

The Subcommittee on Coast Guard and Maritime Transportation

Hearing on

Coast Guard FY 2002 Budget Request

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PURPOSE

The purpose of this hearing is to consider the Administration's fiscal year 2002

budget request for the U. S. Coast Guard.

BACKGROUND

Fiscal Year 2002 Coast Guard Budget Request

The Administration requests \$5.2 billion for fiscal year 2002 for Coast Guard activities that are subject to appropriation. This request is \$545 million (11.5 percent) more than the amount appropriated for the Coast Guard in fiscal year 2001.

The following table compares the fiscal year 2000 and 2001 Coast Guard appropriations with the fiscal year 2002 Coast Guard budget request (in millions of dollars):

Major Coast Guard Account	Fiscal Year 2000 Actual	Fiscal Year 2001 Enacted	Fiscal Year 2002 President's Budget Request
Operating Expenses	3,016.4	3,185.0	3,382.8
Acquisition, Construction, & Improvements	1,010.5	414.1	659.3

Environmental Compliance and Restoration	16.9	16.7	16.9
Alterations of Bridges	14.9	15.5	15.5
Retired Pay	730.3	778.0	876.4
Reserve Training	72.0	80.2	83.2
Research, Test, and Evaluation	19.0	21.3	21.7
TOTALS	4880.0	4510.8	5055.9

OPERATING EXPENSES (OE)

General

The budget request for Coast Guard operating expenses in fiscal year 2002 is \$3.4 billion, an increase of \$190 million, or six percent, over the fiscal year 2001 appropriated level. Operating expenses account for about two-thirds of the Coast Guard's budget and fund Coast Guard search and rescue, aids to navigation, marine safety, marine environmental protection, and law enforcement operations. Two-thirds of the OE account, or \$2.0 billion, is used for personnel compensation. This includes funding for 35,132 military and 6,001 civilian personnel.

The Coast Guard's operating expense request includes an additional \$266 million for new Coast Guard personnel entitlements, annualizations for past personnel entitlements, and operational adjustments due to inflation. The President's announced pay raises in fiscal year 2002 for Coast Guard military personnel, 4.6%, and civilian personnel, 3.6%, would cost the Coast Guard \$63 million. The President has also requested an additional \$46 million during fiscal year 2002 to address current and projected increases in fuel and energy costs.

The President has requested \$31 million to operate new Coast Guard facilities during fiscal year 2002. This amount includes \$9.8 million to operate three new seagoing buoy tenders, \$5 million to staff, operate, and maintain the new 47-foot Motor Life boat fleet, \$3.8 million for an aviation detachment to support increased deployment days for the Coast Guard's new polar icebreaker, and \$3.4 million to operate and maintain ten new 87-foot coastal patrol boats.

The President has further requested \$8.4 million in new Coast Guard initiatives. These include \$5.5 million to improve the staffing at Coast Guard Search and Rescue Command Centers and Stations, and \$0.6 million to mitigate the safety risks on passenger vessels.

The President's request also calls for operating expense reductions of \$108 million. These reductions include \$4.0 million for the decommissioning four buoy tenders as part of the ongoing buoy tender replacement project, \$15 million for the decommissioning of five cutters and eight law enforcement boats, as well as the removal of one 170-foot patrol craft from the Coast Guard's vessel inventory. In addition, the Coast Guard plans to save \$43 million by retiring 13 HU-25 FALCON and 3 HC-130 HERCULES aircraft and by closing two air facilities in Long Island, New York, and Muskegon, Michigan.

ACQUISITION, CONSTRUCTION AND IMPROVEMENTS (AC&I)

The Administration requests \$659.3 million in acquisitions funding for fiscal year 2002, a \$244 million increase over the amount appropriated in fiscal year 2001. This account is divided into six main program activities. These activities include the acquisition, construction, renovation, and improvement of vessels, aircraft, other equipment, and shore facilities. This account also funds the Coast Guard's Deepwater Capability Replacement Project and the Coast Guard personnel responsible for acquisition.

In the vessels category, \$70 million is requested for the continuing Seagoing Buoy Tender Replacement Project. In addition, \$5 million is requested for the Polar Class Icebreaker Reliability Improvement Project.

The Administration also requests \$338 million to implement Phase II of the Deepwater Capabilities Replacement Project. In August 1998, the Coast Guard awarded contracts to three industry teams to design an Integrated Deepwater System that maximizes operational effectiveness and minimizes total ownership cost. Industry team proposals to design and construct the Deepwater project are due in July 2001. The Coast Guard intends to award a Phase II contract in second quarter of fiscal year 2002, and to begin acquiring, constructing, or improving existing assets under the accepted proposal.

In the aviation category, \$27 million is requested for repair and replacement of critical aviation parts and equipment. In the other equipment category, \$61 million is requested to support initiatives that will result in enhanced maritime safety. These include \$42 million for the Coast Guard's National Distress and Response System Modernization Project which is a new coastal distress communications system critical to improving the ability of mariners in distress to notify the Coast Guard when they are in trouble. The Administration also requests \$12.5 million for the Ports and Waterways Safety System to improve safety in our Nation's ports.

In the shore facilities category, \$63 million is requested to support Coast Guard housing, facility improvements and aids to navigation projects. Finally, \$65 million is requested for personnel and core acquisition costs associated with these capital improvement projects.

ENVIRONMENTAL COMPLIANCE AND RESTORATION

For environmental compliance and restoration, funding of \$16.9 million, \$200,000 more than the amount appropriated for fiscal year 2001, has been requested to mitigate environmental problems resulting from the operation of former and current Coast Guard facilities, and to ensure that Coast Guard facilities are in compliance with applicable laws and regulations. This funding would be used to clean up thousands of batteries disposed of by the Coast Guard in many locations. Another part of this program is to continue to clean up hazardous waste sites in

Kodiak, Alaska, and Elizabeth City, North Carolina.

ALTERATION OF BRIDGES

The Bridge Alternation program provides the Federal government's share of the costs for altering or removing bridges determined to be obstructions to navigation. Under Truman-Hobbs Act of 1940, (33 U.S.C. 511et seq.), the Coast Guard shares, with the bridge owner, the cost of altering railroad and publicly-owned highway bridges which obstruct the free movement of vessel traffic.

The Administration requests \$15.5 million for necessary expenses of alternation or removal of obstructive railroad bridges.

RESERVE TRAINING

The Coast Guard provides qualified individuals and a limited number of trained Port Security Units for mobilization in the event of national emergency or disaster. The reservists maintain readiness through mobilization exercises and duty alongside regular Coast Guard members during routine and emergency operations.

The fiscal year 2002 budget request proposes funding of \$83.2 million for Coast Guard Reserve training to support the authorized strength of 8,000.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

For research, development, test and evaluation, the Administration proposes to spend \$21.7 million, a \$400,000 increase above fiscal year 2002 appropriated level. This account funds the development of techniques, methods, research, hardware, systems, and planning to improve the productivity of existing Coast Guard missions. Priorities for fiscal year 2002 include drug interdiction surveillance, fuel cell vessel propulsion, as well as ballast water management and aquatic nuisance species neutralization research.

