

**DEPARTMENT OF DEFENSE AUTHORIZATION FOR
APPROPRIATIONS FOR FISCAL YEAR 2005**

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

ONE HUNDRED EIGHTH CONGRESS

SECOND SESSION

ON

S. 2400

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2005 FOR MILITARY
ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CON-
STRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF
ENERGY, TO PRESCRIBE PERSONNEL STRENGTHS FOR SUCH FISCAL
YEAR FOR THE ARMED FORCES, AND FOR OTHER PURPOSES

PART 2
SEAPOWER

MARCH 3 AND 10, 2004



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CONTENTS

CHRONOLOGICAL LIST OF WITNESSES

FUTURE NAVY AND MARINE CORPS CAPABILITIES AND REQUIREMENTS

MARCH 3, 2004

	Page
Young, Hon. John J., Jr., Assistant Secretary of the Navy for Research, Development, and Acquisition; Accompanied by Vice Adm. John B. Nathman, USN, Deputy Chief of Naval Operations for Warfare Requirements and Programs; Vice Adm. J. Cutler Dawson, Jr., USN, Deputy Chief of Naval Operations for Resources, Requirements, and Assessments; Lt. Gen. Robert Magnus, USMC, Deputy Commandant for Programs and Resources, Headquarters; and Lt. Gen. Edward Hanlon, Jr., USMC, Commanding General, Combat Development Command	5

THE POSTURE OF THE U.S. TRANSPORTATION COMMAND

MARCH 10, 2004

Handy, Gen. John W., USAF, Commander, U.S. Transportation Command; Accompanied by Major Gen. Ann E. Dunwoody, USA, Commander, Surface Deployment and Distribution Command; and Vice Adm. David L. Brewer, USN, Commander, Military Sealift Command	43
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**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2005**

WEDNESDAY, MARCH 3, 2004

U.S. SENATE,
SUBCOMMITTEE ON SEAPOWER,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**FUTURE NAVY AND MARINE CORPS CAPABILITIES AND
REQUIREMENTS**

The subcommittee met, pursuant to notice, at 2:01 p.m. in room SR-232A, Russell Senate Office Building, Senator James M. Talent (chairman of the subcommittee) presiding.

Committee members present: Senators Talent, Collins, and Kennedy.

Committee staff member present: Leah C. Brewer, nominations and hearing clerk.

Majority staff members present: Ambrose R. Hock, professional staff member; and Thomas L. MacKenzie, professional staff member.

Minority staff member present: Creighton Greene, professional staff member.

Staff assistants present: Sara R. Mareno and Pendred K. Wilson.

Committee members' assistants present: Derek J. Maurer, assistant to Senator Collins; Lindsey R. Neas, assistant to Senator Talent; and Mieke Y. Eoyang, assistant to Senator Kennedy.

**OPENING STATEMENT OF SENATOR JAMES M. TALENT,
CHAIRMAN**

Senator TALENT. Senator Kennedy is on his way and asked that we go ahead. When he comes, of course, he can give his opening statement.

I'll go ahead and convene the hearing of the Seapower Subcommittee of the Senate Armed Services Committee. I understand we have one joint statement, which Secretary Young, you're going to give that?

Mr. YOUNG. I will make an oral statement and we have one combined written statement for the record, Senator Talent.

Senator TALENT. Okay. That's right, you mentioned that yesterday to me. You're going to do an oral statement and then we'll just put the written statement in the record without objection.

I'll go ahead and give my opening statement and then I'll introduce everybody all at once, since you're not individually going to make opening statements.

Today the Seapower Subcommittee welcomes the distinguished panel of witnesses representing the Department of the Navy for the purpose of translating how requirements traditionally based on a qualitative and quantitative threat are now being based on capabilities that proposed systems bring to the naval force. While this process intuitively can maintain capabilities against what many may consider a diminished threat, it can also greatly widen the range of capabilities that are considered necessary, especially in this current environment where the threat is less well defined in the areas of capabilities, quantities and perhaps most importantly motive. With potential enemies who are not necessarily aligned with a particular nation-state, our Armed Forces are tasked with bringing capabilities to bear to defeat these enemies anywhere, any time.

Perhaps the first question that needs to be addressed is the size of the force. How many ships, aircraft, and ground forces are necessary for the Navy and Marine Corps to bring their capabilities to bear? What process is being used to define the capabilities of these ships, aircraft, and ground forces? How does the new Fleet Response Plan, with its objective of presence with a purpose, provide the Nation with assured presence at the right place at the right time? These are some of the questions we would like the witnesses to address today.

Traditionally, analytic models and methods have been used to define and refine requirements using engagement mission and campaign level models. These models replicate the platforms, sensors, weapons, and tactics of well-defined threats. If the threat is no longer well-defined, however, what changes to these analytic processes are required to define the capabilities we seek to achieve in our new developmental and procurement systems?

The United States is highly dependent on its maritime strength, and one other area of concern is the health of our shipbuilding industrial base. If we were to lose the industrial capacity to maintain a fleet suitable to guarantee presence throughout the world it would be impossible to regenerate the necessary industrial capacity for at least a decade.

I want to thank Senator Kennedy for his steadfast leadership on this subcommittee. I know he is interested in these subjects as well as how they effect particular programs and platforms. For years as both Chairman and ranking member, he has led in advancing the maritime strength of America.

I will go ahead and introduce the witnesses and then when Senator Kennedy comes, we can just interrupt and let him give us his opening statement.

Our witnesses are the Honorable John Young, Jr., the Assistant Secretary of the Navy for Research, Development and Acquisition. Mr. Secretary, thank you for coming today. I've appreciated our conversations on this subject as well.

Vice Admiral John Nathman, who is the Deputy Chief of Naval Operations for Warfare Requirements and Programs. Vice Admiral Cutler Dawson, who is the Deputy Chief of Naval Operations for

Resources, Requirements and Assessments. Lieutenant General Bob Magnus, the Deputy Commandant for Programs and Resources with the Marine Corps. General Ed Hanlon, who is the Commanding General of the Combat Development Command of the Marine Corps. Thank you all for being here.

While Senator Kennedy gets his opening statement ready, I think it is very important for us to do our oversight properly. For us to know what analytic processes and models you are using in determining the kind of capabilities that you want the Navy and the Marine Corps to have. If we are going to gradually or otherwise evolve away from a numbers-based type method for estimating what kind of naval strength we require, well then we need to know what processes are being used so we can do our oversight. Have the assurance that you all are moving according to a plan that we can measure, so that we can do our job.

That's really what this hearing is about. I'm sure we will get into some individual programs and platforms as well. I know that I intend to and I imagine Senator Kennedy intends to as well.

Senator Kennedy, I said some very nice things about you before you got here—

Senator KENNEDY. Oh, did you?

Senator TALENT.—but it's in the record. [Laughter.]

Senator KENNEDY. They're in the record, or do you want to say them again?

Senator TALENT. Absolutely. [Laughter.]

I certainly appreciate how much you have done over the years to advance naval strength and naval power and to fulfill our functions as a committee and as a Congress. I'm pleased to have you give your opening statement, for the record.

STATEMENT OF SENATOR EDWARD M. KENNEDY

Senator KENNEDY. Well, thank you very much, Mr. Chairman and my colleague Senator Collins. There are many areas of difference on Capitol Hill, but I think in this subcommittee we have a remarkable comity and working partnership in not only this committee, but I think with the armed services. I thank you very much for your leadership and also the ability to work with you. We worked together in the conference on a variety of different issues. Certainly as the chairman you have developed an extraordinary command and understanding of these needs that we have in our force projection. I want to thank you for all of your courtesies and the chance to work with you and a warm friend, Senator Collins, a member of this subcommittee.

I want to welcome all of our representatives of the Service. Once again, to indicate to them we never can do it enough, how much we are grateful to them and their leadership and the men and women they represent.

We are always mindful of those that have given their lives; we are up to 13 now in Massachusetts. I've had the opportunity to attend some of the funerals and wakes of extraordinary young men and women with extraordinary families.

I also had the chance to go out to Walter Reed Hospital on a couple of different occasions and visit those brave individuals who are the casualties and see both the extraordinary personal courage of

those individuals and their incredible desire, to the extent possible, to remain in the Service, rejoining their units. I mean it's an absolutely inspirational kind of circumstance. A great tribute, I think, to the way that they're being led and the value that the Services are giving to those individuals. They always have ways of trying to deal with some of the kinds of questions—and I might submit some questions on this.

One of the perplexing issues of those that we've had, the boys that have been killed in Massachusetts, is the difficulty in recovering their wills. All of them are required to fill out their will when they go into the Service. None of the families have been able to recover them. This is an aspect of closure for families. I mean these are the kinds of incidental things—we probably won't get into today. But there are some of these individual kinds of issues that are perplexing families and they have been raised with me. They're not the particular subject of this hearing, but I think it's useful to hear at least some of these concerns. I'll follow-up with you, the Members, the leaders, and the commanders on those issues.

I want to say that we meet this afternoon on Navy and Marine Corps future operational capabilities and requirements. Some may put the primary emphasis on the ships or aircraft; we should pay attention an important matter of ensuring capabilities to support the national security strategy. In the world that we live, which continues to be one of uncertainty and unrest, the decisions we make this year have direct effect on the forces and capabilities that future combat commanders will use to protect our interest.

Without adequate modernization we could be faced with a situation, that would be forces without the necessary capabilities. We could be in a position of trying to support theater combatant commanders' requirements with forces that either too small or lacking in capability to meet their needs. We all know that our men and women in the Armed Forces will respond admirably in any crisis, as they've been doing to support the operation in Afghanistan and in Iraq. This leads us to the subject of today's hearings, the future Navy and Marine Corps.

The subcommittee must ensure that we are all getting the most from our investments. We owe it to the taxpayer, but more importantly, to the sailors and marines. Over the long term we cannot count on the unceasing heroic performance from sailors and marines to make up for inadequate or inappropriate investment. We may have to change our approaches in some areas, but we will still need to ensure that we do not lose the very real advantages that our Navy and Marine Corps so skillfully provide, as evidenced by their outstanding performance in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF).

So, I thank you, Mr. Chairman. I look forward to the testimony.

Senator TALENT. I thank the Senator. Senator Collins, do you have an opening statement?

Senator COLLINS. Thank you very much, Mr. Chairman.

First, let me salute you and Senator Kennedy for your strong support of our Navy and for the commitment that you've given to the subcommittee. I also want to thank our panelists who have devoted their lives to our country as well.

I am pleased that we will have an opportunity today to discuss one of the most important issues in military acquisition, and that is shipbuilding. It's been very important to have a robust fleet. We have seen the critical role that our Navy has played in the global war on terrorism, and I am committed to making sure that the Navy and the Marine Corps have the resources needed.

So, thank you.

Senator TALENT. I also want to welcome the panelists, thank you for giving us your time. I have looked forward to this hearing. I think we will raise general and specific issues that will be helpful to everybody.

Secretary Young, you're going to speak on behalf of this distinguished panel. Everybody is looking to see that you do a good job representing them. So go ahead, and give us your testimony.

STATEMENT OF HON. JOHN J. YOUNG, JR., ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION; ACCOMPANIED BY VICE ADM. JOHN B. NATHMAN, USN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR WARFARE REQUIREMENTS AND PROGRAMS; VICE ADM. J. CUTLER DAWSON, JR., USN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR RESOURCES, REQUIREMENTS, AND ASSESSMENTS; LT. GEN. ROBERT MAGNUS, USMC, DEPUTY COMMANDANT FOR PROGRAMS AND RESOURCES, HEADQUARTERS; AND LT. GEN. EDWARD HANLON, JR., USMC, COMMANDING GENERAL, COMBAT DEVELOPMENT COMMAND

Mr. YOUNG. It's probably a daunting challenge, but Mr. Chairman, Senator Kennedy, Senator Collins, it is a privilege to be here today to appear before the subcommittee to discuss the Navy and Marine Corps shipbuilding programs in the fiscal year 2005 budget request.

I would like to, on behalf of all of us and Secretary England, the Chief of Naval Operations (CNO), and the commandant, thank you and the subcommittee for your great personal and strong support for Navy and Marine Corps programs.

The fiscal year 2005 request includes funds for nine ships reflecting the continuous and successful efforts by the Department of the Navy to increase the number of ships we are purchasing. Within these efforts, it's also important to improve how we buy ships, and I'd like to emphasize a few points in this area.

On *Virginia*-class, the Department reached agreement with our industry partners and, through the support of Congress, signed a *Virginia*-class multi-year contract which included incentive, that rewards and measures performance, a realistic cost target, and terms that strongly incentivize on, or below, target cost performance. The *Virginia*-class multi-year contract is essential to stabilizing this program at low procurement rates. Regarding the CVN-69 carrier refueling overhaul, in a remarkable action, the Department reached agreement with our industry partners to renegotiate an existing contract for the refueling overhaul. This contract converted some fixed profit to incentive fee, linking the profit to discrete milestones and adjusted the share-lines to again incentivize on-target delivery.

CVN-70 was another refueling, but the refueling of CVN-70 was delayed 1 year to take advantage of the fuel life available in that carrier. This decision led to a comprehensive evaluation of the carrier program resulting in decisions to enhance maintenance actions on the U.S.S. *John F. Kennedy*, dock the U.S.S. *George Washington*, and slip the CVN-21 one year. These efforts helped stabilize the workload at Newport News. More importantly, all of these decisions reflected in unprecedented collaboration between the acquisition team, the fleet, the requirements community represented here at the table, and our industry partners. These efforts sought to balance capability, cost, industry workload, and other factors in the shipbuilding program.

The next step beyond the existing programs is research, development, test, and evaluation (RDT&E) funding of lead ships. We are working this alternate method of funding ship construction and the fiscal year 2005 budget request reflects funds to begin construction of the lead surface combatant ship (DD(X)) and the lead Littoral Combat Ship (LCS) using RDT&E funds. This approach mirrors the approach used in every other weapons development program. Indeed, tactical aircraft programs are developed using RDT&E funds to establish the production process and build multiple pre-production aircraft.

