification between the LCS program and the Deepwater Program.

If the answer to the second question is that the homeland defense operations in question would be more cost effectively performed by Deepwater assets such as NSCs and OPCs, then the total cost to the Nation for performing maritime homeland defense operations might be reduced by decreasing the Navy's recently announced planned number of LCSs and possibly increasing total planned numbers of Deepwater assets such as NSCs and OPCs.

Question 2. How much confidence do you put in the accuracy of the revised implementation plan? The RAND study?

Answer. *Revised Implementation Plan.* The accuracy of the revised implementation plan depends to a large degree on the accuracy of the analytical models that were used to generate the plan. The briefing I received from the Coast Guard on these models gave me no immediate reason to believe that they were fundamentally flawed. Such flaws, however, are sometimes observable only through a detailed inspection of a model's underlying features. In addition, even if a model contains no such flaws, the many assumptions that are sometimes necessarily built into such

a model can provide the user an opportunity to vary assumptions so as to achieve a preferred result.

The Coast Guard contracted with the MITRE Corporation to conduct an independent assessment of the process that the Coast Guard used for its Deepwater performance gap analysis (PGA). MITRE performed the assessment between January 15 and March 1, 2004, and issued a report on its assessment on March 30, 2004. The Coast Guard provided CRS with a copy of the report. The report stated:

> As part of the Deepwater PGA process, MITRE noted a number of strengths in the Deepwater PGA effort. These strengths underscore the credibility of the results produced. In general, MITRE found that the Deepwater PGA process, and the resulting analytic results, was likely the most complete and comprehensive campaign-level study conducted by any uniformed service in recent times.
>
> The principal strengths of the Deepwater PGA process involve the composition of the Deepwater PGA Teams, the foundation for the Deepwater PGA, the involvement of senior Coast Guard leadership, the models and processed used in the analysis, and the consistency of the results, which tends to verify the reasonableness and accuracy of the analysis performed. The work performed by the Deepwater PGA Teams successfully met the requirements contained in the Executive Steering Committee charter that guided the work.
>
> MITRE developed a number of recommendations based upon the findings and independent assessment of the Deepwater PGA process, the documentation provided and reviewed, and the personnel interviews conducted. The primary recommendation is to continue the process initiated in the Deepwater PGA as a point of departure for revising the proposal of the prime contractor, Integrated Coast Guard System, for the Integrated Deepwater System. The remaining recommendations focus on areas of improvement for subsequent analyses.[1]

Potential oversight questions include the following:

- Is the MITRE assessment the only independent assessment that was performed of the process that the Coast Guard used to arrive at its revised implementation plan? If not, what were the other assessments, and what were their findings, conclusions, and recommendations? If the MITRE assessment was the only independent assessment, has the Coast Guard contracted for an independent assessment of the post-March 2004 portion of its work to develop the revised implementation plan? If the Coast Guard has not contracted for such an assessment, should Congress require one?
- Did the Coast Guard implement all of MITRE's "remaining recommendations [that] focus on areas of improvement for subsequent [*i.e.,* post-March 2004] analyses? If not, which of MITRE's recommendations were not implemented, and why?
- As an entity with a possible interest in securing future Coast Guard contracts, did MITRE have an incentive to avoid significantly criticizing the Coast Guard's PGA process or to avoid recommending changes that might have significantly delayed the Coast Guard's schedule for completing the revised plan? Was MITRE, in other words, a truly independent assessor in this instance? Should the Government Accountability Office (GAO) be asked to perform an independent assessment of the Coast Guard's process for developing the revised plan?
- To what degree can the results of the Coast Guard's analytical models be varied by varying the models' assumptions? What assumptions did the Coast Guard plug into the models, and did these assumptions tend to increase or reduce the size of the Deepwater force required to perform various missions?