BOAT SAFETY

In 1984, the Wallop-Breaux amendments to the Deficit Reduction Act of 1984 created the Aquatic Resources Trust Fund. The Wallop-Breaux Trust Fund consists

of two accounts, the Sport Fish Restoration Account and the Boat Safety Account. Annually, up to \$70 million of the motorboat fuel taxes paid by recreational boaters are deposited in the Boat Safety Account to fund state boating safety grant programs coordinated by the Coast Guard.

Subtitle D of title VII of the Transportation Equity Act for the 21st Century, P.L. 105-178, is the Sportfishing and Boating Safety Act of 1998. This legislation amends the Recreational Boating Safety Program, administered by the Coast Guard. Under these amendments, states receive \$59 million without appropriation for boating safety programs. An additional \$13 million may be appropriated from the Coast Guard's budget for boating safety programs. This legislation also provides the Coast Guard with \$5 million annually to coordinate and carry out the national recreational boating safety program.

The Administration does not request additional funding above the \$64 million permanently appropriated for the boating safety program and Coast Guard administrative expenses.

RETIRED PAY

The Administration's fiscal year 2002 request for retired pay is \$876.4 million, an increase of \$98.4 million over the fiscal year 2001 level. These funds provide annuities and medical care for retired military personnel and former Lighthouse Service members, their dependents, and survivors.

OIL SPILL LIABILITY TRUST FUND

Established by the Oil Pollution Act of 1990, the Oil Spill Liability Trust Fund provides a source of funds, not subject to appropriation, to pay oil spill removal costs and damages, including assessment of natural resources damages, and Federal expenses necessary to administer the Fund. Each year, the Fund may provide up to \$50 million for emergency response costs and pay all valid claims for oil spill damages resulting from oil spills. The Administration's fiscal year 2002 request from the Oil Spill Liability Trust Fund is \$61.2 million, including \$50 million for emergency response costs, \$10 million for payment of claims, and \$1.2 million for support of the Prince William Sound Oil Spill Recovery Institute in Cordova, Alaska

KEY ISSUES ASSOCIATED WITH THE BUDGET REQUEST

Coast Guard Readiness:

During the past several years, the Coast Guard has experienced budgetary shortfalls resulting from the enactment of new and expanded military entitlement programs. In addition, the cumulative effects of streamlining, personnel shortages, inexperienced personnel and increased demands for services have reduced the Coast Guard's overall readiness posture. The Coast Guard has deferred maintenance on vessels and cannibalized aircraft to overcome readiness shortfalls. However, the Coast Guard has deferred maintenance on its aircraft, vessels and shore facilities to the point that it is no longer able to sustain an adequate level of operations. During fiscal years 2000 and 2001, the Coast Guard has diverted funds from law enforcement operations, thus reducing these operations, to pay for unbudgeted cost increases such as new and expanded entitlement programs, rising utility costs and critical spare parts.

While the President's budget request proposes a solid increase to the Coast Guard's operating and acquisition accounts, the Coast Guard needs additional resources in the fiscal year 2002 budget to avoid the destructive cycle of budget shortfalls, operational cuts, and end-of-year supplemental funding bills. The Coast Guard readiness problems, related to a sharp increase in military entitlements, personnel training needs, and new operational demands, leave the Coast Guard approximately \$300 million short in operating expenses for fiscal year 2002.

The House version of the Concurrent Resolution on the Budget for Fiscal Year 2002 provides \$5.3 billion for the Coast Guard, a \$250 million increase over the President's budget request for the agency. This increase is provided to eliminate Coast Guard vessel and aircraft spare parts problems, to improve personnel training, to fund new Department of Defense entitlements, and to operate drug interdiction assets at optimal levels.

Drug Interdiction

The fiscal year 2002 budget request includes \$619.2 million in operating expenses for Coast Guard drug interdiction activities. There is no funding for new drug interdiction strategies in the operating expense request. The AC&I account

includes \$135.6 million for drug interdiction capital expenses, which is a \$86.8 million increase in the drug interdiction AC&I funding over fiscal year 2001. The AC&I increase is principally related to the Coast Guard's Deepwater project which the Coast Guard believes is essential to maintaining an effective drug interdiction presence in the Caribbean and Eastern Pacific where there is limited re-supply and refueling opportunities.

While the Coast Guard expects to decrease its drug interdiction efforts, in comparison to fiscal year 2001 levels, by decreasing assets as well as vessel and aircraft operating hours, the Coast Guard does plan to expand the use of its Operation New Frontier capabilities. Operation New Frontier forces include specially equipped and hardened airborne use-of-force helicopters, over-the-horizon cutter boats, and non-lethal technologies designed to stem the threat of go-fast drug smuggling boats.

In support of the Coast Guard's use-of-force program, Agusta Aerospace Corporation of Philadelphia, Pennsylvania, has delivered the first two Agusta A109E helicopters to the Coast Guard for deployment as an integral component of Operation New Frontier. Delivery of the six remaining helicopters is scheduled to take place by July 2001. The Coast Guard expects to spend \$24 million on this important program to stop drug smugglers.

The Coast Guard will continue to leverage its use of intelligence, law enforcement detachments aboard U.S. Navy and foreign vessels, interagency partners, and a cohesive international engagement plan in support of our National Drug Control Strategy. Should Congress provide the agency with additional fiscal year 2002 operational funding, the Coast Guard would increase the number of vessel and aircraft operating hours devoted to drug law enforcement.

Deepwater Capability Replacement Project

The Coast Guard's Deepwater Capability Replacement Project is intended to replace or modernize all assets used in the Deepwater missions, which generally occur more than 50 miles offshore. Coast Guard activities in this zone typically require either extended on-scene presence, long transit distance to reach the operating area, forward deployment of forces, or a combination of these approaches. The Coast Guard has identified fourteen missions in this zone, including alien migration interdiction operations, drug interdiction, and fisheries

law enforcement.

The Coast Guard began planning for replacing assets in 1996 because Deepwater-capable assets are nearing the end of their service lives, are technologically limited for performing deepwater missions effectively, and are expensive to operate because of relatively high crew requirements. Instead of proposing a traditional one-for-one asset-replacement program, the Coast Guard has hired three industry teams to develop competing proposals to develop a single, integrated package of ships, aircraft, and associated systems that will optimize performance of deepwater missions while minimizing life-cycle costs.

To date, the Coast Guard has spent \$117 million for three industry teams to develop a plan for replacing or modernizing existing assets. The winning team is to be selected the second quarter of fiscal year 2002. The Administration has requested \$338 million in fiscal year 2002 to begin acquiring, construction or improving existing assets under the accepted proposal. The Coast Guard estimates the acquisition cost of the Deepwater project at \$10 billion over the next twenty years, but this figure could change.

National Distress and Response System Modernization (NDRSM) Project

The National Distress System provides two-way voice communications coverage for the majority of Coast Guard missions in coastal areas and navigable waterways where commercial and recreational traffic exists. The Coast Guard's system monitors the international VHF maritime distress frequency (Channel 16) and acts as the primary command and control network to coordinate Coast Guard search and rescue response activities. The secondary function of the system is to provide command, control, and communications for Coast Guard missions involving national security, maritime safety, law enforcement, and marine environmental protection. The national distress and communication capability of the existing communications system, built in the 1970's, is inadequate. The current system is unable to accommodate the significant growth in maritime commerce and recreational boating.