These steps are important to establishing a production process that can be efficient for the ship class, just as it is for the aircraft production run.

Further, we need the ability to adjust the lead ship budget modestly in order to avoid the detrimental effects of prior year completion bills. Under the current process, we give a program manager a block of money to spend carefully for 5 to 7 years, building a sophisticated new ship that has never been built before. The program manager, just as you or I, is likely to be very cautious about investing for the class, conserving his funds to make sure he or she can deliver the lead ship. We need to relieve this pressure and allow appropriate budget adjustments to be made to ensure the development of a successful construction process for the class.

Steps such as these, endorsed by Congress, were essential to programs like C-17, and reflect the procedure again used in every other development program. With improved buying practices, we then need to proceed to efficiently and effectively deliver capability. As the subcommittee has rightly observed, the capabilities of ships we are buying today are dramatically different from the capabilities of ships even a few years ago. Further, efforts are under way to provide even greater capability; let me offer a couple of examples.

Until 1990, we relied on *Ticonderoga*-class Aegis-equipped cruisers with Standard Missile-1 and Standard Missile-2 variants to provide air defense capability that could cover an area roughly 25 miles in radius from the ship. Today, an *Arleigh-Burke* Aegis equipped destroyer with SM-2 Block three and Block four missiles provides air defense capability to cover an area that exceeds 50 miles in radius from the ship.

In the future, the acquisition community and requirements community are working together to deliver the Extended Range Active Missile (ERAM). This is a missile that will allow an Aegis-equipped

destroyer to defend against threats at ranges—greater than 100-mile radius from the ship, including over land targets. Beyond that, with the Advanced Hawkeye, ERAM, and Aegis together, we will be able to defend beyond and below the radar horizon addressing threats before end game maneuvers, enhancing our layered defense ship self-defense opportunities.

Let me talk for a moment, if you would, about striking capability. During Operation Desert Storm it is estimated that 32,000 “dumb bombs” and 900 precision-guided munitions (PGM) were expended. In Operation Iraqi Freedom, 235 “dumb bombs” and 5,222 PGMs were expended. During Operation Desert Storm, carriers provided about 70 sorties per day, per carrier or about 420 sorties per day off of 6 carriers.

In Operation Iraqi Freedom, carriers generated 90 sorties per day, per carrier or about 450 sorties per day off the 5 carriers. The Navy has established a goal for CVN-21 of generating 160 sorties per day with a surge capability to 220 sorties per day, all of which will likely be able to kill multiple targets at 50 percent greater range using the F/A-18E/F and the Joint Strike Fighter.

These numbers provide some example of far greater capability than today’s naval platforms provide as often outlined by Secretary England, Admiral Clark, and General Hagee.

I’m grateful to the subcommittee for the chance to offer just a few examples of how the Department is changing it’s approach to acquisition, approach to requirements, and approach to delivery of capability. We all look forward to any questions you have.

[The joint prepared statement of Secretary Young, Vice Adm. Nathman, Vice Adm. Dawson, Lt. Gen. Hanlon, and Lt. Gen. Magnus follows:]

JOINT PREPARED STATEMENT BY HON. JOHN J. YOUNG, JR.; VICE ADM. JOHN B. NATHMAN, USN; VICE ADM. JAMES C. DAWSON, USN; LT. GEN. EDWARD HANLON, JR., USMC; AND LT. GEN. ROBERT MAGNUS, USMC

Mr. Chairman, distinguished members of the subcommittee, thank you for this opportunity to appear before you to discuss the Department of the Navy’s fiscal year 2005 shipbuilding programs.

Your Navy and Marine Corps team’s outstanding performance in the global war on terrorism and Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF) last year underscored the high return on your investment in our combat readiness, our people, and our unique maritime warfighting capabilities. Your return on investment included the lift for 94 percent of the Nation’s joint warfighting capability. It demonstrated the latest technology in surveillance, command and control, and persistent attack operating from sovereign U.S. territory and exploiting the vast maneuver space provided by the sea.

The global war on terrorism, OEF, and OIF demonstrated the enormous contributions naval forces make to the effectiveness of joint and coalition forces. Analyses of these conflicts indicate that the warfighting concepts, capabilities development process, and advanced technologies we are pursuing in our Naval Power 21 vision are on the right vector. Experimentation with forward deployed Expeditionary Strike Groups has increased credible global combat capability with which to fight the war on terror and project power. We have leveraged OIF experience to implement the Fleet Response Plan—increasing the number of Carrier Strike Groups deployed or readily deployable. The Navy and Marine Corps team now faces a rare inflection point in history with technological infusions and several new ship classes coming on line within the next few years. This year, we will pursue distributed and joint networked solutions that could revolutionize our capability. With the fiscal year 2005 budget request we intend to:

- Shape the 21st century workforce and deepen the growth and development of our people, and

- Accelerate our investment in Naval Power 21 to recapitalize and transform our force and improve its ability to operate as an effective component of our joint warfighting team.

DEVELOPING JOINT SEABASING CAPABILITIES

As a means of accelerating our investment in Naval Power 21, we are employing the Naval Capability Development Process and Expeditionary Force Development System (EFDS). The Naval Capability Development Process and EFDS take a concepts-to-capabilities approach to direct investment to achieve future warfighting wholeness. The Naval Capability Development Process takes a sea-based, offensive approach that provides power projection and access with distributed and networked forces featuring unmanned and off board nodes with penetrating surveillance via pervasive sensing and displaying that rapidly deliver precision effects. The EFDS assesses, analyzes and integrates Marine Amphibious Ground Task Force (MAGTF) warfighting concepts, and requirements in a naval and joint context to support the overarching operational concept of Joint Seabasing. The fiscal year 2005 shipbuilding budget request reflects the investments that will most improve our warfighting capability by investing in future sea-based and expeditionary capabilities for the Navy and Marine Corps.

SHIPBUILDING PROGRAMS

Our fiscal year 2005 budget request calls for construction of nine ships: three *Arleigh Burke* (DDG-51) class destroyers; one *Virginia* (SSN 774) class submarine; one *San Antonio* (LPD 17) class amphibious transport dock ship; two *Lewis & Clark* (T-AKE) class auxiliary cargo and ammunition ships; one DD(X); and one Littoral Combat Ship (LCS). If approved, this would increase to 38 the total number of ships authorized and under construction. The fiscal year 2005 budget request represents an increase of two ships over the seven ships in the fiscal year 2004 program. In addition, we have requested funding for advance procurement of the 8th and 9th *Virginia* class submarines, Economic Order Quantity (EOQ) material procurement for the 8th, 9th, and 10th *Virginia* class submarines, advance procurement for CVN-21 construction and CVN-70 refueling complex overhaul (RCOH), continued funding for SSGN Engineered Refueling Overhaul (ERO) and conversion, continued funding for LHD-8, funding for *Ticonderoga* class cruiser modernization, and the service life extension for five Landing Craft Air Cushion (LCAC) craft.

These shipbuilding programs are the leading edge of our naval transformation to the Seabasing concept, which is modularly constructed on four capability pillars. Those pillars are Sea Shield, Sea Base, Sea Strike and ForceNet. Sea Shield is made up of those components that provide protection and assured access to our forces. Sea Base is the pillar of capabilities that allows naval forces to exploit the maneuver space provided by U.S. control of the sea. Sea Strike includes all of the capabilities within the force that provide offensive fires and maneuver in a complementary synergistic fashion. This includes strike aircraft, missiles, surface fires, and expeditionary maneuver elements. ForceNet is the network that ties these disbursed platforms together through command, control, communications, computers, intelligence, surveillance, and reconnaissance (C⁴ISR) nodes to provide robust battle space awareness, precise targeting, rapid and precise fires and maneuver and responsive logistics. We have grouped our shipbuilding programs into each of the four seabasing pillars based on their primary weapon systems however each platform has the ability to perform functions of other pillars as well.

Sea Shield

Arleigh Burke (DDG-51) Class Destroyer

The fiscal year 2005 budget request includes \$3.445 billion for the procurement of the final three *Arleigh Burke* (DDG-51) class destroyers. These ships are part of a 10 ship, fiscal year 2002 through fiscal year 2005 Multi Year Procurement (MYP) contract awarded in 2002, which finalized the DDG procurement profile and sustains our industry partners until we transition to DD(X) production.

Ticonderoga (CG 47) Cruiser Modernization Plan

The fiscal year 2005 budget request includes \$166 million for systems that will add new mission capabilities and extend the combat system service life of the *Ticonderoga* (CG 47) class. The upgrade of these ships will add new, and enhance existing, combat system capabilities to improve compatibility in joint and coalition warfare environments. Furthermore, these improvements will upgrade the quality of life for our sailors and lower the operating costs for those ships.

Littoral Combat Ship (LCS)

The LCS will be a networked, agile, mission focused, stealthy surface combatant with capabilities optimized for responsiveness to threats in the littorals. LCS will utilize core onboard sensors and weapons combined with reconfigurable mission packages employing manned and unmanned vehicles and modular sensors and weapons to execute assigned tasks and operate as a node in a network centric battle force. Primary missions for the ship will include littoral mine warfare, littoral surface warfare and littoral anti-submarine warfare to ensure access of friendly forces in littoral regions. The LCS program awarded contracts to three industry teams in July 2003. The fiscal year 2005 budget request includes \$352 million of RDT&E funding for LCS platform and mission system development and initial ship procurement. The LCS spiral development acquisition strategy will support construction of multiple flights of focused mission ships and mission packages with progressive capability improvements. Flight 0 is comprised of four ships, with the first ship requested for authorization in fiscal year 2005 using RDT&E, N funds with detail design and construction commencing in fiscal year 2005. Mission modules will deliver in support of the Flight 0 seaframe delivery in fiscal year 2007. Flight 0 will develop and demonstrate several new approaches to Naval warfare including suitability of large-scale modular mission technologies and new operational concepts in the littoral. The industry teams submitted their proposals for final system design and detail design and construction phase in January 2004. The down select to one or two teams for final system design and detail design and construction of Flight 0 is anticipated in late spring 2004.

Virginia (SSN 774) Class Attack Submarines

With current construction progressing on schedule, the fiscal year 2005 budget request includes \$2.5 billion for the seventh ship, advance procurement for the eighth and ninth ships of the *Virginia* class, and Economic Order Quantity (EOQ) material procurement for the eighth, ninth, and tenth *Virginia* class submarines. There are a total of 10 *Virginia* class submarines under contract. This year's ship will be the second ship in the five-ship MYP. This MYP contracting approach provides the Navy savings of \$80 million per ship for a total savings of \$400 million compared to "block buy" procurement. These ships will continue to be built under the teaming approach adopted by Congress in 1998, which maintains two capable nuclear submarine shipbuilders. In accordance with fiscal year 2004 congressional direction, procurement of two *Virginia* class submarines per year is delayed until fiscal year 2009.

Sea Strike

DD(X) Destroyer

The fiscal year 2005 budget request includes \$1,432 million in RDT&E funds for DD(X) with \$221 million for lead ship detail design and construction. The Navy is 2 years into the competitively awarded DD(X) design and technology development effort. The winning contractor has organized a national team of industry experts to achieve the most innovative and cost-effective solutions for development of the DD(X) through spiral development of technologies and engineering, with promising systems being employed on existing platforms and other future ship classes. DD(X) will dramatically improve naval surface fire support capabilities. Planned technologies, such as integrated power system and total ship computing environment in an open architecture, will provide more affordable future ship classes in terms of both construction and operation. In a noteworthy partnership with industry, the Navy shifted the DD(X) volume search radar to S-band, providing increased capability and the future potential to support missile defense operations.

SSGN

The fiscal year 2005 budget requests \$517 million of procurement funding for the continued conversion of the third *Ohio* class submarine, and the engineered refueling overhaul of the fourth and final submarine to be converted to SSGN. When completed, these submarines will provide transformational warfighting capability carrying up to 154 Tomahawk cruise missiles and support deployed special operating forces. The four SSGN conversions will be executed utilizing a public-private partnership conducting the work in naval shipyards, and are scheduled for delivery in fiscal year 2007.

Sea Base

CVN-21 Class

The CVN-21 program is designing the aircraft carrier for the 21st century, as the replacement for the *Nimitz* class nuclear aircraft carriers. CVN-21 will be the centerpiece of tomorrow's Carrier Strike Groups and a contribution to every capability

pillar envisioned in Sea Power 21. CVN-21 will be a primary force in Sea Strike with enhancements such as a future air wing which will include the Joint Strike Fighter and Joint Unmanned Combat Air Systems. CVN-21's transformational command centers will combine the power of FORCEnet and a flexible open system architecture to support multiple simultaneous missions, including integrated strike planning, joint/coalition operations and Special Warfare missions. The CVN-21 based strike group will play a major role in Sea Shield protecting United States interests, while deterring enemies and reassuring allies. CVN-21 will provide the United States the capability to quickly project combat power anywhere in the world, independent of land based support.

Overall, CVN-21 will increase sortie generation rate by nearly 20 percent, increase survivability to better handle future threats and have depot maintenance requirements that could support an increase of up to 25 percent in operational availability. The new design nuclear propulsion plant and improved electric plant together provide three times the electrical generation capacity of a *Nimitz* class carrier. This capacity allows the introduction of new systems such as Electromagnetic Aircraft Launching System, Advanced Arresting Gear, and a new integrated warfare system that will leverage advances in open systems architecture to be affordably upgraded. Other features include an enhanced flight deck, improved weapons handling and aircraft servicing efficiency, and a flexible island arrangement allowing for future technology insertion. The fiscal year 2005 budget request includes \$626 million for continued development of CVN-21. The Construction Preparation Contract, planned for 3rd quarter fiscal year 2004, will be for design, advance planning, advance construction, non-nuclear advance procurement, and continuation of research studies to further reduce CVN-21 manpower requirements and total ownership costs. The construction contract is scheduled for award in 1st quarter fiscal year 2007, with ship delivery in 2014. The program is currently working toward a Milestone B review in 3rd quarter fiscal year 2004.