In addition to the above issues, there is a more general question concerning the policy question that the models were used to answer. The models might provide a reasonably accurate answer to the question: "What is the highest-performing force that can be acquired for a total of $19 billion to $24 billion?" If so, however, that answer might not be the same as an accurate answer to the question: "What is the lowest-cost force that can perform all the missions we want the Deepwater force to be able to perform?"

Regarding the potential difference between these two questions, the Coast Guard states that while the revised Deepwater force is, in its view, the highest-performing

[1] *Independent Assessment of U.S. Coast Guard Deepwater Performance Gap Analysis Process.* McLean, VA, MITRE, 2004. (Version 1.0, March 30, 2004, Center for Enterprise Modernization) p. i.

force that can be acquired for a total of $19 billion to $24 billion, this force would not have enough capacity to perform certain missions of potential interest to policymakers. In particular, the Coast Guard states, the revised force:

- might not have enough capacity for performing certain Level–2 operations, which include:
  - —achieving an increased degree of maritime domain awareness (MDA),
  - —maintaining continuous presence of two cutters (*i.e.,* 2.0 presence) in the Bering Sea; and
  - —performing additional air interdiction operations;
- almost certainly would not have enough capacity for performing certain Level–3 operations, which include operations for fully achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals; and
- would not have enough capacity for performing certain Level–4 operations, which include:
  - —conducting fisheries enforcement in certain areas where fisheries enforcement is not currently performed; and
  - —performing additional counter-drug operations, should the Department of Defense (DOD) reduce its efforts in this area so as to make DOD resources available for other DOD missions.

If policymakers determine that the revised force should perform some or all of the above operations, then the revised implementation plan, though perhaps accurately calculated for achieving the highest performance for a total acquisition cost of $19 billion to $24 billion, would not be accurately calculated for performing all missions of interest to policymakers.

RAND Study. I have no reason to doubt that the RAND study accurately calculated the number of platforms with Baseline-level (*i.e.,* Increment 0) capability that would be needed to perform all Level–4 operations. One option for Congress would be to direct the Coast Guard to contract with RAND for a follow-on study that would calculate:

- required numbers of platforms, assuming the same combination of platform capability (*i.e.,* between Increment II and Increment III) and force capacity (*i.e.,* between Level 1 and Level 2) as reflected in the Coast Guard's revised plan; and
- required numbers of platforms, and resulting acquisition costs, to perform all Level 2 (or all Level 3, or all Level 4) operations, assuming different platform capability levels.

Question 3. Do you believe that the proposed increased capabilities outweigh the urgent need for a significant increase in capacity of cutters and planes?

Answer. Achieving a proper balance between the capability of individual platforms (*i.e.,* ships or aircraft) and numbers of platforms (*i.e.,* capacity) is a longstanding problem in maritime force planning. Increasing platform capability can often reduce the number of platforms required to perform a given set of missions. The potential for increased platform capability to translate into reduced platform numbers, however, can be limited by a requirement in the set of missions to be performed to maintain a platform presence in a minimum number of separate operating areas at the same time.

Whether the Coast Guard has accurately calculated the reduction in required platform numbers that results from the revised plan's proposed increase in platform capability depends to a large degree on the accuracy of the Coast Guard's analytical models. As discussed above, one potential option for Congress would be to have GAO conduct an independent assessment of these models. Such an assessment could include, among other things, an examination of whether the models accurately translate increased platform capability into reduced platform numbers after taking into account requirements for maintaining platform presence in separate areas at the same time.

Question 4. Were you surprised at the recommendations of the revised implementation report? What aspect of the report concerns you the most?

Answer. In light of the Coast Guard's expanded post-9/11 mission demands and the significantly higher platform numbers recommended in the 2004 RAND report for meeting those demands, I was surprised that the revised implementation plan did not recommend platform numbers that were generally higher than those in the original (1998) Deepwater plan. I was not surprised that the numbers in the revised plan were below those in the RAND report because articles in the trade press suggested that this would be the case. But I did not anticipate that the Coast Guard

would calculate that increased unit capability would be sufficient to avoid a general increase in platform numbers above those in the original Deepwater plan.