The President's request provides \$42 million for validation and full-scale development of the selected alternative solution for the NDRSM project. This project will fully modernize the existing VHF-FM National Distress System and provide improved distress alerting and response coordination capability, along with

improved command and control for all Coast Guard missions. The new system will include direction finding, asset tracking, digital selective calling, and multi-channel transmitting and receiving capability.

The future cost of the National Distress System project is estimated at \$220 million. The project is to be completed in fiscal year 2006. There is concern that the implementation time for the project is too long, since there is a vast disparity between the communications capability that the public thinks is in place and the actual capabilities of the current communications system.

WITNESSES

PANEL I

[Admiral James M. Loy, Commandant](#)

United States Coast Guard

[Master Chief Petty Officer Vincent Patton, III](#)

United States Coast Guard

PANEL II

[JayEtta Hecker](#)

Director, Physical Infrastructure Issues

General Accounting Office

Accompanied by:

Randy Williamson, Assistant Director, Fiscal Infrastructure Issues

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD
STATEMENT OF ADMIRAL JAMES M. LOY
ON THE FISCAL YEAR 2002 BUDGET
BEFORE THE
SUBCOMMITTEE ON COAST GUARD AND MARITIME
TRANSPORTATION
COMMITTEE ON TRANSPORTATION AND
INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES
MAY 3, 2001

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Good morning, Mr. Chairman and distinguished members of the Subcommittee. It is a pleasure to appear before you today to discuss the Coast Guard's fiscal year 2002 budget request and its impact on the essential services we provide the American public on a daily basis.

I continue to be impressed by the dedication, patriotism, and sense of public service inherent within our Coast Guard men and women - active duty, Reservists, civilian and Auxiliarists. Men and women who continually demonstrate their commitment to saving lives and property at sea, protecting our natural environment and safeguarding the national security of this nation. Maintaining their focus around the clock, frequently in difficult situations under extreme pressure, Coast Guard sailors, airmen, marine safety, and support personnel have compiled an impressive list of accomplishments over the past year in support of our enduring strategic goals: Maritime Safety, Protection of Natural resources, Maritime Mobility, National Defense and

Maritime Security. Coast Guard men and women responded with poise and vigor when 34 crewmembers, stranded aboard the foundering cruise ship *SEA BREEZE* called for help. Their helicopter was buffeted by 65-knot winds and the sinking ship was pounded by 25 foot seas, yet all were returned to shore safely. Coast Guard personnel also succeeded in preventing major ecological disasters in the wake of oil tanker groundings off the Mississippi Delta and Galapagos Islands. They facilitated the safe passage of over 2 billion tons of freight, 3.3 billion barrels of oil and 134 million passengers throughout our marine transportation system. As one of the nation's five armed services, we deployed our Port Security Units to the Arabian Gulf in the aftermath of the *USS COLE* incident to provide force protection for U.S. Navy and Military Sealift Command ships. In addition to providing security abroad, Coast Guard men and women protected the maritime borders of our homeland by preventing more than 4,000 undocumented migrants from reaching our shores and interdicting drug smuggling vessels such as the *FOREVER MY FRIEND*, which was carrying nearly 20,000 pounds of cocaine destined for the streets and playgrounds of America. I have a tremendous sense of pride in what Coast Guard men and women have accomplished in this past year; however, that does not mean it is time to rest on our laurels. I continue to be concerned with our ability to maintain our performance now and throughout the coming decades.

BUDGET THEMES

Despite the dedicated and hard work that the men and women of the Coast Guard perform day-to-day, we continue to be challenged to maintain our performance levels. Aging assets,

spare parts shortfalls, and an inexperienced workforce are all issues that continue to cause me concern. Last fall, the small boat lowering system's aft davit on the 58-year-old Cutter *STORIS* broke into pieces and nine Coast Guard personnel were dumped into the freezing, rough waters of the Bering Sea. Fortunately, all were recovered - many of them were incapacitated by the cold, unable to help themselves out of the water, and in imminent danger of succumbing to hypothermia. As the *STORIS* was recovering its personnel, the fishing vessel they were about to board got away; it was illegally poaching in our waters. The *STORIS* provides a stark illustration of the harsh environments Coast Guard units operate in and the need to maintain proper readiness.

Mr. Chairman, the President's fiscal year 2002 budget focuses on three themes for the Coast Guard. Specifically, the President's budget will continue to: (1) **Restore Service Readiness**, (2) **Shape the Future** of the Coast Guard and (3) facilitate our **Transformation** into the Coast Guard of the 21st century.

RESTORE SERVICE READINESS

We have made noteworthy progress toward the goal of restoring readiness. My number one pledge was to rebuild the Coast Guard workforce. A lot of people have worked very hard to make good on this pledge. Our exceptional recruiting efforts—and resources directed to underwrite those efforts—for officer and enlisted accessions are paying off. Last year I was able to announce that the Reserve force was up to complement. This year, I am pleased to report that the active duty enlisted

work force is back to its authorized strength for the first time since 1994. We still have skill and seniority gaps, but the petty officer shortage has been cut in half. In addition, the civilian workforce is benefiting from its most successful year of recruiting ever.

The workforce is just one facet of readiness. To completely restore service readiness, we must continue our multi-year, phased approach to ensure that Coast Guard operating and support units are properly staffed, trained, equipped and maintained. The President's budget request provides the necessary resources to continue to restore service readiness. It will provide for important personnel initiatives that will assist us in recruiting and retaining the people we need to conduct Coast Guard missions. The President's budget will annualize the fiscal year 2001 pay raise and mandatory military entitlements introduced with the National Defense Authorization Act of 2001, provide a fiscal year 2002 pay raise (4.6% for military; 3.6% for civilians), improve health care, and continue vital recruitment and retention incentives.

In addition to maintaining a viable workforce, the President's budget addresses other aspects of readiness such as spare parts shortages, aging assets, staffing levels and the increasing cost of operations. The President's budget provides much needed funding for our spare parts and maintenance accounts. It covers increasing fuel and energy costs and provides funding to operate new assets that were acquired in FY 2001. These assets include 3 buoy tenders, 10 coastal patrol boats and 20 motor lifeboats that were brought into the Coast Guard to replace antiquated

coastal assets. The President's budget also addresses our readiness concerns at search and rescue (SAR) command centers and stations by increasing staffing to alleviate previously identified personnel fatigue and quality-of-life issues. In addition, it provides enhanced training for the personnel who will be first-hand responders to SAR missions at sea.

Full funding of the President's request is required to continue our multi-year efforts to restore Coast Guard readiness. We can only continue to meet our wide-ranging mission requirements by addressing the wear and tear on both our people and equipment.

SHAPE THE FUTURE

An effective and timely recapitalization / modernization program is critical to our efforts to sustain the level of service the American public has come to expect of us and to be prepared to meet the maritime challenges of the 21st century. The President's fiscal year 2002 budget shapes the future of the Coast Guard by providing for the modernization of our assets, including sensors and communications equipment for our cutters, aircraft and command centers. I'd like to highlight three of these pivotal projects.