Nimitz Class

Refueling and Complex Overhauls (RCOH) provide a bridge between maintaining current readiness requirements and preparing the platform for future readiness initiatives in support of Sea Power 21 by leveraging developing technologies from other programs and platforms that support RCOH planning and production schedules for advantageous insertion during this major recapitalization effort.

The Navy negotiated a modification to the RCOH contract for U.S.S. *Dwight D. Eisenhower* (CVN-69) in December 2003. The renegotiated contract provides incentives for Northrop Grumman Newport News (NGNN) and the Navy team to work together to manage the completion of this complex availability. The Navy and NGNN created a better incentive contract structure to contain cost risk and maintain schedule. It is expected that this improved acquisition model will be used in future contracts for aircraft carrier construction and overhaul. U.S.S. *Dwight D. Eisenhower* overhaul is scheduled to complete by November 2004.

The U.S.S. *Carl Vinson* (CVN-70) RCOH start was delayed 1 year to November 2005. U.S.S. *Carl Vinson* will remain available for operations until summer 2005. This added availability enables the Navy to maintain a flexible defense posture and at the same time bring increased capability to project credible, persistent naval combat power globally. Other advantages for the move included maintaining a balanced and stabilized industrial base for Navy ship maintenance in both public and private yards and providing additional near-term funding for ongoing recapitalization efforts. The fiscal year 2005 budget request includes \$333 million in advance procurement funding for the U.S.S. *Carl Vinson* overhaul.

Lastly, the Navy commissioned the U.S.S. *Ronald Reagan* (CVN-76) in July 2003, and laid the keel for the *George H.W. Bush* (CVN-77) in September 2003.

MPF(F)

Most prominent in highlighting the value and power of the Nation's naval expeditionary capability was the Marine Corps' participation in Operation Iraqi Freedom. Success in this operation was due to our naval dominance, our expeditionary nature, and our flexibility and adaptability to defeat the challenges posed by enemy threats. Among other naval assets, eleven strategically located Maritime Prepositioning Force (MPF) ships were unloaded in 16 days to provide the equipment and sustainment required for two Marine Expeditionary Brigades. Exploiting the operational speed, reach, and inherent flexibility of seapower, the Navy-Marine Corps team achieved a rapid buildup of sustained warfighting power that was combat ready to support U.S. Central Command.

We continue to revolutionize this invaluable capability. We are currently in the process of analyzing potential platform replacements. The analysis of alternatives

for MPF(F) is complete. Current guidance requires MPF(F) to provide the combatant commander highly flexible operational and logistics support for missions projecting power ashore from a sea base, or during independent operations. Unlike current pre-positioning ships, MPF(F) will greatly improve our forces' flexibility by allowing operations that are fully interoperable with naval and joint forces. MPF(F) represents the link between forward deployed forces and their reach-back bases both in the continental United States (CONUS) and overseas, and will be a crucial element to Enhanced Networked Seabasing both for naval and joint forces. Unlike any other prepositioning ship, the MPF(F) will not be reliant on a port facility, greatly reducing our dependence on international support. The ability to rapidly close and employ a large force dramatically increase the flexibility and utility of the seabased force and present the combatant commander with more response options than ever before. A formal report of the results is expected in Spring 2004.

Landing Craft Air Cushion (LCAC)

Our fleet LCACs saw dramatically increased operational tempo supporting worldwide operations during the past year, underscoring the need for the LCAC Service Life Extension Program (SLEP). The program, designed to extend the service life of LCACs to 30 years, had several notable accomplishments during the past year: LCAC 25 was delivered on time in November 2003, and LCAC 2 was delivered on time in February 2004. We awarded a contract to Textron Marine and Land Systems New Orleans for the fiscal year 2002 and 2003 SLEPs (six craft total) in December 2002 and all craft are currently on schedule. The award of the fiscal year 2004 contract for four craft is anticipated in the second quarter of fiscal year 2004. The fiscal year 2005 budget request includes \$90 million for SLEP of five craft. We are continuing with our revised acquisition strategy to refurbish vice replace the buoyancy boxes and will competitively select the fiscal year 2005 SLEP work. The revised acquisition strategy will deliver the required LCAC capability and service life while providing a cost savings of \$104 million through the FYDP for the program.

LPD 17

The *San Antonio* (LPD 17) class of amphibious transport dock ships represents a critical element of the Navy and Marine Corps future in expeditionary warfare. The fiscal year 2005 budget request includes \$966 million to fully fund the construction of the seventh ship. Four additional LPD 17s are included in the Future Years Defense Program (FYDP), with the final ship of the 12-ship class planned beyond the FYDP. The fiscal year 2005 budget request reflects rephasing of one ship from fiscal year 2006 to fiscal year 2005 that will result in a more efficient workload profile as well as a total FYDP savings of approximately \$40 million. Lead ship detail design is complete, lead ship fabrication is approximately 85 percent complete, and the lead ship was launched and christened in July 2003. Current efforts are focused on managing schedule and cost. LPD 18 construction began in February 2002. LPD 19/20 construction commenced in July 2001 and October 2002, respectively. We awarded the contract for LPD 21 in November 2003, named *New York* to honor the victims of the World Trade Center attack, and plan to award the contract for LPD 22 in 3Q fiscal year 2004.

LHD-8

In accordance with congressional direction to incrementally fund LHD-8, the fiscal year 2005 budget requests \$236 million for continued construction. LHD-8 will be the first big deck amphibious ship that will be powered by gas turbine propulsion, and all of its auxiliary systems will rely on electrical power rather than steam. This change is expected to realize significant lifecycle cost savings. The ship, recently named *Makin Island*, had its keel laying ceremony on February 14, 2004.

LHA(R)

The fiscal year 2005 budget requests \$44.2 million in R&D for LHA(R). LHA(R) concept designs are being evaluated within the context of Joint Seabasing and power projection. This ship will be the centerpiece of the Expeditionary Strike Group, a contributor to the Expeditionary Strike Force, and will carry expeditionary warfare through the middle of this century. The ship will leverage the future Sea Based environment and greatly enhance command and control capabilities and at sea training for embarked forces. The resulting design is planned to provide a transformational capability that is interoperable with future amphibious and Maritime Prepositioning Force ships, high-speed vessels, and advanced rotorcraft like the MV-22 and CH-53X, and the Joint Strike Fighter. This funding supports design development leading to a planned ship construction award in fiscal year 2008.

Auxiliary Dry Cargo Ammunition Ship (T-AKE)

The fiscal year 2005 budget request includes \$768 million for the seventh and eighth ships. The first four ships have been authorized and appropriated and are under contract with National Steel and Shipbuilding Company (NASSCO) for construction. Exercise of the option for the fifth and sixth ships occurred in January 2004. Lead ship construction commenced in September 2003, with a projected delivery date of October 2005. The second ship is projected to deliver in fiscal year 2006, while the third and fourth ship deliveries are projected for fiscal year 2007.

Cobra Judy

The Navy successfully contracted with industry to develop and build a replacement for the aging Cobra Judy surveillance platform. Working in partnership with industry and leveraging Missile Defense Agency investments in radar technology, the Navy developed an innovative strategy which accelerated the acquisition of this essential capability while also creating the possibility to leverage the Cobra Judy program to create a competition for the radar for the Navy's future cruiser, CG(X).

COMPLETION OF PRIOR YEAR SHIPBUILDING CONTRACTS

I am pleased to report that the Navy experienced zero growth on ship construction contracts over the last year. The management actions instituted to address shipbuilding contract shortfalls have been effective. Elimination of the prior year shipbuilding budget line is within our grasp. We are continuously working to review the scope and cost of ships under construction to avoid new bills. We are also working diligently to set valid cost targets for new ships and combining this with contract terms and conditions that reward good performance. Congress provided \$636 million in fiscal year 2004 to address cost growth for ships contracted in 1999 and 2000. The fiscal year 2005 budget request reflects \$484 million to address similar shortfalls, resulting in a prior year cost to complete remaining balance of \$46 million. However, we are still reviewing the projected completion cost for CVN-77, a ship that was budgeted and contracted for under previous procedures. To avoid future prior year completion bills, it is essential that ships be budgeted at targets which reflect the material and labor cost escalation experienced by U.S. industry.

SUMMARY

Our naval forces are unique in their contribution to the Nation's defense. Versatile naval expeditionary forces are the Nation's first responders, relied upon to establish the tempo of action, control the early phases of hostilities, and set conditions for decisive resolution. America's ability to protect its homeland, assure our friends and allies, deter potential adversaries, and project decisive combat power depends on maritime superiority. The transformation of naval forces is dedicated to greatly expanding the sovereign options available worldwide to the President across the full spectrum of warfare by exploiting one of our Nation's asymmetric advantages—control of the sea. The transformation of our naval forces leverages enduring capabilities for projecting sustainable, immediately employable joint combat power by facilitating the accelerated deployment and flexible employment of additional joint capabilities through a family of systems and assets afloat. Our fiscal year 2005 Shipbuilding Budget request seeks to accelerate our investment in Naval Power 21 to transform our force and its ability to operate as an effective component of the joint warfighting team. Congressional support of this shipbuilding plan is essential to achieving this vision—I thank you for your consideration.

Senator TALENT. Great. Thank you, Mr. Secretary.

Let me pose an initial couple of questions to Admirals Nathman and Dawson and then I'll defer to Senator Kennedy and Senator Collins in case you need to go. You probably have a few questions, we will get to you as quickly as we can.

Let me phrase what I think is the central issue here. Now, the CNO has said that we need a 375 ship Navy, that's the right objective for the Navy. Then the Department in rolling out the budget request this year indicated that it was scaling up to a level that would support a 300-ship fleet. As I read that, that's including the 65 or so LCSs that we intend to buy.

So, it looks to me like we got a situation where CNO is saying 375 with LCS and the Department is saying 300 with LCS. What is the status of the 375 ship requirement?

Then is the “presence with a purpose” concept of operations effecting this? In other words, what appears to be the shift towards developing or relying more on surge capabilities rather than forward presence effecting the Navy’s judgement about how many ships we need?

Admiral NATHMAN. Yes, sir. I’ll try and take the first part and I’ll get help from Admiral Dawson where I get it wrong, sir.

I think the targets, the setting was about 375 and included LCS. The Department of Defense’s number doesn’t include LCS, but let me get to that number here in a second.

The view was, particularly after September 11, that there was a need for the Navy to look at its presence with a purpose in a global sense. We needed to dramatically change the striking power that we brought to sea when we were there, because of these compelling issues you get into in terms of timing, trying to make a difference, trying to be decisive on scene, trying to shape the battle space quickly. Because this is one of the things we’re being driven into is this: can we do things more quickly before things get out of control?

So, when you look at that, the Navy decided that we had to look at more distributed expeditionary and striking forces around the globe. We recognize that in support of the Marine Corps we need to rebaseline our Amphibious Ready Groups into Expeditionary Strike Groups to really provide the striking power and the fires that the Marine Corps would need for the mission and for the striking power for some of the decisive capability we felt we needed on scene, since we’re there.

We call that “Global Concept of Operations (CONOPs)” when you add in the need then for nuclear-power cruise missile attack submarine missile strike groups for missile defense groups, you end up with a number that’s around 375. That represents the 37 striking groups that we feel meet the compelling case for this presence with a purpose.

Now, what is missing in there is we also felt that one of our compelling needs was the gaps that we have because our fight is going to the world’s littorals; it’s not the blue water fight. That left in 1992, it’s gone. So, the compelling issue was, what were our gaps in the littorals and what were the anti-access challenges we had when we got into the littorals? This is where we saw the importance of one portion of the force being the Littoral Combat Ship (LCS) to go after these anti-access, denied access capabilities that could potentially be cheaply bought by certain countries.

So, the focus of LCS was not only a certain number but the capability we’re willing to put on LCS in terms of mine warfare, anti-submarine warfare, and surface warfare effects in terms of control of the maritime battle space that we had there. Those numbers combined then with the maritime pre-positioning force which we see as truly a warship, because of what it leverages for the Marine Corps and the Navy in terms of Sea Basing. We roughly get to the number of 375, sir.

Senator TALENT. Okay. I hear you telling me and Mr. Secretary, tell me if this isn't the case. The Navy and the Department are still committed to around 375, which would include LCS?

Mr. YOUNG. Yes, sir.

Senator TALENT. Now, I had a conversation with the CNO about numbers. He asked me a question that began to change my thinking on this a little bit. He said, "You know, in the mid-1980s we had almost a 600-ship Navy," and now we don't. He said, "But would anybody argue that the Navy is not more capable today than it was 20 years ago?" I had to say, "Well, no, it obviously is more capable."

Are you all thinking more in terms of trying to have as an index of measurement of whether you have a Navy that can meet the military strategy, defining it more in terms of capabilities? Is there any process you're going through to define different kinds of indexes for us so that we can join you in this and do oversight the way we need to do it?

Admiral NATHMAN. Yes, sir. I think that's why I'm here today. There wasn't an N-7 code 3 years ago and now there is, and it was all about the CNO's angst over, what is our capability? What is our analysis? What's our unification around that work, around capabilities? I wanted to give you a quick example about capabilities, Senator, that may change your view about being threat-based versus capability-based.

If you build a force that's truly threat-based, you can potentially over invest in different capabilities into each different ship type or aircraft type, because the debate becomes, why don't I put more capability into each different platform because it may potentially face that threat. When you do things on a capability-basis you look at the fight in a much more integrated way. If you look at things in a much more integrated way, you have opportunities to, what I would say, more properly proportion your investment to provide the capabilities you want and to distribute it in an integrated way which may, I believe, lower the total cost of different platforms. You get essentially, the same capability but you potentially get it at a lot lower cost.

I'll give you an example of that. One of the things that we have in our analysis is a very compelling case about ship defense. That we have a great amount of layered missile defense in terms of the air battle, and if you look at the individual requirement documents that drive the self-defense capability to those ships, you can potentially over invest in different systems to protect that ship. But when you look at what an enemy can potentially do when it has to go through these layers of air defense to get to the individual ship, you may change your mind then about how robust those particular systems have to be. That's not to say we're not going to defend our ships in terms of self-defense, but it means that you can make better decisions about the total investment across the missile and air defense challenges that we have.