The revised force appears to have been optimized for an acquisition cost of $19 billion to $24 billion. I do not understand why a range of $19 billion to $24 billion, rather than some lower or higher figure, was used as the acquisition cost range within which to optimize the revised force, or why the Coast Guard didn't instead optimize the force to fully achieve long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals (*i.e.,* perform all Level 3 operations) at lowest cost. Federal programs must take limits on available resources into account, but as a result of being optimized within an acquisition cost of $19 billion to $24 billion, the revised force almost certainly would not have enough capacity to fully achieve the GPRA goals, which presumably are of some importance to the policymakers who established them. The Coast Guard did not (and was not required to) include in the revised plan information on the composition and cost of alternative Deepwater forces that could perform all Level 2 operations (or all Level 3 operations, or all Level 4 operations) at lowest cost. Congress consequently does not have this information, which would assist Congress, as a policymaking body, in considering potentially important tradeoffs between achieving certain levels of Deepwater performance and meeting goals for other Federal programs.

Question 5. Can the United States shipbuilding industry handle an acceleration of this project to 10 or 15 years?

Answer. I believe the U.S. shipbuilding industrial base could accommodate an acceleration of the Deepwater Program under which the NSCs and OPCs included in the revised plan are procured in a period of 10 to 15 years, provided that design work on each class of cutter was completed before procurement of that class was accelerated. The yards that could build these cutters have more than enough unused production capacity to accommodate such an increase, and these cutters are relatively low-risk designs that are to incorporate proven rather than developmental systems. The 2004 RAND report similarly concluded that the U.S. shipbuilding industrial base could accommodate a compression of the NSC and OPC procurement period to 10 or 15 years.[2]

Question 6. What shipyards can accommodate the new contracts that would be associated with building Deepwater cutters?

Answer. U.S. shipyards that could accommodate new contracts associated with building Deepwater cutters include the two yards currently involved in building larger Navy surface combatants—the Ingalls shipyard that forms part of Northrop Grumman Ship Systems (NGSS), and General Dynamics' Bath Iron Works (GD/BIW). Both of these yards currently have considerable unused capacity. Other shipyards that could accommodate the new contracts include yards that currently build larger ships of other types, but have past experience in building cutters or larger Navy surface combatants, such as the Avondale shipyard that forms part of NGSS, or Northrop Grumman Newport News (NGNN).

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DANIEL K. INOUYE TO RONALD O'ROURKE

Question 1. The revised Deepwater plan lists a number of enhanced capabilities that will be provided to the Coast Guard. Understandably, most of these capabilities are aimed at the Coast Guard's security mission. How will these new capabilities also help the Coast Guard to fulfill its non-security related missions, such as fisheries enforcement?

Answer. Ship and aircraft capabilities useful for performing homeland security missions in some cases can also be useful for performing non-homeland security missions such as fisheries enforcement. Consequently, increasing planned Deepwater ship and aircraft capabilities so as to enhance the Deepwater force's ability to perform homeland security missions might in some cases also improve its ability to perform non-homeland security missions such as fisheries enforcement. For example, the higher maximum speeds now planned for the Offshore Patrol Cutters (OPCs) and Fast Response Cutters (FRCs) and the improved sensors now planned for the HC–130 Long Range Search (LRS) aircraft and the H–65C Multi-Mission Cutter Helicopter (MCH) might improve the Deepwater force's ability to detect, track, and intercept ships or boats engaged in illegal fishing operations.

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[2] 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 Corporation, Santa Monica (CA), 2004. pp. xxv–xxvi, 32–41, 53–61.

Question 2. I am a bit concerned that the new plan reduces the total number of assets, especially given the need for physical presence in areas like the Western and Central Pacific. Being able to see and to identify an illegal foreign fishing vessel with this cutting-edge technology is all well and good, but how will the Coast Guard catch them unless a cutter is out there too?