To meet the challenges of today and tomorrow the Coast Guard must begin recapitalizing and modernizing its aging deepwater cutters, aircraft and command and control assets. This effort has been addressed in the President's fiscal year 2002 budget, which fully funds the Integrated Deepwater System Project (Deepwater). The December 1999 *Report of the Interagency*

Task Force on U.S. Coast Guard Roles and Missions determined that the recapitalization of the Coast Guard's deepwater capability is a near term national priority and that the Deepwater project is a sound approach. I have observed many acquisitions during my 40 years in the Coast Guard and I have the utmost confidence that we are proceeding along a sound path, which includes the use of a systems integrator to integrate our assets during the acquisition process. We continue to work closely with the Office of Management and Budget, Government Accounting Office and the Inspector General to ensure that the Coast Guard will have direct and positive control of each phase of the Deepwater acquisition, and that we will have the ability to easily insert new technology and exercise significant flexibility to work with subcontractors and suppliers to provide the most effective assets and systems. The Deepwater project has worked closely with three qualified industry teams for over three years. The project capabilities are well developed and three mature functional designs have been prepared. We are ready to award a contract in fiscal year 2002.

Critical to the safety of mariners at sea is the ability to automatically record and play back distress calls, adjust the quality of the recording until a message can be clearly understood, and determine and preserve an electronic fix when a distress call is received. Our current coastal distress communications system cannot accomplish these tasks. The existing VHF-FM system was put in place in the early 1970's and has long since been surpassed by more effective and reliable communications systems. The President's fiscal year 2002 budget recognizes the importance of this national safety issue

and provides full funding for the continuation of the National Distress and Response System Modernization Project – the “nation’s maritime 911 system.”

For several years the Coast Guard has been engaged in a project that replaces its seagoing buoy tender fleet, which consisted of 26 cutters with an average age of more than 50 years. The Seagoing Buoy Tender Replacement Project has been aimed at replacing these older assets with 16 modern-equipped cutters. The President’s budget proposes to acquire the last two seagoing buoy tenders in fiscal year 2002 to complete this replacement effort.

TRANSFORMATION

The Coast Guard is in the midst of a transformation period in order to meet the nation’s dynamic needs in the 21st century. In recent years, we transformed many of our coastal zone assets by replacing them with new, modern technology such as motor lifeboats, stern loading buoy maintenance boats, coastal patrol boats and medium and long range buoy tenders. In fiscal year 2002, we will concentrate on the transformation of our aging offshore capability into the Integrated Deepwater System. We will work to break the downward spiral of spending ever-increasing amounts of money to maintain these older assets, always either entering or emerging from one round of short-term measures that solve one liquidity crunch but bear the seeds of the next one. As we continue through this transformation, temporary operational adjustments will be necessary. Although all of our assets are needed and contribute to achieving our national level performance goals, there are those that contribute less or are simply too costly to sustain. To help us determine

which assets fit this category for transformation, I developed five guiding principles: (1) We must preserve SAR capability and safety functions, (2) We must only operate at a level that can be sustained by the current support infrastructure, (3) We must maximize and balance productivity, (4) We must continue to exercise good stewardship of the taxpayers' dollars, and (5) We must prepare for the Deepwater project. The fiscal year 2002 President's budget successfully applies these guiding principles and requests asset decommissionings and / or retirements that will help transform the Coast Guard from today's effective service into tomorrow's even more effective service. To this end, we have scheduled the decommissioning and / or retirement of assets including 3 cutters, 19 aircraft and 2 air facilities.

CONCLUSION

The President's fiscal year 2002 budget continues to build upon past efforts to restore service readiness and shape the Coast Guard's future. The budget focuses on restoring the readiness of Coast Guard personnel, as well as our core missions of maritime safety and SAR, while ensuring that all of our missions are performed at a level that can be sustained by our support infrastructure. By accelerating the retirement of some of our oldest and most maintenance intensive assets, this budget exercises good stewardship of the taxpayers' dollars. The budget strives for efficient mission performance and optimum productivity. The budget demonstrates unwavering support for the Deepwater project by providing significant funding to continue this critical modernization project. The end result of the President's fiscal year 2002 budget will be a more efficient

Coast Guard that is correctly positioned for transformation into the Coast Guard of the 21st century.

In closing, I ask for your strong support for the necessary funding and equipment the Coast Guard needs to continue making a difference all across America. I thank you and the other members of this distinguished subcommittee for the opportunity to discuss the President's fiscal year 2002 budget request. I look forward to working with you over the course of the next several months to ensure that America's Coast Guard remains "Semper Paratus."

DEPARTMENT OF TRANSPORTATION
U. S. COAST GUARD
STATEMENT OF
MASTER CHIEF PETTY OFFICER OF THE COAST GUARD
VINCENT W. PATTON, III
ON THE FISCAL YEAR 2002 BUDGET AUTHORIZATION
BEFORE THE
SUBCOMMITTEE ON COAST GUARD AND MARITIME
TRANSPORTATION
COMMITTEE ON TRANSPORTATION AND
INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES
MAY 3, 2001

Good morning, Mr. Chairman and distinguished members of this subcommittee, I greatly appreciate the opportunity to meet and discuss with you my views on the state of the Coast Guard's enlisted workforce. During my tenure as the Coast Guard's senior enlisted advisor to the Commandant, I have viewed this position to be more than just focusing on the specific interests of the enlisted workforce. I also believe it is important to include the concerns and interests brought to my attention by other members of our Coast Guard team, officers, civilians, auxiliarists, retirees, and family members. With this thought in mind, over the past year, I have traveled extensively both in and outside of the country visiting a little more than one-third of our entire Coast Guard workforce. Taking advantage of talking with as many people as possible helps me in developing a realistic perspective and working knowledge of how our workforce is doing overall, including bringing out any issues and concerns

that they have.

As I have stated in my past two testimonies before this subcommittee, major issues such as housing, family health care, recruiting, retention, and pay and compensation continue to dominate the open group and individual discussions I have had with our military personnel. Family health care and increased pay entitlement concerns have been heard throughout all of Congress. I'm extremely grateful for your support in these two important areas.

The passing of the National Defense Authorization Act of 2001 (NDAA-01), included a number of positive elements that have "answered the mail" in what our military personnel have sought to help improve quality of life for themselves and their families. Marked improvements in TRICARE family medical program, pay raises, and substantial increases to Basic Allowance for Housing (BAH) rates, have been applauded by our military members as successes.

This past year, we have been extremely busy addressing the needs of our Coast Guard workforce as we carry out our roles and missions into the 21st century. At present, we are examining many of our personnel practices to ensure they conform to the needs of the future for our workforce in areas of housing, training, workload management, and retention. These issues have remained as strong challenges to our personnel support system as we experience significant technical skills and experience shortfalls in our workforce.

The concerns and issues that affect our members today in these areas are quite similar to those I discussed with you last year. The primary issue I would like to discuss with you today is retaining the “best and brightest” workforce that can perform the tasks assigned with confidence and competence.

RETENTION

Over the past several years, just under 50% of our enlisted personnel who became eligible for retirement when they reached the 20-year active duty mark actually choose to retire. Our workforce planners have determined that over the next five years the number of retirement-eligible members will continually rise, resulting in an increased loss of personnel due to retirements. This is a result of the successful high enlistment and reenlistment era we experienced during the 1980s. Just last year we experienced our first wave of increasing retirements. Last year’s retirements have resulted in a diminished pool of experienced mid-level supervisory personnel at the first class and chief petty officer levels. Competing interests such as employment opportunities, child education and spousal employment make it difficult to convince even those who are not within the retirement eligibility window to remain in the Coast Guard. With the loss of each highly experienced individual, we are faced with an experience gap that will take a great deal of time and effort to fill. As a result, the total years of experience in our workforce is diminishing to a point to where it could have an even greater impact on our readiness if we do not find ways to focus on retaining our experienced members.