So, our campaign analyses, our work is really about replicating campaign analyses which are close to the combatant commander's fights. So, they're high fidelity. Then looking at very particular tactical situations which tend to stress what the Navy brings, and in some cases the Marine Corps brings, since the Marine Corps is in-

tegrated into these capability-based situations, then what would you end up with in terms of the challenges or gaps? This analysis is, I would say, is very high fidelity analysis compared to 2 years ago. We are really focused on what are our unique warfighting gaps, what are those challenges, and then what is the integration of investment that you want to spend and how do you want to spend it? So, I believe it's the right approach.

It also allows you then to compete or to make your case very clearly when it comes to the joint force discussion about what are the key attributes of what a naval force ought to bring to the fight.

Senator TALENT. I'll get back to that in just a second, but Secretary Young I saw you nodding your head. Let me ask you for the record, is the Office of the Secretary of Defense (OSD) still committed to the 375 ships for the Navy?

Mr. YOUNG. Yes, sir. Our budgeted programs put us on a track to 305 ships. They have been supported and endorsed by OSD and the Office of Management and Budget (OMB). In fact, they have paid specific attention to our shipbuilding rates. We are pleased with the nine this year and we are going to keep working, hopefully as I said, to be successful in increasing those numbers, because the numbers have to be in a proper place in the budget to sustain 375 ships.

Senator TALENT. Okay. Three hundred and five plus LCS gets you to around 375.

Mr. YOUNG. Yes, sir.

Senator TALENT. Admiral Dawson, do you want to add anything to that?

Admiral DAWSON. If I could add one thing, Senator.

As we look at our capability-based models, I'd like to articulate the five things that we factor in there.

Senator TALENT. Yes, that would be nice.

Admiral DAWSON. We look at how we are most likely going to conduct combat operations. The second thing we look at is the potential rules of engagement that we may be faced with when we go about those operations. The third thing we would look at would be the bases and the access that might be available to the naval force as they approach these operations. We were greatly influenced over the last year on the access that we were not able to get in Turkey, for example. The fourth thing that we look at would be systems performance. We look at what our new systems, that we hope to bring on in the future, will bring us in the way of capabilities and how they fit into the joint fight. That would bring me to the fifth point that we look at. We look at our joint partner and our coalition partner and what share that they will contribute as we arrive at what we might need. We then look at the peace-time employment. That's the wartime scenario. Then we look at the peace-time employment of the combatant commanders and how they need us to provide that presence with a purpose around the world.

Senator TALENT. I have more, but I want my colleagues to have an opportunity, so I'll recognize Senator Kennedy for questions he may have.

Senator KENNEDY. Thank you very much, Mr. Chairman.

First of all, I want to try to understand the numbers. We were in a gradual declining numbers as I understand from 316 ships headed south for around 275 ships. My question is, if the Navy can't even afford the 316 ships now, why should we expect the Navy be able to afford roughly 25 percent more in the future?

Admiral NATHMAN. Well, sir, I think part of our answer is we have a model already for that that's been pretty successful. On the aircraft side we moved as rapidly as we could out of F-14s, because of their very high operating cost. We felt like if we could move out of that faster, we could use the savings in operations and support of a very high cost aircraft like the F-14, and then use it to invest in the Super Hornet.

So, that's kind of our model right now in a way. We have older ships that are capable, but they become compelling in terms of the sustainment of those particular ships. Do those particular ships provide the overwhelming capability that we should protect, or should we look at opportunities to divest as it were in older ships that take a lot of manpower? We can see repair cost increasing and then the overall long-term support of those ships in terms of availabilities or overhaul. Can we then leverage those savings to move on to the new capabilities that we want?

So, we looked at some of those ships and we made the decisions on those based on those capabilities, although they're effective, they're becoming obsolete and they don't go towards the gaps that we see in our warfighting capability analysis, which is the littoral gap and mine warfare and anti-submarine warfare (ASW) and small surface combatant forces.

So, I believe that drives us in many cases, and we do have to make affordability decisions in that debate, sir.

Senator KENNEDY. How would we deal with the threat if the Navy is going to be able to support only about the 300 ships, maybe a few more, perhaps even fewer than that, but would the Navy still want the fleet to include the 50 or 60 LCS?

Admiral NATHMAN. Absolutely, sir. First of all, you have to pick the right warfighting ship and so the LCS goes after our gaps. So, I think that's the compelling case for LCS, it goes after the gaps. The more compelling case for LCS might be also the cost of the ship relative to the ships that it's replacing, both in terms of the pure acquisition side and the support side.

So, we are looking now at costing, as I recall, of our flight 0 with the modules on board. The flight one around \$250-\$260 million which includes the modules. So that's a significant savings in terms of what we outlay towards a replacement like a straight stick guided missile destroyer.

So, I think we have to make these kinds of decisions and we have to reshape our force, not only based on what our gaps are but what our affordability is.

Senator KENNEDY. Well, let me ask you, Admiral, I support the new technologies for the Navy and the Marine team, but I have some concerns about the Littoral Combat Ship, the program just generally.

In this case, it appears the Navy has deviated from the past practice in developing a new ship. Here the Navy looked where it was weak, you mentioned mine warfare—we'll come back to mine

warfare in a minute. Shallow water, anti-submarine warfare, defeating the so-called swarm boat attacks and created a set of requirements about the short-falls. The Navy conducted a serious analysis to show how well the LCS could handle a threat. Yet as far as I can tell the Navy spent very little time figuring out whether the LCS system is the best way of dealing with a threat. For example, in dealing with Swarm boats should we send small LCS vessels close to shore to fight it out or should we develop enhanced weapons fired from helicopters or fixed wing aircraft to handle the problem? There are all kinds of other questions such as that.

I can understand the reasons we might want to acquire the first few vessels to test and develop. Why should we leap into a 50 or 60 ship program without the analysis that shows the LCS is the most effective way to deal with the crucial problems?

Admiral NATHMAN. Yes, sir. That's a great question, sir. I will tell you that in the last year and a half we put a great amount of rigor and work into our analysis. Not to bias the answer towards a Littoral Combat Ship, but to say, "Does this capability that we think we will provide, in terms of denied access, that we want to put in the modules on Littoral Combat Ship, does it in fact make a difference?" We use tactical situations to get down into very discrete looks at its ability to rapidly clear mines in terms of the northeast Asia challenge we may have. We looked at some very specific southwest Asia challenges in terms of constraints on strait passages and mine challenges there. We looked at a lot of specific ASW preparation of the battle space that we could get from Littoral Combat Ship with its modules in ASW.

So we have some very compelling analysis about the value of Littoral Combat Ship in terms of closing those key gaps. So, I think that's a very important validation.

Secretary Young may want to comment on this, but the other part of LCS is that if you feel like you have a compelling gap, should you feel bound, or should the Service feel bound that we should procure in a more traditional way. We may be looking at years in terms of requirements development, CONOPs development, what are the particular technologies that we could leverage? It really says if you feel like you have a compelling gap, the logic says right away that you have opportunities to spiral in rapid development of these CONOPs before you make big acquisition decisions in terms of your budget. Why not rapidly develop these CONOPs, bring about some maturity in the modules and then go out and in terms of spiral looks at the investment and technology that enable you to go after the challenges that you discovered.

So we think it is a very aggressive but very appropriate acquisition scheme for the ships, sir.

Senator KENNEDY. Well, I think you make a very compelling case if the LCS is the only way to go. The question is whether, as I understand for example, the unmanned aerial vehicles (UAV), unmanned surface vehicles (USV), and unmanned underwater vehicles (UUV) could just as well be deployed from larger vessels. In fact, the UUV that will conduct mine countermeasure operations is exactly the same Remote Mine-hunting System (RMS). The RMS that's now being installed on DDG-51 destroyers.

We've gone through the analysis with aircraft carriers, concluded that larger is better, hence we have the *Nimitz*-class; more efficient for conducting sustained operations. However, in this case, without much evidence we're making judgements that smaller is better.

Admiral NATHMAN. Yes, sir.

Senator KENNEDY. This is not necessarily that larger is better in terms of mine sweepers but merely a point that is an important burden of proof found that the analysis that you have to date in terms of meeting those particular threats can best be done by this system before we buy the 50 or 60 of them.

Mr. YOUNG. Senator, maybe I could amplify your very point. Many of the missed elements of the mission modules for LCS are systems that are currently in development and were to be deployed like RMS, AQS 20 a surveillance system, and RAMICS which is a gun system to destroy mines, but we have limited existing space and flexibility for them. The DDGs now are fully tasked and so we had limited space, flexibility, and opportunity to put additional missions on those ships. LCS gives you a platform to carry the systems that we were developing and need as you've pointed out to handle the mine problem. It gives you a platform that's going to have 40 or 50 knots in speed, so it can move quickly to those locations. It doesn't have to be tied to a carrier, which some portion of the DDG infrastructure is tied to the carrier to help with air cover. In fact, that is part of the CNO and Admiral Nathman's CONOPs with this greater air defense capability in the destroyer, more sorties can be devoted from the carrier to strike missions and fewer sorties devoted to flying air cover for the carrier.

The package of analysis says all these things, I believe, very well. We're using, as you pointed out, the systems that we were going to deploy on the platforms we have, but now we see a much better and more effective way to put those systems in the littorals. Then we find ourselves in situations like Iraq doing literally thousands of maritime interdiction operations. We're using a billion dollar destroyer with a 300-plus person crew to interdict a ship when we have the opportunity with an LCS to chase those ships down and interdict them with a ship that has a very small crew.

Some of this addresses your other point, which is that we have to reduce our operating cost and our manpower cost to continue the process of recapitalizing the Navy. All the assets you see us bringing to you in CVN-21, DD(X), and LCS are smaller crewed ships that have speed and multi-mission capability to be effective.

Senator KENNEDY. Well, that may all be well and good, but I mean you have these ships going all around as compared to helicopters that can stop them, stop them in the water or whatever. You've gone through this, but you've embarked on another major system and the question is whether all the alternatives have been thought through and considered as to meeting the new threat. We've heard very well from the admiral what those threats are. The real question is whether this is the best way to deal with it.

This committee, for a long time has been interested in mine warfare. The Chief of Naval Operations came to the job promising to make readiness a first priority. I'm concerned the CNO's priorities may not have followed through with mine warfare. I'm told that the Navy has cut steaming days for mine hunters for the fiscal

year 2005 budget. Last year, as in the past, mine hunters were funded for 28 days per quarter. This budget reduces that to 18 days. While some reductions may come from improvements and efficiency, it seems unlikely the Navy can meet the same level of readiness with a 36-percent reduction in training in 1 year. Admiral?

Admiral DAWSON. Yes, sir. We will attempt to mitigate that with simulation network and training that we'll do with our mine forces. In some cases we do it netted in with ships that are operating out of Norfolk and Ingleside and we'll do that through simulation. But we also are setting ourselves up so we'll have the investment to invest in these new modules and these new capabilities that we are going to use that have a much greater reach and be much more efficient as we look to the future.

Admiral NATHMAN. Senator Kennedy, if you don't mind, if I could pile on to that, sir.

Senator KENNEDY. Please.

Admiral NATHMAN. We've heard the message loud and clear on mine warfare and I'd like to tell you that in the last year and a half there's been a lot of personal time here, staff time invested around the transformational opportunities we have in mine warfare.

If you look at the world as, if you're not on scene with your mine sweeper and you have to transit, your timelines are incredibly long. So, one of the views is, if you continue to shape your mine-warfare capabilities around your current force you'll never meet the timelines that our country feels are appropriate to be decisive on scene.

That's why we put some of our mine forces forward, but the real commitment here is to transform our mine capabilities so we can use our organic capability in our Carrier Striking Groups and our Expeditionary Striking Groups. Now, LCS is a key part of that, because of the mine modules that we intend to put in it. If you look at the investment in the MH-60, which can lily pad off of LCS, and you look at the mine-warfare modules that we believe are key to the anti-access capability of LCS, you're going to have a rapid, distributed sea craft out there with an extensive amount of mine counter-measure capability.

The other part of that transformational plan in terms of being a full-up round already being there and knowing what the battle space looks like, is a commitment to the understanding, the intelligence preparation of the battle space. We see that in sensors that we're going to put on the tactical unmanned aerial vehicle (TUAV) on LCS. We see it in our submarine force on the Long Range Mine Reconnaissance System, which we believe has a great transformational opportunity in terms of persistence of that capability in SSGN.

What you do, sir, is you shape the battle space in terms of your knowledge of it and then you go after the mines you have to clear instead of the approach we had before, which was brut-force, I think there's a mine field I'll have to clear it for the next 10 days. We believe these are keys to not only the sensor investment but the sea craft investment in LCS. The concept change of being for-

ward and organic to rapidly change your mine-warfare capabilities. That's the path we're on.

Senator KENNEDY. Okay.

Admiral NATHMAN. A great amount of intellectual capital was invested in that to sort of get that right.

Senator KENNEDY. I might submit some other questions about mine warfare. We're still looking 4 or 5 years down the road.

Admiral NATHMAN. Yes, sir.

Senator KENNEDY. We have some real issues.

Is that Admiral Costello I see right behind you? I just recognized him. Does he agree with everything that all of you are saying here this morning?

Admiral COSTELLO. You're doing a good job, sir. [Laughter.]

Senator KENNEDY. Okay.

Admiral NATHMAN. He's hit me on the back of the head twice.

Senator KENNEDY. I've valued very much his service to my understanding a lot of the issues in terms of the Navy and of course he's been an outstanding leader for our forces. I haven't had a chance to see him back. We welcome you back.

I want to thank you. There are the industrial base issues, obviously, that are going to be related here.

My general concern is that we're going to sacrifice the Navy's modernization, constant renewal, and upgrading technologies for other kinds of purposes on this. I just don't want to see that. That is a little separate from where we're going with this new program, but I'm enormously concerned about that; the role of the Navy. I think you've outlined—I'm impressed by the thoughtfulness that you're giving to the nature of the new threat that we're being faced with—how we're going to get a handle on it from a technological point of view. I'm sure training and all the rest goes along with it. But we don't want to see a situation where the Navy wants to get a lot of smaller ships because the Navy believes it will be postured to compete for additional resources at OSD rather than buying some other kinds of systems, which would have more value, importance, and significance with regard to our national security.