Answer. Cutters and their embarked helicopters and interceptor boats are central to the Coast Guard's ability to halt and board fishing vessels that are operating beyond the range of shore-based helicopters and interceptor boats. The Coast Guard states that the revised Deepwater force:

- might not have enough capacity (*i.e.,* platforms) for performing certain Level–2 operations;
- almost certainly would not have enough capacity for performing certain Level–3 operations; and
- would not have enough capacity for performing certain Level–4 operations.

Level–2 operations include, among other things, maintaining continuous presence of two cutters in the Bering Sea.

Level–3 operations include additional forces for achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals. The GPRA goal for living marine resources is to maintain a 97 percent observed domestic compliance rate by commercial fishers.

Level–4 operations include, among other things, conducting fisheries enforcement in certain areas where fisheries enforcement is not currently performed. The Coast Guard states that in the Pacific, these areas include waters between Hawaii and Australia covered by the Western and Central Pacific Tuna agreement and waters extending from Baja, Mexico, down past the Galapagos islands, and west about three-quarters of the way to Hawaii that are covered by the Inter-American Tropical Tuna Commission.

Question 3. Given all of the problems that the Coast Guard has experienced with its two major legacy programs thus far, the HH–65 helicopters and the 110′ cutter conversions, I am surprised to see that the new plan would upgrade rather than replace 22 of your C–130 aircraft, and all of your HH–60 helicopters. Is this really the best decision in your opinion, in terms of long-term performance?

Answer. A decision on whether to upgrade rather than replace a group of aircraft can depend on several things, including the industrial-base implications of upgrading vs. building new aircraft, the potential impact of an upgrade program on near-term aircraft availability (particularly for numerically small aircraft fleets with high operational tempos), the time horizon for calculating cost effectiveness (*i.e.,* how many future years "long term" is defined to include), the accuracy of performance estimates for upgraded and replacement aircraft, and the accuracy of cost estimates for upgrading existing aircraft, procuring replacement aircraft, and operating and supporting the upgraded or replacement aircraft. Some observers believe that cost and schedule estimates for upgrading existing aircraft carry more risk of being inaccurate because of the difficulty of predicting certain problems associated with aircraft aging. Confidence in the Coast Guard's decisions regarding its C–130 aircraft and HH–60 helicopters could depend in part on how well the Coast Guard is judged to have incorporated lessons learned from past Coast Guard and DOD upgrade programs.

Question 4. How can we be sure that the HH–60 and C–130 aircraft will not have problems in the long-run? The Air Force has found that the older C–130J aircraft have cracks in their wing-boxes. And in December 2004, during an attempted search and rescue of the fishing vessel, the NORTHERN EDGE, 3 out of 4 of the Coast Guard's HH–60 helicopters were forced to return to Cape Cod Air Station due to mechanical problems. Five of the NORTHERN EDGE crew members died.

Answer. Careful inspection and maintenance of older aircraft can reduce the probability that they will experience problems in operation, but some probability would remain. Although the military services have growing experience in operating aircraft to advanced ages, some observers are concerned that the aging mechanisms for certain aircraft components, and thus the risks of operating aircraft to advanced ages, are not yet fully understood. Technical issues involved include items such as corrosion, metal fatigue (particularly on components that undergo aerodynamic stress), and wire embrittlement.

Question 5. Does the fact that the Coast Guard submitted a $24 billion plan mean that the $19 billion plan will not in fact allow the Coast Guard to achieve its performance goals for all of its many missions?

Answer. The Coast Guard states that, until Deepwater assets are actually fielded, the exact amount of mission performance they will generate is uncertain. The Coast

Guard wants the Deepwater force to achieve a certain level of overall mission performance. The Coast Guard appears confident that the larger $24 million force would achieve that level of overall mission performance, but believes that the smaller $19 billion force might be able to do so, depending on the actual amount of mission performance generated by the new Deepwater assets. The ultimate force procured to achieve the intended level of overall mission performance, the Coast Guard states, could be the $19 billion force, the $24 billion force, or perhaps something in between.