Our ships, aircraft, boarding teams, and pollution response teams all require a cadre of experienced senior enlisted personnel to ensure our crews do their jobs safely and effectively. We must continue to be as equally concerned with retaining experienced senior enlisted personnel as we are with recruiting high-quality candidates into our service. Recently, the Assistant Commandant for Human Resources embarked upon an extensive retention effort to provide members with facts and figures to help them with their decisions on whether or not to remain longer in the Coast Guard.

“FUTURE FORCE-21”

In May of last year, our Commandant chartered a workforce team to develop a human resource management structure that will meet our 21st century personnel needs. The project, called “Future Force-21,” will focus on shaping and sustaining a diverse and flexible force of human resource capabilities. One element of “Future Force-21” will be training. As a subscriber and believer to Admiral Loy’s credo that “Preparation Equals Performance,” I am very concerned that unless we are given adequate resources to allow us to make the appropriate changes in our training qualification systems, such as those sought for Coast Guard Search and Rescue enhancements, our workforce will be unprepared to respond to its assigned tasks. Through the “Future Force-21” initiative, the Coast Guard will identify the necessary skills and staffing for us to continue to be prepared to respond to all roles and missions. The end result will be that our total Coast Guard workforce, especially critical skilled technicians, will be prepared to confidently carry out its tasks with a new generation of ships, aircraft, and associated support

equipment.

CONCLUSION

The importance of quality-of-life concerns - such as housing, training, workload management, military pay, retirement, and the demands of today's operational deployment and personnel reassignments - must be recognized if the nation is to continue to have a strong, capable, dedicated, military, multi-mission, and maritime service in the United States Coast Guard. As we look to major acquisition initiatives such as the Integrated Deepwater System project, the need for a highly capable workforce that remains dedicated to fulfilling their assigned tasks cannot be taken lightly. I have often said that the makeup of the Coast Guard's workforce consists of "ordinary people" who do "extraordinary things;" I believe that this is an understatement. Our Coast Guard workforce is a group of people who, through the legacy of our service's over 210-year existence, believe that our core values of Honor, Respect, and Devotion to Duty are more than just words. These values remain as a "condition of employment," where our people are concerned not only for their own personal well being, but the future of the Coast Guard as well. Where we are heading as an organization, our contributions to this country, and the ability for us to remain "Semper Paratus," are key areas I have hoped to address in this testimony.

Thank you for allowing me the opportunity to address these concerns before you. I am available to answer any questions you may have.



Testimony

Before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives

For Release on Delivery
Expected at 10:00 a.m. EST
Thursday
May 3, 2001

COAST GUARD

Actions Needed to Mitigate Deepwater Project Risks

Statement of JayEtta Hecker,
Director, Physical Infrastructure



G A O

Accountability * Integrity * Reliability

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify on the Deepwater Capability Replacement Project, which was initiated by the Coast Guard to replace and modernize its aging fleet of over 90 cutters and 200 aircraft used beyond 50 miles from shore. This project, the largest acquisition ever attempted by the Coast Guard, will likely cost over \$10 billion or more and will not be completed for 2 to 3 decades. Already, the Coast Guard has spent about \$116 million on the project's design, and this year is asking for \$338 million to begin the acquisition phase.

The Congress and the Coast Guard are now at a major crossroads with the Deepwater Project, in that the planning is essentially complete, and the Congress is now being asked to commit to a multibillion dollar project that will define the way the Coast Guard performs many of its missions for decades to come. The acquisition strategy the Coast Guard has chosen for the Deepwater Project is unique and untried for a project of this magnitude. It carries many risks that could potentially cause significant schedule delays and cost increases.

Since 1998, we have reviewed numerous aspects of this project at the request of this Subcommittee and others. Most recently, we evaluated the major risks associated with the project, and our testimony today is based on a report¹ released earlier this week. We will discuss risks the project faces in four major areas: (1) planning the project around annual funding levels far above what the administration has told the Coast Guard it can expect to receive, (2) keeping costs under control in the contract's later years, (3) ensuring that procedures and personnel are in place for managing and overseeing the contractor once the contract is awarded, and (4) minimizing potential problems with developing unproven technology.

¹ *Coast Guard: Progress Being Made on Deepwater Project, but Risks Remain* (GAO-01-564, May 2, 2001).

In summary:

Affordability is a major risk for the Deepwater Project. The Coast Guard has chosen a contracting approach that depends on a sustained funding stream of over \$500 million each year (in 1998 dollars) for the next 20 years or more. Contractors now competing for the right to acquire the entire deepwater system have been told to plan their entire proposals around this level of funding. According to budget projections from the Office of Management and Budget (OMB), the Coast Guard faces the real possibility that \$500 million annually will not be available for the project and that the cumulative budget shortfall may be as much as half a billion dollars for the project's first 5 years. The Coast Guard knows that any significant shortfall could lead to dire consequences, including cost increases, schedule stretch-outs, and degradation of system performance once the contract is awarded. In addition, "best practices" for capital planning strongly suggest that agencies should plan capital projects within available funding levels. Despite these factors, the Coast Guard plans to enter the acquisition phase, basing the deepwater procurement around the \$500 million funding stream.

The Coast Guard has selected a novel contracting approach—one never tried on a contract this large. It calls for procuring ships, aircraft, and equipment through a single, prime contractor. Before it was adopted, there was little evidence that the Coast Guard had analyzed whether the approach had any inherent difficulties for ensuring best value for the government and, if so, what to do about them. We and others who are involved in reviewing this approach, such as OMB, have expressed concerns with it, particularly about the potential lack of competition during the project's later years and the reliance on a single contractor for procuring so much of the deepwater equipment. In part, at our suggestion, the Coast Guard has taken a number of steps to mitigate these concerns. Still, as the project moves ever closer the acquisition phase, the

Coast Guard is conducting an analysis of its approach and has delayed some of its key milestones to consider these concerns more fully.

In most respects, the Coast Guard has managed the planning phase very well. In fact, the Coast Guard's procedures and management structure thus far have been among the best of federal agencies we have evaluated. It faces tougher challenges during the acquisition phase, however, and much is left to do before it is ready to move to the next phase. It still must recruit and train enough staff to manage and oversee the contract, determine how to best manage its relationship with its subcontractors, ensure that useful segments are fully funded in advance of buying equipment, implement an effective means to accurately measure the effects on operations and total system costs as new equipment replaces existing ships and aircraft, and develop contingency plans in the event that problems develop with the performance of the prime contractor or subcontractors.

Our reviews of other acquisitions governmentwide show that reliance on unproven technology is a frequent contributor to cost escalation, schedule delays, and compromised performance standards. As with contract management, the Coast Guard's initial steps in countering this risk have been very good. The Coast Guard has encouraged contractors to include off-the-shelf technology in their proposals. Our review of key technologies that contractors are proposing for the first few years of the project showed that almost all should be sufficiently mature by the time the contract is awarded. However, there is less certainty in later years. The Coast Guard needs a structured process for assessing and monitoring this risk. So far, it has none.

Our overall assessment of the risk levels is shown in table 1. In the report, we make several recommendations to help the Coast Guard and the Congress improve the long-term success of the Deepwater Project.