I'll submit some other questions, but I thank you very much. Interesting. Thank you.

Senator TALENT. Thank you, Senator.

Senator COLLINS.

Senator COLLINS. Thank you, Mr. Chairman.

I think we are having exactly the right discussion here about numbers, the mix, and the capabilities of our fleet. Often times this debate is framed in terms of numbers versus capabilities, but the fact is that numbers are part of our capability. That's why I think the point that the chairman and the ranking member made about the size of the fleet is so vital in this debate.

I remember in January 2002 going with a group of my colleagues to Afghanistan and we also landed on the aircraft carrier, the U.S.S. *Roosevelt*, which set a record for the number of days at sea. I don't know whether that record still stands, but it was certainly an impressive one. The crew was very proud of having set that record, but they were all so exhausted. The fact is, if you don't have enough ships, if the fleet is too small it doesn't matter how much

capability you have—numbers are part of capability. I think we need to remember that in this debate.

I very much appreciate the Navy's commitment to fully funding the procurement of three DDGs in fiscal year 2005, but I'm very concerned when I look at the impact on the size of the fleet as well as on our industrial base. That right now there's a gap with no major surface combatant being purchased in 2006. I think that'll be the first time if it occurs—I'm certainly determined to ensure it doesn't, that would ever happen in 20 years that we would not be purchasing a single surface combatant ship.

Secretary Young, could you address your ideal situation? I mean would you like to see a procurement in 2006 so that we don't have a gap that would exacerbate the problem with the numbers going in the wrong direction, as well as, have potentially an irreversible negative impact on our industrial base?

Mr. YOUNG. In the September time frame, Senator, we spent a lot of effort along the lines of Admiral Nathman's analysis, to conduct an industrial analysis to understand if we had a proper transition from DDG to DD(X). It becomes very important what assumptions you make about whether people succeed in building out the DDGs faster than planned, or they build to what we have historically observed. I am convinced that we do have a stable transition from DDG to DD(X). It is essential that DD(X) stay on schedule in that transition. We really cannot afford to have that ship be delayed or slipped. In that process, we could likely improve that situation by considering advance procurement in fiscal year 2006 for the second DD(X) or something that solidifies the bridge between DDGs and DD(X).

There was a time when there were DDGs in the budget. We indeed have options on the contract in 2006 and there was also a potential DDG in 2007. Those ships sustain in the budget. So, this look at the industrial base was important and tells us we can manage through that transition, but there are steps that could be taken to make that transition more smooth and less risky for our industry partners.

Senator COLLINS. I think this is an absolutely critical issue and I hope we can work together. I think the idea of putting in some advance procurement money in 2006 would be extremely helpful as well to make sure we don't have that kind of gap.

Mr. YOUNG. We internally keep studying this issue and have studied multiple aspects. I mentioned in the opening statement that the DD(X) and the LCS lead ships are research and development (R&D) funded, largely to establish a production process. I believe we would like to continue to evaluate the merits of funding the second lead ship, produced in a different yard, using R&D funds, that would let both yards have a process so that they can build the class efficiently rather than forcing the second yard, albeit building the second ship, to not having a chance to make budget adjustments or early start so they can set up their production process properly.

Senator COLLINS. I think there's a great deal of merit in funding two DD(X)s out of the R&D budget so that you could develop the manufacturing process in both yards. I look forward to continuing to work with you.

I have a second question that I want to pursue with you, Secretary Young.

When the Navy first awarded the preliminary design competition for the DD(X) to Northrop Grumman, the Navy committed at that time to having the competition for the next stage; the detailed design and initial construction. As you're well aware, Bath Iron Works in my State was very much looking forward to the opportunity to bid on that construction contract.

Now, I understand that the Navy and the Department have decided to go in a different direction and not to have this second competition that was originally envisioned and that we were counting on. Instead, it's my understanding the Navy intends to award to Northrop Grumman the construction contract as well.

I have two questions for you if that is the direction you're going in.

One, if competitors like Bath Iron Works are not going to have the opportunity to bid, how will the Navy ensure a fair process for allocating the work?

Second, and very much related to that, specifically if we're not going to have the second competition that was promised initially, what role do you anticipate Bath Iron Works playing in performing this vital work?

Mr. YOUNG. Senator, I'd like to assure you there was a great deal of deliberation in the decision to change the acquisition strategy, which I believe has now received approval through OSD and would let the lead ship to be built at Northrop Grumman Ship Systems. That decision is a change. There are multiple reasons for the change.

I would allude back to something I said to you earlier. At the time we had that strategy we had the likelihood of DDGs in 2006 and potentially in 2007. So, we had a much more robust transition and an opportunity to run a competition for that lead ship and not let time be the driver. With those DDGs not in the budget, the DD(X) as I said, is now critical that it stay on schedule.

Then you begin to assess the time required and the risk of that competition. The risk of that competition grows too, because I now have a National Team working together in partnership; designers at Bath and designers at Ingalls, working together to design the ship. Some amount of that energy would be diverted into preparing competitive proposals for those ships and that competitive process had the potential to deteriorate the great team work we have, all of which I need to have the best possible chance of keeping the DD(X) on schedule.

So, we made a hard decision, a carefully considered decision to preserve the teamwork and seek to preserve the DD(X) schedule, I would argue, for the sake of the industrial base in the transition. In doing that, though, I recognize in the comments I made earlier that we believe that transition is not as robust as it could be. A step that we've discussed is making sure both yards are prepared to transition to DD(X) and that means both yards need to do some work on the lead DD(X). I've discussed this with the lead of the National Team, the head of Ingalls. They've indicated that they fully intend to provide some initial module work on the lead DD(X) to Bath Iron Works and have those initial modules built there so they

can do exactly what I've talked to you about, and that's begin to establish a production practice. We intend for DD(X) to be built in a substantially different way than DDGs. That's one of the opportunities to reduce the acquisition cost of the ship.

The positive thing I can tell you is the National Team is working together very well and the Ingalls side of the National Team intends to use Bath even on the lead ship. Both members of the team are prepared to build DD(X) to our current program plans.

Senator COLLINS. I appreciate that commitment and that update. It, obviously, would be unfair if Bath Iron Works is not going to have the ability to bid on this contract and then does not get a fair share of the work in an uncompetitive or a non-competitive environment. So, I think that those assurances are absolutely critical to making this work and to justifying a decision to skip over the competition for the next stage.

Thank you, Mr. Chairman.

Senator TALENT. I thank the Senator from Maine. Let me follow up.

I had some questions about DD(X) and LCS. I'll just go to DD(X) since we were just discussing that.

Now, my understanding is that the Navy's estimated the cost at \$1.2 to \$1.4 billion per ship. Is that right, Mr. Secretary?

Mr. YOUNG. I'd have to—

Senator TALENT. The \$2.2 billion, rather—did I misplace a numeral there?

Mr. YOUNG. Well that might be closer to the lead ship cost. Then over the class of the ship—depending on what year dollars it could be in that range. I think it will be closer to the \$1.4 billion range over the class in prior year dollars.

Senator TALENT. Yes, I was going to ask, because that range seemed to me to be a rather wide range and I was going to ask why such a wide range. But you think it's more \$1.4 billion over the class?

Mr. YOUNG. Can I offer you some detailed information for the record?

It's a 14,000 ton ship. Today's DDGs are about a \$1.1 billion at 9,000 tons. Tonnage, complexity, the other factors will, I believe, guarantee that ship is at least more than the \$1.1 billion DDGs and I'll get you the precise estimates for the record.

Senator TALENT. What I'm getting at, again where the Congressional Budget Office (CBO) is at, which is \$1.8 billion, the cost per ton displaced would put the cost more at \$2.2 billion. Are you comfortable that this is going to come in at the cost level you think it's going to come in at?

Mr. YOUNG. Well, if \$1.8 billion is in then year dollars in 2010, I'd just like to get the inflation factors and tell you that answer.

Senator TALENT. Okay. Can you do that for the record?

Mr. YOUNG. I mean \$1.1 billion today in 2004 is probably \$1.3 or \$1.4 in 2010. Then when you add the tonnage and the additional systems that are on DD(X) it—the factors—it could be a \$1.8 billion ship in then-year dollars.

Senator TALENT. Okay.

Mr. YOUNG. It'd be better, though, for me to get those numbers for you for the record, sir.

[The information referred to follows:]

Fiscal year 2005 President's budget request for the DD(X) lead and follow ships construction:

DD(X) PROGRAM FUNDING

[In millions of dollars]

PB05	Fiscal Year								Total ¹
	2002	2003	2004	2005	2006	2007	2008	2009	
RDT&E									
Lead Ship Construction ...	0	0	0	103	288	294	353	269	1,307
Detail Design/Non-recurring ²	0	0	0	118	349	252	127	87	933
SCN									
Ship Number 2	0	0	0	0	49 (AP)	2,004	0	0	2,053
Ship Number 3	0	0	0	0	49 (AP)	1,493	0	0	1,542
Ship Number 4	0	0	0	0	0	49 (AP)	1,729	0	1,778
Ship Number 5	0	0	0	0	0	49 (AP)	1,494	0	1,543
Ship Number 6	0	0	0	0	0	0	49 (AP)	1,695	1,744
Ship Number 7	0	0	0	0	0	0	49 (AP)	1,478	1,527
Ship Number 8	0	0	0	0	0	0	0	1,523	1,523

¹ Additional funding required in fiscal year 2010–2011 to complete construction of lead ship.

² Non-recurring costs include Detail Design, transition to production of ship and mission systems, non-recurring test events, allowance for production engineering, special tooling, jigs, and fixtures at the shipyard, and a greater allowance for change orders.

Senator TALENT. Has a hull been chosen?

Mr. YOUNG. Yes, sir.

Senator TALENT. Okay.

Mr. YOUNG. It's a tumble-home hull and we've sized the hull through some very deliberative discussions with the requirements community at approximately the 14,000 ton level.

We've made some compromises, sir, to ensure we control cost of this ship. The compromises are all over the board from the size of the ship to a slightly smaller magazine for gun rounds. We changed the rate of fire on the gun from 12 to 10 rounds per minute and that made the gun mechanism significantly less complicated, less heavy, and less costly. We continue to work diligently to make proper cost trades to hold the cost of that ship down, sir.

Senator TALENT. Okay. Maybe for the record, you give me those in detail?

Mr. YOUNG. Yes, sir.

[The information referred to follows:]

- Reduced number of vertical launch missile cells from 128 to 80.
- Reduced total gun magazine capacity from 1,200 to 600 rounds.
- Reduced rate of fire of gun system from 12 to 10 rounds per minute.

Senator TALENT. Now, on the whole issue of the schedule, which Senator Collins testified or touched on. I'm worried about the industrial-base issues, because we may have a gap already as it is at Bath.

My understanding is that you're going to try a new software design tool with DD(X). Is that true?

Mr. YOUNG. Yes, sir.

Senator TALENT. Are you concerned, given the experience in the past with new software design tools, that that might mean delay?

Mr. YOUNG. Sir, I think the one experience that's relevant in a lot of peoples' minds is LPD 17.

Senator TALENT. Right.

Mr. YOUNG. There was truly a new design tool that had really not been applied to a warship or a ship of nearly the complexity of LPD 17. There were significant growing pains. Frankly, the design tool had to be developed and evolved while the ship was being designed and that's exactly where you don't want to be.

I think a more relevant example here is the *Virginia*-class submarine which was designed with what I understand to be CATIA 4. It was fairly effectively used, has shipbuilding capability and certainly CATIA 4 has gone through some growing pains to be able to be used for *Virginia*-class. But the *Virginia* design-build, the direct translation from design to production has worked very well.

What is intended for DD(X), and this was the subject of an Executive Committee meeting where all our industry and Navy partners met, is that we will use CATIA 5 for DD(X). Those choices reflect the reality that CATIA 4 may not be supportable into the timeline we have for designing DD(X). We may get some significant benefits in CATIA 5 and then people who have trained on CATIA 4 have good skills and can easily translate to CATIA 5. In fact I think you'll see potentially even some *Virginia*-class designers helping Bath and helping the National Team work on DD(X), but I think we feel comfortable.

There's always a slight risk, but I think it's not even remotely the kind of risk we lived through on LPD 17 given CATIA 5s evolution.

Senator TALENT. I'm glad to see you understand the danger with a gap to the industrial-base. I was pleased with your answers to Senator Collins.

General Magnus, General Hanlon, I want to make sure you guys get involved in this and you knew I was going to ask about AGS for DD(X). Are you satisfied with where we're at now?

General HANLON. Yes, sir. It is something that I speak somewhat frequently with Admiral Nathman and Secretary Young about. To answer your question, Senator, right now, yes, we are.

Senator TALENT. That it will meet the requirement for the Marine Corps?

General HANLON. As it stands right now—as I understand it, yes, sir, it does. I mean it's the 10 rounds per minute that the Secretary talked about. We'll certainly match up with the battery equivalent that we use in the Marine Corps for that same requirement, yes, sir.

Senator TALENT. You guys continue to believe very strongly, don't you, that you have to have fire support from the Navy to meet your requirements, and you can't do this with naval aviation? You can't do it any other way?

General HANLON. Well, sir, I guess I would answer that question by saying that the application of fires on the battle field comes from—you have to have more than just a single capability such as air-delivered. Certainly as marines we do depend a great deal on our aviation-delivered fires, and we also depend a great deal on our own organic artillery fires. But we've always believed that naval surface fire support gives us a very important capability, particularly early on in any operation in the littorals. When you're in those very difficult and tenuous opening hours, opening days of any kind of operation where you're actually projecting power, sure.

Obviously, in World War II if you can go back in history, I think it was our naval surface fire support that really ensured victory both in Europe and the Pacific and it was used with great effect. Quite frankly, with the kinds of capabilities that I think that DD(X) in particular will bring with the AGS and the kinds of rounds that are being developed for that system. I think it will enable us to really reach targets deep inland to support, particularly, our deeper ship-to-objective maneuver that we'll be doing in the future.