Although the force that is ultimately procured would be capable of achieving a certain level of overall mission performance desired by the Coast Guard and the Department of Homeland Security (DHS), this force would not have enough capacity to perform certain missions of potential interest to policymakers. In particular, the Coast Guard states, the revised force:

- might not have enough capacity for performing certain Level–2 operations, which include:
  - —achieving an increased degree of maritime domain awareness (MDA),
  - —maintaining continuous presence of two cutters (*i.e.,* 2.0 presence) in the Bering Sea, and
  - —performing additional air interdiction operations;
- almost certainly would not have enough capacity for performing certain Level 3 operations, which include operations for fully achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals; and
- would not have enough capacity for performing certain Level 4 operations, which include:
  - —conducting fisheries enforcement in certain areas where fisheries enforcement is not currently performed, and
  - —performing additional counter-drug operations, should the Department of Defense (DOD) reduce its efforts in this area so as to make DOD resources available for other DOD missions.

Question 6. Why are both of the plans significantly more expensive than the original projection of $17 billion for completion of the program? Are all of the costs attributable to the new capabilities Coast Guard would acquire?

Answer. Potential sources of acquisition cost growth from the earlier figure of $17 billion to the new estimated cost of $19 billion to $24 billion include:

- additional equipment to be installed on previously planned platforms;
- additional platforms to be acquired; and
- repricing of previously planned items due to revised inflation indices or a revised understanding of the intrinsic cost of those items.

This first item clearly accounts for some portion of the increase above the $17 million figure. The second item may account for an additional portion, particularly in the case of the $24 billion plan.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO RONALD O'ROURKE

Question 1. Will the new mix of capability and capacity of assets ensure that the Coast Guard will be able to meet its performance goals for all of its security and non-security missions?

Answer. Although the Coast Guard states that the Deepwater force recommended under the revised implementation plan would generate much more overall mission performance than the originally planned force, and would be able to meet certain DHS and Coast Guard long-range performance goals, the revised Deepwater force would not have enough capacity to perform certain missions of potential interest to policymakers. In particular, the Coast Guard states, the revised force:

- might not have enough capacity for performing certain Level–2 operations, which include:
  - —achieving an increased degree of maritime domain awareness (MDA),
  - —maintaining continuous presence of two cutters (*i.e.,* 2.0 presence) in the Bering Sea, and
  - —performing additional air interdiction operations;

- almost certainly would not have enough capacity for performing certain Level 3 operations, which include operations for fully achieving long-term (FY 2005–FY 2009) Government Performance and Results Act (GPRA) goals; and
- would not have enough capacity for performing certain Level 4 operations, which include:
  - —conducting fisheries enforcement in certain areas where fisheries enforcement is not currently performed, and
  - —performing additional counter-drug operations, should the Department of Defense (DOD) reduce its efforts in this area so as to make DOD resources available for other DOD missions.

Question 2. Which level of funding—$19 billion or $24 billion—is needed for the Coast Guard to implement all of its missions? Does the inclusion of a $24 billion plan mean that the $19 billion plan—$2 billion higher than the original cost estimate for Deepwater—will somehow fall short?

Answer. The Coast Guard states that, until Deepwater assets are actually fielded, the exact amount of mission performance they will generate is uncertain. The Coast Guard wants the Deepwater force to achieve a certain level of overall mission performance. The Coast Guard appears confident that the larger $24 billion force would achieve that level of overall mission performance, but believes that the smaller $19 billion force might be able to do so, depending on the actual amount of mission performance generated by the new Deepwater assets. The ultimate force procured to achieve the intended level of overall mission performance, the Coast Guard states, could be the $19 billion force, the $24 billion force, or perhaps something in between.

Although the force that is ultimately procured would be capable of achieving a certain level of overall mission performance desired by the Coast Guard and the Department of Homeland Security (DHS), as discussed in the answer to the previous question, this force would not have enough capacity to perform certain missions of potential interest to policymakers relating to Level 4, Level 3, and possibly Level 2 operations.