Table 1: Areas of Risk and Overall Risk Levels for the Deepwater Project

Area of risk	Risk level	Reasons for assigning this level of risk
Attaining a stable, sustained funding level	High	Several years of funding substantially below planned funding levels can have adverse consequences for the acquisition strategy. Budget constraints and other budget priorities threaten the Coast Guard’s ability to achieve large, sustained increases in its budget for capital spending.
Controlling costs in the contract’s later years	Moderate to High	The risks center on the potential lack of future competition and reliance on a single contractor to procure the entire system. The level of risk depends on the effectiveness of provisions the Coast Guard designs and includes in the contract to encourage or require subcontract competition and increase its leverage in negotiating future contracts with the prime contractor.
Overseeing the acquisition	Moderate	Although there are many uncertainties about contract management as the Coast Guard increases the size of the administrative effort, the commendable start and the ability to make specific changes lessen the degree of risk in this area.
Using unproven technology	Low to Moderate	The steps needed to mitigate this risk are relatively few and straightforward. The lack of an assessment tool to measure technology maturity poses short-term (low) and long-term (moderate) risk.

Source: GAO analysis of risk areas.

As the Coast Guard has attempted to mitigate these risks during the project’s planning phase, we have assisted agency officials and brought our concerns to their attention as soon as possible to increase the opportunity for useful exchange of information and, where necessary, timely corrective action. To its credit, the Coast Guard has listened to us and made many changes to improve the project and mitigate major areas of risk. Nonetheless, the Coast Guard still has much left to do in this regard before it proceeds into the acquisition phase.

Background

Many of the Coast Guard’s cutters were built in the 1960s, and many of the aircraft in the 1970s and 1980s. Although these assets have been upgraded since being acquired, they are aging and have serious performance and support problems. Because of these problems, the Coast Guard began planning for the modernization of its deepwater fleet in 1995.

The acquisition approach the Coast Guard chose for the Deepwater Project is innovative. Rather than using the traditional approach of replacing an individual class of ships or aircraft, the Coast Guard has adopted a “system-of-systems”

approach intended to integrate ships, aircraft, sensors, and communication links together as a system to accomplish mission objectives more effectively. The Coast Guard expects this approach will both improve the effectiveness of deepwater operations and reduce operating costs.

In 1998, the Coast Guard contracted with three competing teams of contractors to conceive and begin designing a proposed deepwater system. Each team is made up of aircraft manufacturers, shipbuilders, and manufacturers of electronic, communication, and other equipment needed for the deepwater system. Later this year, the Coast Guard will ask each team to submit a final proposal, which the Coast Guard will evaluate as a basis for selecting one team to build the entire system. The Coast Guard plans to award the deepwater contract in early 2002, based largely on which team proposes a system that provides the best value in terms of improvements in operational effectiveness and minimizing total ownership costs.²

When the deepwater contract is awarded in 2002, the contract will actually be between the Coast Guard and a prime contractor, known as the “systems integrator,” of the winning team. The systems integrator will be responsible for ensuring that each ship, aircraft, or other equipment is delivered on time, in accordance with agreed to prices, and in compliance with the Coast Guard’s performance specifications. Because each of the three system integrators now competing for the contract is developing its proposal in conjunction with its own team of companies, it is likely that the companies in each team will supply most of the equipment. The deepwater contracting approach could thus result in a long-term contractual arrangement and working relationship with a single contractor and its team of contractors.

²Operational effectiveness involves the Coast Guard’s ability to carry out its deepwater missions. For example, it involves the number of lives saved, the amount of drugs interdicted, and the number of illegal immigrants interdicted. Total ownership costs include acquisition, operating, maintenance, and support costs for the deepwater system over a 40-year period.

Initially, the Coast Guard plans to have a 5-year contract with the systems integrator. The systems integrator would receive a base award for management and system integration services. Task and delivery orders for deepwater equipment would be issued by the Coast Guard in accordance with the systems integrator's implementation schedule. If the performance of the systems integrator is satisfactory for each award-term contract, the Coast Guard plans to award follow-on, award-term contracts (as many as five for successive 5-year award-term contracts) with the same systems integrator.

Viability of Contracting Approach Depends On a Sustained High Level of Funding

Securing sustained funding for any major acquisition is difficult, especially in the constrained budget environment that currently exists. In the case of the Deepwater Project, two factors—locked in a collision course—exacerbate the funding difficulties and jeopardize the viability of the project. First, the Coast Guard has planned the entire project around an expectation that it will get funding of about \$350 million during the first year and \$525 million (in 1998 dollars) each year thereafter for the life of the project. (This would include \$500 million for the contractor and \$25 million for the Coast Guard.) Adding inflation factors would increase this amount substantially throughout the life of the project. Second, the administration has told the Coast Guard to plan for considerably less—perhaps half a billion dollars less for the first 5 years of the project. Congress will make the final decision on this issue.

Success of Contracting Approach Relies on Sustained High Funding

The contracting approach chosen by the Coast Guard depends on a sustained level of funding at planned levels over the life of the project. Any significant, sustained deviation from the planned funding levels would cause the Coast Guard to alter the system integrator's schedule for producing and delivering agreed to quantities and types of deepwater assets. Altering the schedule after the contract

is awarded would require renegotiating prices in a sole source environment and negotiating new cost and performance guidelines. This would be costly for the Coast Guard in the short-term and would set off ripples affecting the acquisition of deepwater equipment for years to come. Significant shortfalls would likely result in increased costs, late delivery of equipment, and even degradation of the performance of deepwater assets.

Projections of Available Funding for the Project Fall Short of Expectations

OMB's budget targets for the Coast Guard's capital projects have sent a strong signal that planned deepwater funding levels for fiscal years 2002 through 2006 may be unattainable. Given the OMB budget targets, the Coast Guard estimates that funds available for the Deepwater Project will be about \$2.2 billion (in 1998 dollars) through fiscal year 2006. Funding required under current plans is about \$2.5 billion, or a shortfall of about \$300 million. However, adding inflation—which is what the Coast Guard has instructed the contractors to do in their final proposals—would result in a shortfall for the 5-year period of \$496 million.

Administration's Budget Projections Suggest the Need for a Lower Planning Estimate

OMB guidelines for planning capital projects say that agencies should plan new projects within available funding levels. If the Coast Guard were to follow these guidelines for the Deepwater Project, it would align the planned funding stream to OMB's budget targets and tell the contracting teams to develop their proposals accordingly. This would reduce the risk later that deviations would have to be made from the system integrator's implementation plan due to funding shortfalls. However, the Coast Guard is reluctant to lower the planned funding stream because it believes that (1) the \$525 million planning figure represents the level needed to optimize operating effectiveness and efficiencies and (2) the administration will provide more money for the project in future years. However, according to OMB officials, future funding levels cannot be guaranteed; and it

would be inappropriate for the Coast Guard to tell the contractors to use higher funding levels for the project that were not consistent with the administration's budget targets.

In our report, we recommended that the Department of Transportation (DOT) align the planned funding levels for the Deepwater Project with the administration's budget targets. However, in commenting on our report, DOT disagreed, saying that they plan to proceed with the hope that future funding will materialize. In our opinion, this is unwise and fiscally irresponsible unless the Congress sends a strong signal to the Coast Guard that ample funding will be available for the project.