So, I'm very pleased with it. I think the DD(X) from my perspective is exactly the right ship for the right time. I think it's going to help meet our requirements quite well.

Senator TALENT. This kind of an exchange just raises the whole question that I wanted to go into a little bit in this hearing, even with numbers as a benchmark. In other words, how far out on a margin of risk do you want to put our marines or our soldiers or whatever.

When you measure the Navy in terms of capabilities you're adding a second moving target to that. I'm not saying it's a wrong thing to do, I really am buying into this analysis that we have to start expanding how we think about naval power. It makes all these questions even more indeterminate for you and for us.

That really wasn't a question, it's a comment. Let me do a couple more questions on LCS and then, I know Senator Kennedy had some more questions that he wanted to ask.

Senator KENNEDY. Senator? One second.

General MAGNUS. Mr. Chairman, if I could just add to what General Hanlon has said.

We have worked very intensively with our shipmates, particularly, over the last 2 years. Some real experience with deep and unexpected combat operations at ranges that, quite frankly, the United States and most other powers haven't seen for generations. This is clearly a combined arms problem. Referenced to earlier discussions about the Littoral Combat Ship. Literally, we have to be able to not only get our forces from the sea base to the sometimes very deep objectives, but we have to ensure that they are shielded as they go through the air and sea. So therefore it's a combined arms problem.

We rely explicitly upon the Air Force to provide certain capabilities. This is not just the Marine Corps or just the Navy/Marine Corps. So, we have taken a look over time and the problem changes over time, the role of naval guns and naval missiles. Early on in the fight, as General Hanlon mentioned, the role of naval aviation with new aircraft like the Super Hornet and the Joint Strike Fighter to come and the new precision-guided munitions, persistent surveillance, and increasingly capable and, quite frankly, safer weapons. Safer for the crews that deliver them, safer for the troops that are engaged in close combat on the ground.

So, we continue to look at this. As we evolve new gun systems off new platforms, new command and control and new persistent surveillance we're going to see this problem change over time, but it remains and we believe it will remain a combined arms problem. We work intensely on analysis on this because we know these are very important questions for the troops on the ground and they're

also extremely large investment decisions as we move into the future.

Senator TALENT. Well, that's really why I asked it, because so many of the recent operations have been very far inland, 100 miles inland where what you needed is smaller amounts of fire support, very precise. What I was asking was have you looked at the lessons learned and has that effected your thinking about AGS? I hear you telling me, "Yes, we have looked at the lessons learned. We know it's a combined arms type thing." But you still think we need the fire support of the two guns and AGS?

General HANLON. Yes, sir.

Senator TALENT. Or DD(X). Yes.

General HANLON. Sir, I will tell you, in fact knowing you'd probably ask the question, I even brought our lessons learned book here, because I'm responsible for collecting that for the Commandant. That's what we've been doing from Operation Iraqi Freedom. One of the things that we looked at, in fact, was that it was more than 100 miles, Senator. In fact, in some cases, part of the 1st Marine Division, if you take from the time they left the line departing in Kuwait till the time that they got to Tikrit was like 500 miles. If either one of you had asked me a question a couple of years ago, "Did you think marines would do that?" I agree with General Magnus, it surprised even us that we did that and we were able to do it as well as we did.

Clearly, in that particular campaign we relied primarily on air-delivered and ground-delivered weapon systems. But had we been in the position where the operation would have been where we could have used a DD(X) type of vessel, particularly early on, we certainly would have used those fires. Absolutely.

I think the thing that's significant about these newer systems coming on, Senator, is that they do give us the deep reach that we don't have today with our naval surface fire support. So, that's why it's important.

Senator TALENT. I know Senator Kennedy has a few more questions. I'll go ahead and recognize him.

Senator KENNEDY. Just a couple of areas. General Hanlon, on these central themes and your presentation to the subcommittee on sea-basing, we're very familiar with the previous Marine Corps discussions of operation-maneuver-from-the-sea and ship-to-objective-maneuver. We're also familiar with the previous discussions of such concepts as mobile off-shore basing. So, how does the sea-basing concept differ from the previous Marine Corps strategies? From the mobile off-shore base concept?

General HANLON. Sir, the way we operate today as marines is primarily from our L-class amphibious ships and our maritime prepositioning squadrons, and have used them so successfully in Operation Desert Storm and in Operation Iraqi Freedom. They're great capabilities. Certainly we've seen that. But as we looked into the future in talking about a capabilities-based force, we just knew that we had to do things differently in the future. I thought Admiral Nathman's comment earlier when he said something—I think he said, "Do things more quickly before they get out of control,"—was a great comment that he made, because this kind of goes to the heart of what I think sea-basing is all about. It also touches

a little bit, I think, on what Admiral Dawson said when he mentioned the example of trying to get the Fourth Infantry Division through Turkey and the problems we had doing that.

It is our belief that one of the things that will be very important for us to do, we'll have the requirement to move combat forces into a theater of operations faster than what we can do today. In fact, we're looking at timelines somewhere from 10 to 14 days, a brigade size force. To be able to do that without having to absolutely depend on airfield or seaports given to us or offered to us by someone. We'll be able to use the sovereignty and the CNO talks about this all the time; the ability to use the sovereignty of the sea to be able to project American power where we need to.

So the sea-basing, I think Senator Kennedy, really dovetails very nicely on the previous work we've done with expeditionary maneuver warfare. Sir, we've talked to you in the past about where we went with operational-maneuver-from-the-sea and ship-to-objective-maneuver. In order for us to do that, sir, we needed to have a foundation. The foundation was this new sea-basing concept, which is something that both the Navy and the Marine Corps are fully committed to.

So that's what we're working on right now. It is a significant change, sir. I mean it really is a significant change, because it will enable us for the first time, really to marry up these pre-positioning ships of the future with our L-class ships while we're at sea. Be able to actually receive marines or other joint troops at the sea-base, actually have them fall in on their gear, actually have them go to the objective that they're going to assault. Be able to sustain them from that sea-base and to be able to bring them back to recalibrate and re-cock them for further operations. That's something we cannot do today, sir.

We just feel that in the future, particularly with the emphasis on force protection, that this becomes something that's very important. Did that answer your question?

Senator KENNEDY. Yes. I think that's very interesting. I think that you're looking over Iraq now and this enormous transition that's going to take place and the gathering of these troops in these kinds of areas and the vulnerability that they were going to have, and security issues. I mean that seems to be an attempt to try and deal with some of those kinds of issues. Which I think probably makes a great deal of sense.

General HANLON. Yes, sir.

Senator KENNEDY. Let me just finally ask about the industrial base, Secretary Young. At the posture hearing Secretary England said that, "The updated surface combatant industrial base study was finished. The Navy will be ready to brief the study later this week." Well, today is later in the week. [Laughter.]

Senator KENNEDY. Is there anything you can tell us about the results of the Navy's latest look at the health and prospects for the surface combatant industrial base?

The previous study said that, "The two ship yards, Bath and Ingalls need three DDG-51s per year, plus additional work to remain viable." The shipbuilding plan for 2006 shows no DDGs and no DD(X) in fiscal year 2006. So, I suppose we're going to be interested in what's going to happen.

Mr. YOUNG. Yes, sir. If the Secretary said it will be briefed this week, it'll be briefed this week. [Laughter.]

I have a draft of it here, it's in final signature process and I think we will get it out. I'll tell you that the study says much along the lines of what we discussed today. That is that the transition has the potential to negatively impact workload at the surface combatant yards. That the transition—we believe we can confidently manage the DDG, the DD(X) transition it is critical for the DD(X) program to stay on schedule to support that transition.

Senator KENNEDY. I know there will be a lot of interest in that and we'll have a chance to, I'm sure, go into that in greater detail down the line.

Mr. YOUNG. Yes, sir.

Senator KENNEDY. I thank you, Mr. Chairman. It was very interesting, very helpful. I thank our panel.

Senator TALENT. I have a few questions, also. Let me go ahead and take care of my questions regarding the CH-53X. I guess this would be for General Magnus.

Evidently, as I understand it or as you were looking at a service-life extension program (SLEP) or a remanufacture program for CH-53 you're now going to build a new CH-53 with a mix with MV-22s. It's going to be, as I understand it, a 76 percent to 24 percent mix of MV-22s to CH-53. Is my understanding basically correct?

I'm kind of hanging on by my fingernails, so tell me if I'm going to fall off or not here.

General MAGNUS. The exact mix is something in our study now and we'll study over time particularly with lessons learned, Mr. Chairman, from OEF and OIF where we found ourselves not 20 years in the future but in the here and now projecting larger forces, deeper in sustained operations. So, again, we continue to reflect just like with the naval fires, what does this mean about our previous plan about the mix? Quite frankly, the capability and the affordability of these different mixes.

But, Mr. Chairman, you're correct. We have taken a look at the CH-53 program and Mr. Young may wish to offer some comments on top of that.

But we've looked at essentially remanufacturing which takes the given number of airframes that we have and we've already retired our first CH-53s into the desert, because of the life on the airframe. So, before we could actually get into a SLEPping the few that we have then the numbers decline due to peace-time attrition. We find that those airframes have to be SLEP'd by 2012 but the numbers will continue to decline.

So SLEPping them, even with improved rotor heads, improved electrical hydraulic systems, potentially new engines, taking a look at the cost of that given that the inventory steadily and relentlessly declines and yet we see an increased requirement for heavy lift helicopters, the V-22 completely replacing in a literally transformational way, the CH-46. Things like KC-130s because of the deeper operations we realize that the numbers are not there to sustain even a remanufacture program.

So, we have to go forward in the acquisition process to be able to get the appropriate approvals for the consideration of putting

not the old CH-53 but a new CH-53 potentially back into production.

Senator TALENT. Okay. So, you're not committed to anything like, at this point, a three to one mix of MV-22 and CH-53, or is that where you think you're headed?

General MAGNUS. That is approximately the mix if we were to sustain the present force structure and transition CH-46s into MV-22s and CH-53s into the CH-53Xs. But as I said, Mr. Chairman, it's not like we're coming up with dramatic surprises, but the pressure on Marine aviation has made us much more sensitive to the need for vertical lift. Not only from sea-basing but vertical lift just to sustain operations ashore. This has become in the last 1 to 2 years a very important and daunting realization on the part of our shipmates and us in terms of what kind of platforms do we need at sea to support what kind of aircraft to project and to provide a persistence to the forces as they operate, sometimes very deep and very relatively high intensity operations. Although, they're not necessarily the kind of operations we foresaw 20 years ago.

Senator TALENT. All right, well I'm interested in your analysis supporting the mix when you've completed that. It sounds like it may be premature; you're headed there but you're not there yet. I would be interested in it.

General MAGNUS. Mr. Chairman, we will provide you some additional information for the record.

[The information referred to follows:]

The current Marine Corps Aviation Plan (AVPLAN) proscribes 22 MV-22 squadrons with 12 aircraft each (22×12=264 aircraft). We are converting 15 active duty CH-46 squadrons, 3 active duty CH-53D squadrons, 2 Reserve CH-46 squadrons, and 2 Reserve CH-53E squadrons.

The AVPLAN also plans for 6 CH-53X (now Heavy Lift Replacement (HLR)) squadrons of 16 aircraft each (6×16=96 aircraft). This will convert six active duty CH-53E squadrons to HLR squadrons.

This produces a ratio of 264:96, or 2.75:1. Note that these numbers of aircraft are less than the total procurement objective for both MV-22 and HLR; they do not include aircraft needed to account for the Fleet Replacement Squadron (Training Squadron), pipeline aircraft, attrition, HMX, or Developmental/Operational Test.

The total numbers of aircraft, as outlined in the Programs of Record, needed to support Marine Corps requirements are based on numerous studies and analyses done by both internal departments and external agencies/companies.

Senator TALENT. Okay. Thank you. Does the fiscal year 2005 budget request reflect the decision to acquire new build CH-53X?

General MAGNUS. The President's fiscal year 2005 budget does not.

Senator TALENT. Does not reflect that decision, because you're not quite there yet? Okay.

General MAGNUS. That decision is still being worked within the process of requirements and acquisition.

Senator TALENT. Okay. On LCS, Admiral Nathman and Secretary Young, let me get in the cost issue here, because I think Admiral Nathman you said, "\$250 million, \$260 million," that's where you think the ship is going to come in and that's the frame and the modules? Did I understand that right or Secretary Young if you—who ever wants to answer this.

Mr. YOUNG. I tell you we've set a couple of different targets. One is that the objective cost range for the ship is \$150 to \$220 million and we'd like to be in the low end of that range.

Senator TALENT. Is that for the ship or the frame?

Mr. YOUNG. For just the sea frame.

Senator TALENT. The frame, yes.

Mr. YOUNG. Then over some reasonable average procurement unit cost we'd like the ship with the modules to cost about \$250 million. Those are goals we've set for ourselves.

Senator TALENT. Okay. Well, this is kind of what I'm talking about, because we didn't really do an analysis before. Contradict me if I'm wrong, but before we made the decision to go with LCS as opposed to some other way of meeting the requirements, we didn't do all that thorough an analysis. My gut is that you're absolutely right with this program. I have been supportive of it.

Mr. YOUNG. Yes, sir.

Senator TALENT. But we didn't do the analysis then and now it sounds to me like you're saying, "You'd like it to come out at a certain point," but what we need, don't we, is an analysis of how much the modules are going to cost to do what we're requiring them to do.

Mr. YOUNG. Yes, sir.

Senator TALENT. So, are you getting the cart before the horse in figuring out what number you want before you do the analysis?