Question 3. What steps if any should the Coast Guard or ICGS take to examine other assets such as the Littoral Combat Ship that Navy is acquiring, as an alternative to the cutters in the Deepwater Program?

Answer. The 2004 RAND report on the Deepwater Program recommended that the Coast Guard explore alternative platforms and technologies for meeting the service's expanded post-9/11 mission demands. The report states that the Coast Guard can meet its expanded post-9/11 responsibilities:

> only by acquiring significantly more cutters, unmanned air vehicles (UAVs), and helicopters than are in the current [1998 Deepwater] acquisition program, *or by mixing into the program other platforms and technologies that provide the same or additional capabilities* . . . .
>
> We recommend that the USCG pursue a two-pronged strategy. The USCG should meet its mission demands and start replacing its aging assets by (1) accelerating and expanding the asset acquisitions in the current Deepwater Program and, at the same time, (2) *identifying and exploring new platform options, emerging technologies, and operational concepts that could leverage those assets.* Such a two-pronged strategy may satisfy demand more quickly and at less cost than expanding the original Deepwater plan.
>
> While we recommend that the USCG accelerate Deepwater and buy more assets than in the current plan, *we also recommend that USCG leaders bear in mind that buying more of today's assets may not provide an optimal solution over the long-term. To handle some of the responsibilities currently handled by traditional assets, the USCG could, for example, employ offshore rigs and airships, or realize emerging UAV concepts. Placing rigs near sea-lanes may enable the USCG to base and sustain surface and air assets in Deepwater environments, while lessening its traditional reliance on cutters. Employing airships or relying more heavily on UAVs, particularly those able to stay aloft for long periods and to cover significant territory, may allow the USCG to enhance its surveillance, reconnaissance, and search and rescue capabilities. Such alternatives may involve less-costly assets than platforms the USCG currently uses to handle its responsibilities*.
>
> We provide a preliminary analysis of cost and performance for a 100-percent force structure. Our analysis is sufficient for order-of-magnitude comparisons; however, more work would be required to produce budget-level cost estimates and analysis of operational effectiveness. *Policymakers should use the order-of-*

> *magnitude estimates of the 100-percent force structure as an upper bound against which they can explore and evaluate alternative concepts and assets that provide the same or improved capabilities at less cost,* rather than as a road map to pinpoint specific acquisition decisions.[1]

In addition to the systems mentioned above (offshore rigs, airships, and emerging UAV concepts), potential alternative ship platforms for meeting the Coast Guard's post-9/11 mission demands include, but are not limited to, the following:

- the Littoral Combat Ship (LCS), which currently exists in two designs—a high-speed monohull and a high-speed trimaran;
- a ship like the Navy's recently built high-speed catamaran X–Craft (previously known as the Littoral Support Craft-Experimental, or LSC–X); or
- ships like the high-speed catamaran ferries that the Defense Department has leased in recent years for experiments and operational evaluations.

Question 4. Is it possible, given the needs for shore-based facilities and personnel training, for the Coast Guard to implement its entire Deepwater plan in a shorter timeframe?

Answer. If annual funding were sufficiently high, the systems envisioned in the revised implementation plan could be acquired in something less than the 20 to 25 years contemplated in the revised plan. In general, the more the acquisition period for the entire plan is compressed, the greater the burden of managing the program would be, and the higher the risk of a problem occurring in program execution. Again assuming sufficient annual funding, the Coast Guard could accelerate its plans for shore-based facilities and personnel training to meet a compressed platform-acquisition schedule, but the more the acquisition period is compressed, the greater the management burden associated with preparing shore-based facilities and training personnel would become. The 2004 RAND report stated:

> With respect to accelerating Deepwater acquisitions, it should be noted that both of the acceleration schedules we examined—the 10-year and the 15-year—are feasible. However, to assess the ability of the USCG to integrate assets it would acquire using either of those schedules was beyond the scope of this study.[2] Without that assessment, we are reluctant to make a recommendation on whether to go with a 15-year or a 10-year acquisition schedule.[3]

Question 5. What new assets would be easiest to accelerate, and could be accelerated with the least risks in terms of the GAO concerns?