Ability to Control Cost's in Project's Later Years Remains Uncertain

When we initially reviewed the proposed contracting approach for the Deepwater Project, we expressed concerns to the Coast Guard about whether it could keep costs from rising and ensure good performance once the contract is awarded. We were particularly concerned about the potential absence of competition for subcontracts in the project's later years and the heavy reliance on a single systems integrator to procure the entire system. Several other factors heightened our concerns. First, the contracting approach had never been tried on a contract this large, extending over 20 years or more. There were no models to help guide the Coast Guard in developing its approach. Second, when the Coast Guard selected the contract in May 2000, it had little documented evidence to support the depth of its analysis of risks with the approach, the factors considered, or the degree to which this approach provided better value than other approaches. Finally, we discussed the Coast Guard's approach with contracting experts from the public and private sector who echoed our concerns with the approach. Based on these discussions, we asked the Coast Guard to undertake a more rigorous analysis and seek outside expertise in validating its contracting strategy.

Potential Absence of Competition in the Project's Later Years

OMB guidance³ on capital planning recognizes the value of competition as a lever to keep contract costs down. Given that contract teams are competing for the initial deepwater contract, the benefits of competition are present in the project's early years. Prices for deepwater equipment for this 5-year contract will be pretty much fixed when the contract is awarded in 2002. Beyond the first 5-year contract, however, the benefits of competition are less certain. In a practical sense, the opportunity for competition in the project's out years is diminished because the systems integrator will likely contract with those suppliers that were part of the team putting together the proposal rather than opening the contract to a wider set of offerors. We believe that this potential lack of competition reduces the normal marketplace control on price and subjects the Coast Guard to situations in which the supplier could potentially drive up project costs.

The Coast Guard is attempting to develop strategies for encouraging competition among suppliers. For example, the Coast Guard has included an evaluation factor—for how well the integrator fosters competition—in its criteria for evaluating the systems integrator's performance and awarding follow-on contracts. By doing so, the Coast Guard hopes that this will encourage the systems integrator to have competition. At this point, it is not clear what effect this evaluation would have.

Reliance on Single Contractor

The dependence on a systems integrator to acquire and integrate the deepwater systems is both one of the contracting approach's biggest strengths and one of its main weaknesses. On the positive side, if all aspects of the approach work well, the systems integrator will form a long-term partnership with the Coast Guard and provide technical expertise to assemble an integrated system and the continuity

³ OMB's Capital Planning Guide (Supplement to OMB Circular No. A-11).

needed to bring the project to a successful conclusion. However, the approach could establish the integrator as a monopoly supplier, substantially constraining the Coast Guard's options or leverage. The Coast Guard could be in a weak position to negotiate aggressively on price because of its reluctance to take on the risks of increased costs and other problems associated with switching systems integrators. For example, if the systems integrator's performance is marginal or unsatisfactory and the Coast Guard is considering replacing the integrator, a new systems integrator will have to step in to implement someone else's partially completed design. The learning curve and other complications involved in such a midcourse adjustment could be dramatic and would probably be very costly.

Steps to Mitigate the Contracting Risks

As our work progressed, we expressed concerns to the Coast Guard immediately, rather than waiting until the end of our review. As we raised concerns, the Coast Guard took additional steps to study them. In September 2000, we urged the Coast Guard to take a number of steps to deal with the risks of the contracting strategy, the most substantive being to convene an independent panel of contracting experts from the government and the private sector to review the contracting approach. The Coast Guard agreed and formed such a panel, which met in April 2001. The panel identified additional items the Coast Guard needs to do before it asks the contracting teams to submit a final proposal for the deepwater system. At this point, we do not know what actions the Coast Guard plans to take as a result of the panel discussions. However, we still believe that outstanding issues remain to deal with competition and the contracting approach before the agency proceeds much further.

Overseeing the Acquisition Phase of the Project Poses New Challenges

Another area of potential risk involves the overall management and day-to-day administration of the contract. In this regard, the Coast Guard's performance

during the planning phase has been generally excellent. The acquisition phase is a much tougher challenge, and the Coast Guard has much to do before it is ready to award the deepwater contract.

Project Management During the Planning Phase Was Generally Excellent

In the planning phase of the project, the Coast Guard applied a number of “best practice” techniques recommended by OMB and others.⁴ For example, the Coast Guard gave contracting teams mission-based performance specifications, such as the ability to identify small objects in the ocean, rather than asset-based specifications, such as how large a cutter should be. Along with this, the Coast Guard highlighted the use of “open-system architecture” and emphasized the use of commercially supported products in the equipment to be acquired. In addition, the Coast Guard established a management structure of Coast Guard and contractor teams for rapidly communicating technical information.

The Coast Guard also had effective procedures and a management structure in place for this phase of the project. Using a widely recognized management model, we assessed procedures and structure in several key areas and found no significant weaknesses. In fact, the Coast Guard’s procedures and management structure for these areas were among the best of all the federal agencies we have evaluated using this model.

Coast Guard Faces Difficult Challenges During the Procurement Phase

As the project moves from the planning phase to the procurement phase, the Coast Guard must ensure that it can perform project management and contract administration activities at a high level, given the complexity and scope of the contract and its uniqueness. Under the Coast Guard’s planned approach, the

⁴ Best practices are those that have been found to work well and that are generally recommended by OMB and others.

systems integrator will be responsible for program management required to implement the deepwater system, and the Coast Guard will continuously monitor the integrator's performance. The Coast Guard plans to implement, or require the systems integrator to implement, many management processes and procedures based on best practices; but these practices are not yet in place. Because much work remains to be accomplished in this area, the full effectiveness of the Coast Guard's approach cannot be assessed in the short term. The following are the key areas that will need to be addressed.

Effective human capital practices. A critical element to the ultimate success of the project is having enough trained and knowledgeable Coast Guard staff to conduct management and oversight responsibilities. Project officials view this as a high-risk area and one of the most important aspects of the project. The Coast Guard needs additional capabilities in several critical areas and hopes to have its full complement of staff needed for fiscal year 2002 by the time the contract is awarded.

Key management and oversight processes and procedures. Under its deepwater acquisition approach, the Coast Guard will rely heavily on the systems integrator to establish a management organization and systems necessary to manage the major subcontracts for deepwater equipment. The systems integrator will be responsible for developing key systems and processes, such as risk management, quality assurance, and test and evaluation. In addition, the Coast Guard is developing a program management plan to oversee the systems integrator.

Close relationships with subcontractors. Because the use of major subcontractors to provide high-value equipment will be such an intricate part of the Deepwater Project, good relations and communications between the Coast Guard, the systems integrator, and the major subcontractors will be very important. Our past review of best practices on this issue suggests that leading organizations establish effective communications and feedback systems with their subcontractors to continually assess and improve both their

own and supplier performance.⁵ The Coast Guard has developed no general policy on subcontractor relationships. The program management and quality assurance plans have not been completed, and it is not clear, at this time, what the quality and nature of the Coast Guard's relationship with subcontractors will be.

Full funding in advance of buying equipment. OMB Circular A-11, Part 3, emphasizes that each useful segment (e.g., an entire ship) of a capital project should be fully funded in advance of incurring obligations. We found in a review of earlier Coast Guard budget justifications that the Coast Guard had proceeded with some capital projects before the amount of full funding was identified.⁶ As the Coast Guard proceeds with the Deepwater Project, it needs to ensure that its budget requests are consistent with OMB guidelines on full funding of useful segments.