Mr. YOUNG. Well, we have identified what we think is the composition of the first three core modules if you will. Mine Warfare, ASW, and a Submarine Warfare and then the Surface Warfare Module. Those module prices incorporate largely existing systems from Fire Scout to RMS, the AQS 20 to RAMICS, et cetera. So, we can cost those out with some precision today and the very first modules we have a piece of paper we can provide to you for the record that suggest those modules, I think the Mine Warfare Module would cost on the order of \$135 million today. The Surface Warfare module might cost in the order of \$45 to \$50 million today. Those prices, the rates will go down if the lead ship with the lead module in the worst case would be \$220 million plus \$130 million would be \$380 million. But if the ship comes in at \$150 million and the module is \$130 million, we're close to our \$250 million and we're going to try hard to work to that goal.

[The information referred to follows:]

The projected cost of the three Flight 0 mission modules (Mine Warfare (MIW), Anti-Submarine Warfare (ASW), and Surface Warfare (SUW)) are as follow:

MIW Module: \$132.9 million

ASW Module: \$89.6 million

SUW Module: \$46.2 million

Senator TALENT. Some of the modules are going to cost a lot less than the \$130 million?

Mr. YOUNG. That's the highest priced module based on our current estimate and configuration, \$130 million, and that price at volume or at a higher rate of procurement will come down.

So, I think the goal is well within reach, reasonably set. It will force continued discipline on the system which is healthy.

Senator TALENT. Okay. This is the first time I've heard the \$250 million figure. So, the total cost of the program, of course adjusted and everything, will be 65 times that.

How many modules do you anticipate you're going to need?

Mr. YOUNG. Maybe I should make sure Admiral Nathman has a chance to comment on that.

In our program of record in the near term, through 2007, we have budgeted funds to buy four ships and seven modules. Then we're going to keep working through the operational doctrine to tell us exactly what the right quantities of each set of modules; mine warfare, ASW, and surface warfare, as well as the proper ratio per ship to accomplish the mission.

Senator TALENT. Would you anticipate that the total number of modules will be in that same ratio as in the first five—seven to four or do you know?

Admiral NATHMAN. I'll try and address that one, sir.

Let me give you just a kind of a quick example. Suppose you had significant warfighting mine clearance issue with your LCSs and they were forward. You might have five of them forward in your squadron. You may chose to have one LCS run the TUAVs that are looking for the mines because that might be a more efficient way to look at it. While the other LCSs are actually using the surface and the unmanned vehicles as part of that mine module total capability.

So, you may be better off in terms of distributing those modules inside those capabilities over those numbers of LCSs in that squadron. So, you wouldn't necessarily outfit each squadron. So, I think what we're into right now is detailed work about the proportionality of the modules per LCS, the ratio, as well as what's the best way to have those things pre-positioned or to go forward. In some cases we believe strongly that a lot of the helicopter equipage, which is a follow-on to the MH-60, will now go on to LCS.

So, I think we have to get into some of those details. If I could reclaim my number a little bit there, I was trying to indicate where we felt the costing of these modules might go. Secretary Young's point, we understand a lot of these things are current capable capabilities that we have in terms of RMS. So we can price them quite well. But there is a potential to understand that if you saw an opportunity to change the persistence of a particular module whether making smaller investments and say its engine or its payload capacity, that might be a very wise investment. So, there's got to be some liquidity, I believe, in this investment.

Senator TALENT. Well, I agree. I'm trying to be as sympathetic as I can, but I mean we're talking about a new ship, a new platform. We didn't have the analysis before.

Admiral NATHMAN. We have it now.

Senator TALENT. We're not sure how many modules we're going to get. You just mentioned the MH-60s, have you determined how that's going to effect that inventory, whether we're going to need more of those?

Admiral NATHMAN. That was the idea. Sir, we basically already arrived at that, because we had the helicopters forward but they lily pad, as it were, to the LCS.

Senator TALENT. We have a very aggressive acquisition schedule, and I appreciate decisiveness. Now the cost is pretty liquid as well, and we have to have something to go by when we authorize these programs.

So, at a certain point, and I would like it to be sooner rather than later, we're going to have to start getting some fixed numbers on some of these issues. With an understanding that in the course of when you do your lean manufacturing techniques and you take advantage of technology in the course of building these ships that that number may come down or you may want to make some variations. We just need to come to some kind of an agreement for how we can do some oversight on this that still allows you the flexibility you need to make this ship as good as it can be.

Mr. YOUNG. Could I offer a couple of comments?

The demand for these ships is pretty substantial.

Senator TALENT. Right.

Mr. YOUNG. We have three ships under lease that are smaller versions or comparable in capabilities to what we seek in LCS. I think the Marine Corps would say they've been wildly successful. The Fleet Forces Command and Admiral Fallon would say similar things. So, the demand and the push on the acquisition system is there, we would like to change how we do business and the fleet is asking for these assets. Those assets that have been leased are easily costed in an open marketplace at approximately \$100 million. So, we believe that \$150 million target is very achievable.

We're in source selection on LCS right now, so we should, by the end of May, sir, be able to tell you what LCS or LCSs we want to buy. We're going to be able to offer you great fidelity to the discussion you want to have with us.

Senator TALENT. Let me just ask you about something that came in this afternoon, you have two items relating to LCS; the TUAV and the modules a \$48 million item and a \$74.7 million item on the unfunded priority list. Are you familiar with that?

Admiral DAWSON. The CNO's list, sir?

Senator TALENT. Well, it is the CNO's unfunded program, I'm sorry. I'm just wondering why anything on this ship is on the unfunded priority list given the the importance of and the aggressive acquisition schedule. Can you tell me what I'm talking about, Admiral Dawson, or could somebody?

Admiral DAWSON. The CNO wants to be as aggressive as he can with this concept and he sees as an opportunity to get ahead of our CONOPs problem by putting these modules out there to improve the flight-zero demonstration and CONOPs validation. So why not take the opportunity to, since we're going to have the flight-zero ships, why not get the modules on there and get ahead of that particular problem.

Senator TALENT. These weren't funded. These are on the unfunded list.

Admiral DAWSON. Yes, sir.

Senator TALENT. For 2005?

Admiral DAWSON. For 2005, yes, sir. He saw this as an opportunity to try and do this faster.

Senator TALENT. Yeah, well I don't understand why it would be on the unfunded priority list then.

Mr. YOUNG. Sir, in the interest of information exchange, what's funded in 2005 is the mine-warfare module, which is one of the highest priorities. In 2006 we have the first ASW antisubmarine warfare and surface warfare module.

Senator TALENT. Okay.

Mr. YOUNG. I think what you'd be seeing given the CNO's testimony to the subcommittee, I think even yesterday that he wanted this, or this capability "tomorrow morning" as he would like to pull the ASW and SUW modules forward.

Senator TALENT. I see what you're saying. Your saying if we don't get it in 2005 it will be on the 2006 funded priority. So, that's why you were saying he's moving it up.

Mr. YOUNG. It is budgeted in 2006, sir.

Senator TALENT. Hopefully, he can get it anyway. I got it. All right.

Admiral DAWSON. What you'll see on that unfunded list are those things that as we put together our program we just didn't have the resources to get to. You'll see them next year.

Senator TALENT. I get you. You're hoping to sneak it in putting it on the unfunded priority. I get you. Well, we'll see what we can do about it.

Mr. YOUNG. Sir, I support the President's budget. I absolutely understand. [Laughter.]

Senator TALENT. Let the record show the witnesses made no response to the comment that I made.

Do we need prototypes, prototype squadrons with LCS, are you thinking along those lines to make certain that they'll perform the way you want them to perform? Have your tests to this point been adequate? What do you think?

Admiral NATHMAN. Where we are right now, sir, there is a strong fleet linkage in this concept of sea trial of developing the deployment concept for the size of those squadrons. The proportionality of what's forward and what's in the rear. One of the views of LCS is we should deliver a high availability, these should come with a high availability. They should be able to stay on scene for some time. It would be a mistake to have these go back and forth across the Pacific Ocean frequently. One, it's going to drive down the utility of the ship, it's going to eat up hull life, so why not have them forward as much as we can.

Senator TALENT. Yes.

Admiral NATHMAN. So, we're kind of pinning around this concept of keeping them forward, keeping them ready to go and then putting them in terms of pre-cursor ops in front of the Carrier Strike Groups and Expeditionary Strike Groups to shape the battle spaces that needs to be shaped. In some cases prepare the battle space in terms of intelligence and other cases actually do mine-warfare clearance or ASW precursor ops, those kinds of things which lead the striking group.

So, that's the connection of Littoral Combat Ship to our total force. It isn't just out there to be by itself. It's a very coherent look at how the ship—how that then leads to some basing concepts of being forward and in the rear. Do you want those ships in the rear to act as a training squadron—but some ought to be there, obviously, to replace, because some of these are going to have to come

back for their availabilities and repair. In some cases like we see on all our ships, some overhauling that provides for the sustainment of the force.

So, that right now we're doing strong analytic work in terms of proportionality, but also dealing with Fleet Forces Command and our experimenter, the Navy Warfare Development Command up in Newport, Rhode Island to get this concept pinned down.

So, I think we're awful close on that, and we have a lot of contributors that you would expect from the different fleet agencies to make sure that we have this concept right. But we see it forward with a certain proportion of LCSs—

Senator TALENT. So in view of this work you're doing now, you don't think you need prototype squadrons?

Admiral NATHMAN. I think when they go forward, they're not going to be proto-typical. So, I think they're going to do real work.

Now, you're going to learn a lot in the spiral of your demonstration and some experimentation, but the compelling need is there. So, we feel like they should go forward and so why slow down?

Senator TALENT. Okay.

Admiral NATHMAN. You can learn as much by being forward as you can by doing a lot of testing in the rear. So, I think we're— we'd be comfortable—I'm probably setting policy for the CNO, but I believe we would know that we need to be forward with these and where we'd learn more about those ships.

Senator TALENT. Enough good thinking beforehand and having worked with the groups they'll be attached to so you don't need it.

Yes, Secretary Young?

Mr. YOUNG. I'll join Admiral Nathman by going out on a limb here and tell you that I think this is analogous to what we are doing with the Marine Corps right now. We have a team, we've dubbed it "Operation Respond." We have a war council with General Hanlon that is seeking to identify tools, technologies, and systems that can support the Marines so they are effective and safe in Iraq. If we see something that can be deployed and that they're willing to take with them, we're putting it there with them.

It is Secretary England's first priority. He's willing to get field experience with systems. I think the CNO is with him. We have the two leased high-speed vessels (HSVs) that are doing LCS like operations right now, so we are beginning to inform ourselves on the CONOPs and the capabilities. The Marines are working with a leased ship in the Pacific using it in a slightly different way, more logistically. But all those pieces of information are informing the CONOPs that Admiral Nathman is building and I think lead all of us to feel like two things; we will do more experimentation. We may do some of that experimentation at home, but the capability is so useful to us we would have these ships doing maritime interdiction in Iraq, in the Persian Gulf, right now if we had them.

Admiral DAWSON. Senator, if I could?

Senator TALENT. Go ahead.

Admiral DAWSON. I'd like to add to that having just come last year from Norfolk with Second Fleet, we were very excited down there that we'll get one of these LCSs. We'll integrate it with our Carrier Strike Group and the training and the operations that we're doing. Then we'll unleash the genius of our people and we're

going to discover things that even with the prototypes that we had we never thought of before. As soon as we get them that will be unleashed. That's what the CNO wants to get them.

Senator TALENT. Well, let's just hope we can get from here to there without any major problems we can't overcome.

There's a vote on. I've basically finished my questions. I will probably have some questions I can submit to you, General Magnus, on the expeditionary fighting vehicle (EFV) and some issues there. I covered most of what I wanted to. Thank you all for your time. We all appreciate it so much, as well as your service to our country.

The subcommittee is adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR EDWARD M. KENNEDY

MINE WARFARE CAPABILITY

1. Senator KENNEDY. Admiral Dawson, at the hearing I raised the issue of the cut in steaming days for mine hunters in the fiscal year 2005 budget request. In prior years, the Navy funded mine hunters to conduct 28 days of training per quarter. This budget reduces that training to a level of 18 days per quarter. You indicated that more training will be accomplished by using simulations. Could you identify what new simulation capability or other training enhancements will allow these important forces to maintain readiness to exercise this important, perishable capability?

Admiral DAWSON. Mine Warfare is looking at more efficient ways to train our sailors in order to both save money and maintain readiness levels. Pier side training and taking advantage of the classrooms and simulators available at the newly expanded Mine Warfare Training Center will be fundamental in helping us maintain readiness.

Within Navy schoolhouses, new Mine Warfare simulation capability and training enhancements that will exist by 2005 include the AN/SQQ-32 (V2) and (V3) variable depth minehunting sonar system simulator. This provides introductory and component level systems training for the Mineman enlisted rating. The simulator is located at the Mine Warfare Training Center, in Ingleside, TX, and will train approximately 80 personnel annually. There are four different Navy Enlisted Classifications (NEC) associated with this training. This training also has the potential to be used as a fleet asset for "just in time" training as well as for refresher skills training.

GUIDED PROJECTILE DELAYS

2. Senator KENNEDY. Secretary Young, 3 years ago the Navy was projecting that the extended range guided munition (ERGM) program would achieve initial operational capability (IOC) in fiscal year 2004, a slip of some 2 years from the original goal. Two years ago, the Navy informed the subcommittee that ERGM will achieve IOC in fiscal year 2005. Now this year, we are told that ERGM will not achieve IOC until fiscal year 2008. Why should the subcommittee have any confidence that the Navy and the ERGM contractor team can meet this new schedule to deliver this important capability to the fleet?

Mr. YOUNG. Until recently, the ERGM program was schedule driven, which did not allow adequate time to address technical problems identified during testing. That approach, using strict schedule adherence, is no longer the standard ERGM operating process. The current proposed program plan for continuation of flight tests provides additional schedule margin to allow time to address technical issues. We will not field the ERGM round until it is fully tested.

For the most part, the ERGM design has been demonstrated to work during testing. A few remaining technical problems were identified during the last round of flight tests. Solutions to recent ERGM flight test technical problems have been identified and are being implemented. A rigorous engineering test and evaluation approach has been developed to resolve these design deficiencies and validate the corrective actions. Prior to proceeding with flight tests, a series of laboratory and component level gun launch validation tests are being performed to verify technical solutions. Using this new methodology, more subsystem components will be subjected

to validation testing to provide higher confidence levels prior to the next set of flight tests.