Answer. Assuming sufficient annual funding, assets whose procurement would be the easiest to accelerate, and could be accelerated with the least risk, would be those:

- whose producers currently have unused production capacity;
- whose designs are complete and relatively stable (*i.e.,* not likely to be revised significantly in the near term); and
- whose systems and technologies are proven and well understood rather than developmental or novel.

Among the Deepwater assets that can be viewed as currently meeting all three criteria is the National Security Cutter (NSC). The Offshore Patrol Cutter (OPC) can be viewed as currently meeting the first and third criteria. With regard to the second criterion, the FY 2006 Deepwater budget request includes funding to complete the design for the OPC.

Question 6. I'd like for all of the witnesses to elaborate on this question I posed to Admiral Collins during the hearing. The Army—the only other Armed Service to use the "Lead Systems Integrator" approach—recently backed away from that approach in their Future Combat Systems procurement due to concerns over lack of cost control. These are similar to the concerns that GAO raised on the Deepwater Program. Are the Army's new arrangements for managing this contract similar to those that the Coast Guard has in place? Should the Coast Guard use this approach to ensure that the costs are kept down?

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[1] 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 Corporation, Santa Monica (CA), 2004. pp. xix–xx, xxviii–xxix. Italics added for emphasis.

[2] At this point, the RAND report has a footnote that reads: "By *integrate,* we mean providing the facilities, training, manpower, and other implications that such a force structure might require."

[3] *Ibid,* p. xxix.

Answer. As part of a restructuring of the business aspects of the Future Combat System (FCS) program announced on April 5, 2005, the Secretary of the Army directed that the FCS Other Transaction Agreement (OTA) with the lead system integrator, Boeing/SAIC, be changed to a Federal Acquisition Regulation (FAR)-based contract that includes the Truth in Negotiations Act, the Procurement Integrity Act, cost accountability standards, and an organizational conflicts of interest clause. Boeing/SAIC remains the lead systems integrator for the FCS program. The FCS program is still a large, system-of-systems acquisition program that is being executed for the government by an industry entity acting as lead system integrator, and the FCS program continues to share this basic structural similarity with the Deepwater acquisition program.

The Army's recent restructuring of the FCS program also included the following actions intended to strengthen the Army's management of the program:

- The Secretary of the Army and the Chief of Staff of the Army will conduct an in-depth review of the program at least three times a year.
- The Secretary and the Chief of Staff will serve as the lead Army officials for all major changes to the program.
- The Army will establish an Army Modular Force Integration Office to ensure that FCS technologies are incorporated into the Army as soon as they are ready, and to integrate and coordinate the FCS program with evolving Army warfighting doctrine and the Army's emerging global communication and information infrastructure. The new office will be overseen by the Acting Under Secretary of the Army and the Vice Chief of Staff of the Army.
- As an additional oversight measure, the Army Audit Agency, the Army Science Board, and an outside panel of advisors will conduct periodic independent assessments of program cost, schedule, and technical viability.[4]

As points of comparison with the last of the above actions by the Army, the Coast Guard, has done, or is doing, the following:

- During the source-selection phase of the Deepwater Program, the Coast Guard used an Independent Analysis Government Contractor (or IAGC, staffed originally by the MITRE Corporation and later by Booz Allen Hamilton) to provide the Coast Guard with independent assessments of the bids submitted by the three industry teams that competed for the right to become the Deepwater Program prime contractor. The IAGC was stood down following the completion of source selection.[5]
- During the source-selection phase and on two subsequent occasions (including, most recently, during the analysis that led to the revised implementation plan), the Coast Guard turned to the Logistics Management Institute (LMI) for independent cost estimates relating to the Deepwater Program.[6]
- In early 2004, the Coast Guard used MITRE to perform an independent assessment of the process the Coast Guard had developed for performing the Performance Gap Analysis (PGA) that eventually led to the revised Deepwater Implementation Plan.[7]
- As of late-April 2005, a third-party assessment of the use of competition by ICGS was in progress.[8]