Accurate and complete data to measure contractor performance. Coast Guard officials told us that they plan to use a subjective rating system to assess the contractor's performance rather than use database benchmarks for improvements in operational effectiveness and total ownership costs. According to Coast Guard officials, setting such benchmarks may be difficult because performance data may reflect factors that did not result from actions of the contractor. For example, improved intelligence on drug smugglers could result in improvements in operational effectiveness. Also, changes in fuel costs could cause operational costs to increase. Because a host of factors could cause changes in these data, it will be important for the Coast Guard to carefully track these measures and accurately identify and segregate reasons for the changes that occur. Doing so would better show the results of significant federal investments in ships and aircraft.

Contingency planning and exit strategies. Given the Coast Guard's heavy reliance on a single systems integrator for so many facets of the Deepwater

⁵*Best Practices: DOD Can Help Suppliers Contribute More to Weapon System Programs* (GAO/NSIAD-98-87, Mar. 17, 1998).

⁶*Budget Issues: Incremental Funding of Capital Asset Acquisitions* (GAO-01-432R, Feb. 26, 2001).

Project, the agency is at serious risk if—for whatever reason—the systems integrator does not perform as expected or decides to walk away from the project on its own. Faced with these options, having a carefully thought-out contingency plan, which identifies and analyzes the implication of potential actions, would solidify the Coast Guard’s ability to respond effectively. In the extreme case—where the contractual relationship with the systems integrator is terminated—an exit strategy identifying possible alternatives, consequences, and transition issues would be important.

Use of Off-the-Shelf Technology Minimizes Risks, but Effective Means to Assess Unproven Technology Is Lacking

The risks associated with incorporating new unproven technology⁷ into the first part of the Deepwater Project are minimal, in part, because of the Coast Guard’s emphasis that industry teams use technology that has already been proven in similar applications. Our main concern is the absence of criteria to measure the risk of the new technology that does need to be developed, both now and in the project’s later years.

Coast Guard’s Approach Conforms With Best Practices

Too little assessment of the risks associated with developing new technology has caused problems on many acquisition projects, both in government and the private sector. Minimizing a technology’s unknowns and demonstrating that it can function as expected significantly reduce such risk. We have found that leading commercial companies use disciplined processes to demonstrate—before fully committing to product engineering and development—that technological capability matches project requirements. Waiting to resolve these problems can greatly increase project costs—at least 10-fold if the problems are not resolved

⁷We are using the term technology to denote assets, systems, equipment, and components proposed for the Deepwater Project.

until product development, and as much as 100-fold if they are not resolved until after production begins.⁸

The Coast Guard has taken steps to minimize these risks. One major step was to emphasize in contracting documents to industry teams that—to the maximum extent possible—proposed assets, systems, equipment and components are to be nondevelopmental or commercially available (off-the-shelf) items. Our review showed that the teams' preliminary proposals included many commercial off-the-shelf and nondevelopmental items currently operating in the commercial or military environment. However, some proposed equipment included developing technology that has not yet been proven. Generally, these developing technologies are at the prototype level and are undergoing performance testing and evaluation prior to contract award to commercial and military customers.

The Coast Guard's steps are helping to keep the risk of unproven near-term technology at a low level. We measured the maturity level for the project's most critical near-term technologies (those introduced in the first 7 years of the project), using an approach developed by the National Aeronautical and Space Administration (NASA). We applied this process, referred to as technology readiness levels (TRL), to 18 technologies identified as critical by the three contractor teams and the Coast Guard. We determined—and the Coast Guard concurred—that by the time the contract is awarded, 16 of the 18 are expected to be at a level of acceptable risk.⁹ The remaining two technologies will be slightly higher in risk; but in one case, an early prototype is being tested; and in the other, a proven backup system has been identified that, if needed, could replace the

⁸*Defense Acquisition: Employing Best Practices Can Shape Better Weapon System Decisions* (GAO/T-NSIAD-00-137, Apr. 26, 2000).

⁹TRL readiness levels are measured on a scale of one to nine. Examples of the ratings are as follows: a rating of one signifies that studies of the basic concept have been done; a rating between three and six means that success has been demonstrated to a degree in laboratory situations; and a rating of nine means that the technology has been proven in operational mission conditions and is in final form. To be considered acceptable for committing to a contract award, a new technology or adopted system should be rated at seven or higher. A rating of seven means that a system prototype has been demonstrated in the operational environment.

technology with no effect to the project's cost, schedule, or performance. Entering phase 2 of the project with critical technologies at a high level of maturity or with proven backup systems significantly lowers risk and the likelihood of delays, which in turn helps to control program costs.

Coast Guard Lacks Criteria to Assess Technology Maturity

Although technological risks appear minimal in the near term, the Coast Guard lacks criteria for assessing the maturity of technology in the longer term. The Coast Guard has a risk-management plan in place, as well as a process to identify, continuously monitor, and assess technology risks; and the resources the Coast Guard expects to commit to the task during phase 2 appear to be adequate. What the process lacks, however, is uniform and systematic criteria for judging the level of technology maturity and risk, such as the TRL ratings in the approach we adopted from NASA. In contrast, since January 2001, DOD has required the use of TRL criteria as a tool for measuring the technology readiness of its procurement projects.

Such criteria are important for monitoring both continued development of the technologies we examined and the development of other technologies that will not be used until later in the project. As of July 2000 when we completed our TRL assessment, half of the 18 deepwater key technologies we reviewed were still below the maturity level considered an acceptable risk for entering production. Before the contract is awarded, the Coast Guard must assess the readiness of these technologies. In addition, the industry team proposals include numerous technologies that are planned for deepwater system introduction from 2009 to 2020—well after contract award. Many of these future technologies will not be proven at contract award and will need to be assessed for technology risk before acceptance. The Coast Guard plans to have a test and evaluation master plan in place by June 2001, but it is not planning to include a requirement for using TRL criteria to measure technology readiness in that plan.

Conclusions

Many critical issues must be addressed and resolved before the Coast Guard is ready to procure deepwater equipment. Two issues, however, loom large as needing more attention in the near term. Affordability is perhaps the biggest issue and one on which the Congress will ultimately have to decide. The question is, “Should the Coast Guard plan the Deepwater Project around a much higher funding stream than the administration estimates will be available for the project?” Continuing down the funding path it is currently on is risky for the Coast Guard and could lead to adverse consequences if significant funding shortfalls for the project occur. The Coast Guard is reluctant to back away from its \$500 million funding mark because it believes that this funding level is needed to provide the optimum deepwater system. So, the Congress has an opportunity now to help the Coast Guard answer this question by sending a clear message about its preferences on this matter.

The other critical issue centers around whether the Coast Guard can control project costs effectively. The actions the agency has taken to date to mitigate risks in this area are noteworthy, and it is still pondering other means to keep costs in check. Much will depend on how well the Coast Guard oversees and manages the contract as well. But, again, the Congress has an opportunity to weigh in on the progress of the project as it proceeds. If the Congress chooses to fund the project at levels that the Coast Guard wants, we think that the Coast Guard should be accountable—through annual report to the Congress—not only for managing the program well, but also for documenting improvements in the operating efficiency and effectiveness of its deepwater assets.

This concludes my statement. I would be pleased to answer any questions you or other Members of the Subcommittee might have.

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