The broad similarities between the Deepwater and FCS acquisition strategies, and the Army's recent actions to strengthen its management of the FCS program, raise the following potential oversight questions for Congress:

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[4] U.S. Army News Release, "Army Announces Business Restructuring of the FCS Program," April 5, 2005. [*http://www4.army.mil/ocpa/print.php?story_id_key=7125*] See also Jen DiMascio, "Army Announces Future Combat System Contract Restructuring," *Inside the Army,* April 11, 2005; and Jonathan Karp and Andy Pasztor, "About-Face: Army's Decision On Boeing Changes Philosophy," *Wall Street Journal,* April 6, 2005.

[5] Source: Telephone consultation with Deepwater Program office, May 3, 2005.

[6] Ibid.

[7] MITRE Corporation, *Independent Assessment of U.S. Coast Guard Deepwater Performance Gap Analysis Process,* McLean (VA), 2004. (Version 1.0, March 30, 2004, MITRE Center for Enterprise Modernization, McLean, Virginia). A copy of this report was provided to CRS by the Coast Guard during the April 28, 2005 briefing.

[8] U.S. Coast Guard. *Oversight and Management of the Coast Guard's Integrated Deepwater System,* Washington, 2005. (Rear Adm. Patrick M. Stillman, USCG, Program Executive Officer, Integrated Deepwater System, U.S. Coast Guard Headquarters, Washington, D.C., 27 April 2005) p. 5.

- How do the Coast Guard's arrangements for managing the Deepwater Program compare to the Army's arrangements, as recently restructured, for managing the FCS program?
- Are the Army's arrangements for managing the FCS program stronger in some ways than the Coast Guard's arrangements for managing the Deepwater Program, and if so, should the Coast Guard consider adopting the stronger Army measures?
- How does the Coast Guard compare to the Army in terms of in-house acquisition-management and system-integration expertise? Does the Coast Guard have enough in-house system-integration expertise to conduct complete and fully independent assessments of ICGS decisions and recommendations regarding the Deepwater Program's system-integration approach?
- Should the Coast Guard establish a standing independent organization—perhaps similar to the Deepwater source-selection IAGC (but permanent in nature), or to the Army's outside board of advisors for the FCS program—to provide periodic and ongoing assessments of ICGS decisions and recommendations regarding the Deepwater Program, including decisions relating to the program's system-integration approach, or to solicit and assess, on an ongoing basis, proposed innovations for the Deepwater Program, particularly from firms outside the ICGS team?
- Have the Coast Guard and Army established a regular process for sharing with each other their experiences in managing the Deepwater and FCS programs, and for trading ideas for improving their management of the programs? If not, would the Coast Guard and Army benefit from establishing such a process?

Question 7. Should the Coast Guard conduct an analysis of alternatives to ensure the Deepwater Program is on the right track?

Answer. The Coast Guard may believe that the performance gap analysis (PGA) and associated analytical work that the Coast Guard did to arrive at the revised implementation plan amounts to an updated Deepwater analysis of alternatives (AOA), and that another AOA consequently is not needed at this point. As a cross-check on the Coast Guard's work, a possible option for Congress would be to direct DHS to contract for an independent AOA to be performed by an entity outside of DHS that has the requisite analytical capability and independence from DHS.

As discussed in relation to an earlier question, the 2004 RAND report on the Deepwater Program recommended that the Coast Guard explore alternative platforms and technologies for meeting the service's expanded post-9/11 mission demands. An AOA could form part of the process for exploring such alternative platforms and technologies.

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