3. Senator KENNEDY. Secretary Young, what, if anything, do the continuing ERGM problems tell us about the risk for fielding the projectile for the advanced gun system in the DD(X) on time?

Mr. YOUNG. What we learned from the ERGM program is the importance of mitigating risk at every step of the development process for fielding new ordnance. The Navy has implemented this philosophy as we develop the Long-Range Land Attack Projectile (LRLAP), which will be the principal round for the Advanced Gun System (AGS) aboard DD(X). The LRLAP schedule provides for significant subcomponent build and test, iterative build and test of the guided flights, and time to correct problems should they arise. The LRLAP schedule also includes a land based test plan that completes 3 years prior to DD(X) IOC. We also reduce overall risk by building the projectile, magazine and the AGS from the ground up. Unlike ERGM, where the projectile had to be designed to fit an existing gun system, LRLAP, magazine and AGS designs can be modified to reduce risk, improve overall system design, and increase reliability.

QUESTIONS SUBMITTED BY SENATOR JACK REED

SUBMARINES

4. Senator REED. Secretary Young, Admiral Nathman, and Admiral Dawson, there are two less submarines between fiscal year 2007–fiscal year 2009—how do you intend to get these subs back?

Mr. YOUNG, Admiral NATHMAN, and Admiral DAWSON. The 1999 Chairman of the Joint Chiefs of Staff (CJCS) Attack Submarine Study, which supported the 2001 Quadrennial Defense Review, identified that a minimum force level of 55 attack submarines is required to ensure the combatant commanders maintain sufficient capability to respond to urgent crucial demands without gapping other requirements of high national interest. The current build rate falls short of supporting that number. The Office of the Secretary of Defense is currently evaluating SSN force structure and build rate issues and will report their recommendations later this year.

5. Senator REED. Secretary Young, Admiral Nathman, and Admiral Dawson, you estimated that repairs to the U.S.S. *Hartford* would cost about \$9.4 million. Will this unexpected cost impact any of your other programs?

Mr. YOUNG, Admiral NATHMAN, and Admiral DAWSON. At this time we do not anticipate this cost to impact any program outside of Ship Depot Maintenance. The repairs to U.S.S. *Hartford* are now completed at an actual cost of \$6.917 million.

The ship maintenance budget contains provisions for emergent repair requirements, determined by historical costs and actual operating months for each ship class. The impact the *Hartford* will have on ship maintenance is dependent on what other emergent repairs develop during the remainder of the fiscal year. If other emergent repairs exceed the amount available, other maintenance work could be deferred.

6. Senator REED. Secretary Young, Admiral Nathman, and Admiral Dawson, what is and will be the submarines role in intelligence, surveillance, and reconnaissance (ISR)? How vital is it?

Mr. YOUNG, Admiral NATHMAN, and Admiral DAWSON. The submarine is an essential resource in our Nation's ongoing ISR efforts. The covert, persistent nature of submarine platforms provides warfighting commanders with the access and dwell time necessary to conduct the long-term ISR of potential adversaries. It is this persistent ISR that will provide us with the intelligence preparation of the battlespace (IPB) needed to prevail in future conflicts. Additionally, the submarine uniquely provides the ability to survey the undersea domain in littoral areas. As we have seen in recent conflicts, the dependence on maritime provisioning and the need to project power into the littoral maritime environment requires unprecedented IPB in this area to combat the asymmetrical threats posed by submarines and mine-laying operations.

7. Senator REED. Secretary Young, Admiral Nathman, and Admiral Dawson, in your opinion, how many submarines are needed for the ISR mission?

Mr. YOUNG, Admiral NATHMAN, and Admiral DAWSON. Submarines are multi-mission platforms that satisfy a number of combatant commander critical mission re-

quirements of which ISR is a part. The 1999 CJCS Attack Submarine Study, which supported the 2001 Quadrennial Defense Review, identified that a minimum force level of 55 attack submarines is required to ensure the combatant commanders maintain sufficient capability to respond to urgent crucial demands without gapping other requirements of high national interest.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

8. Senator REED. Secretary Young, the Navy's justification for reducing the naval force was based on the increase in new technology that calls for less manpower. Is a \$1.4 billion increase in research, development, test, and evaluation (RDT&E) enough to move from legacy equipment to the next generation of combat power?

Mr. YOUNG. Most of our RDT&E funds are tied to acquisition programs of record whose purpose is to move us to the next generation of combat power. The fiscal year 2005 request fully funds these RDT&E programs to achieve their targeted next generation capabilities. In addition, the fiscal year 2005 request includes \$1.7 billion for science and technology programs that will move us toward advanced combat power for the generation after next.

LITTORAL COMBAT SHIP

9. Senator REED. Admiral Nathman and Admiral Dawson, the Littoral Combat Ship (LCS) is being planned to have interchangeable mission modules. What are the benefits of these modules?

Admiral NATHMAN and Admiral DAWSON. Interchangeable and reconfigurable mission modules are beneficial from both operational and life cycle cost perspectives.

From an operational perspective, modular mission packages give the Joint Commander maximum capability and flexibility. They offer maximum capability because each LCS ship, when fitted with a given mission package, will contain more advanced technological assets to bring to bear in a particular warfare area than would be possible with a multi-mission ship fulfilling the same mission. An LCS ship configured to perform ASW, for example, will carry a remote MH-60R helicopter, three Vertical Take-Off Unmanned Aerial Vehicles, an Unmanned Surface Vehicle and an unmanned underwater vehicle (both equipped to search for submarines), and other ASW equipment.

Modular mission packages allow maximum flexibility because the Joint Force Commander can change the focused mission of each LCS based upon changing requirements in theater. To change the focused mission of an LCS ship, a modular mission package and a team of mission specialists to support that package are sent to the ship. Within just a few days, the focused mission of this ship has changed to match the new threat. With LCS, a single ship can bring an unprecedented capability in a particular warfare area—Mine Warfare, Anti-Submarine Warfare or Surface Warfare—and can change that focus rapidly as theater requirements evolve.

A ship that conducts only one focused mission at a time can be smaller in size (and therefore less expensive to construct than a larger multi-mission combatant). Moreover, since mission packages would be shared among all the LCS ships in the fleet, we need only procure that number of mission packages needed to meet anticipated theater threats. For example, instead of buying an ASW suite for every surface combatant in the fleet, with LCS, we need only buy a fraction of the total force of LCS ships. (The precise number of mission packages to be procured is part of the Force Structure Studies currently being undertaken by the Navy).

The old paradigm of a fleet of large multi-mission surface combatants, each equipped and manned to fight a number of warfare areas, is swept away by a new concept: Plug in the mission you need, with the mission specialists required, to meet the threat faced by the Joint Force Commander.

10. Senator REED. Admiral Nathman and Admiral Dawson, how and where will the modules be changed?

Admiral NATHMAN and Admiral DAWSON. For LCS Flight 0, mission packages will be changed in port. This port could be in the Continental United States, or anywhere overseas where our ships normally make calls into port. A crane is the only off-ship equipment required to handle/change mission modules. A threshold value of 4 days time for Mission Package Change Out is required for Flight 0; the objective is 1 day.

For LCS Flight 1, our eventual goal is mission module change-out capability at sea. This will be accomplished by continuing to drive toward common unmanned vehicles that are inherent to the ship and do not change with mission packages. Since

these vehicles are the largest part of each mission package, this would greatly reduce the amount of equipment requiring movement during a mission package change-out evolution. We are also looking at sensors and weapons that require smaller footprints. These efforts will greatly improve staging and change-out options, including the use of current Underway Replenishment Ships, MPF(F), and Carrier Strike Group/Expeditionary Strike Group ships.

11. Senator REED. Admiral Nathman and Admiral Dawson, are you considering whether Military Sealift Command ships can be fitted to carry the modules?

Admiral NATHMAN and Admiral DAWSON. Yes. For Flight 0, we have evaluated numerous transportability requirements for the LCS modules including use of Military Sealift Command (MSC) ships. MSC and other ships that can handle a 20-foot standard container can support LCS mission modules. For Flight 1, we are working to develop common unmanned vehicles that remain on the sea frame and do not change with mission packages. Our goal is to develop sensors and weapons with reduced footprints, in order to allow for their movement via all underway replenishment ships, including MSC ships.

MARITIME PREPOSITIONING FUTURE FORCE

12. Senator REED. General Hanlon, what capabilities does the Maritime Prepositioning Future Force (MPF(F)) provide that you do not have today?

General HANLON. The envisioned capability improvements of MPF(F) will allow the Navy-Marine Corps team to provide up to three Marine Expeditionary Brigade sets of prepositioned warfighting capabilities to unified combatant commanders to meet mission requirements, from the sea without reliance on host nation support.

The Maritime Prepositioning Force has demonstrated that it is a significant capability and has grown to become one of the key elements of our Nation's maritime forward presence strategy.

Anticipating that access denial will continue to be a critical determinant for overall strategic decisionmaking, actions conducted at and from the sea, that have been traditionally conducted in host nation ports/airfields, will substantially enhance our Nation's response options.

MPF(F) will continue to provide essential prepositioned supplies and equipment to our combatant commanders. Moreover, it will be an integral part of a sea-based operational environment that promotes significantly enhance interoperability among elements of the sea base.

Those elements include the Carrier Strike Group, Expeditionary Strike Group, Maritime Prepositioning Group, Combat Logistics Force, and other maritime forces. Those "other forces" can appear in several forms including an Amphibious Force/Marine Expeditionary Brigade, U.S. Army flotilla force, or afloat coalition forces.

13. Senator REED. General Hanlon, what is the relationship between MPF(F) and amphibious platforms? Why is it critical that you retain both?

General HANLON. While it is important to draw the distinction between the MPF(F) and amphibious shipping, it must be emphasized that they are two distinct entities possessing individual capabilities yet inextricably linked to each other. In our view, MPF(F) and amphibious shipping are neither interchangeable nor competing platforms. Our Nation's anti-access strategy requires both capabilities. Amphibious ships use the sea as maneuver space in support of forcible entry operations and enable embarked forces to remain at sea for extended periods to conduct forward presence missions.

Amphibious assault ships embark, deploy and employ maneuver forces for conducting forcible entry operations in non-permissive environments. They provide critical capabilities; the "big deck" amphibious ships are the centerpiece and principal MAGTF C2 and aviation support platforms.

MPF(F) is a transformational component forming the back bone of a future sea base. MPF(F) supports crisis response thru prepositioning of equipment and sustainment, enabling the closure of up to a MEB sized force onto a squadron of ships designed to be more operational than the ships we have today, but not to the extent of our amphibious fleet. MPF(F) will be designed for early force closure, amphibious force interoperability, sustainment, and reconstitution and redeployment—from a sea base.

The synergistic effect of MPF(F) and amphibious platforms is a core capability of the seabase that must be maintained. Together they provide a littoral presence and power projection capability without rival.

14. Senator REED. General Hanlon, what are the top three components required to make seabasing a reality?

General HANLON. As the core of Naval Transformation, seabasing will provide the operational and logistical foundation to enable the other pillars of Naval Transformation, namely Sea Strike, Sea Shield, Sea Base, and FORCEnet. These components are key to making seabasing a reality.

Seabasing, envisioned as a national capability, is our overarching transformational operating concept for projecting and sustaining multi-dimensional naval power and selected joint forces at sea. As stated by the Defense Science Board in its August 2003 Task Force report: "Seabasing represents a critical future joint military capability for the United States."

From a more functional perspective, force closure/arrival and assembly, sustainment, and reconstitution and redeployment are three of the key components that need to be developed to make seabasing a reality.

Force closure/arrival and assembly pertains to closing the force to the platforms with prepo'd equipment and making them combat ready.

Sustainment includes the ability of the seabase to receive, manage, and distribute required resources seamlessly. Selective offload is a key component of the onload and offload of maritime prepositioned equipment and supplies in support of general purpose forces.

Reconstitution and redeployment allows for the recovery of personnel and equipment, refurbishment and follow-on redeployment depending on mission requirements.

The Marine Corps and Navy are committed to developing a seabasing capability that will provide a critical joint competency for assuring access and projecting power that will greatly improve the security of the United States. The marked increase in our warfighting capability will be apparent as we introduce new systems such as the MV-22 Osprey, the Expeditionary Fighting Vehicle, the Joint Strike Fighter, and the Lightweight 155mm Howitzer into our force structure, using them to enhance the already potent combat power of our Marine Air-Ground Task Forces as integral elements of our Nation's joint force.

[Whereupon, at 3:37 p.m., the subcommittee adjourned.]

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2005**

WEDNESDAY, MARCH 10, 2004

U.S. SENATE,
SUBCOMMITTEE ON SEAPOWER,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**THE POSTURE OF THE U.S. TRANSPORTATION
COMMAND**

The subcommittee met, pursuant to notice, at 2:06 p.m. in room SR-232A, Russell Senate Office Building, Senator James M. Talent (chairman of the subcommittee) presiding.

Committee members present: Senators Talent and Kennedy.

Majority staff members present: Ambrose R. Hock, professional staff member; Gregory T. Kiley, professional staff member; and Thomas L. MacKenzie, professional staff member.

Minority staff member present: Creighton Greene, professional staff member.

Staff assistants present: Andrew W. Florell and Sara R. Mareno.

Committee members' assistants present: Lindsey R. Neas, assistant to Senator Talent; and Mieke Y. Eoyang, assistant to Senator Kennedy.

**OPENING STATEMENT OF SENATOR JAMES M. TALENT,
CHAIRMAN**

Senator TALENT. Welcome, everybody. Today the Seapower Subcommittee meets to receive testimony from the top leadership of the United States Transportation Command (USTRANSCOM). I will go ahead and give my opening statement and, if Senator Kennedy, who I understand is on his way, has arrived, then we will defer to him for his opening statement, and, if not, then we will go ahead and begin with the witnesses' statements. Then when the Senator gets here he can give his opening statement or wait until his question period, whichever he would prefer.

We are pleased to have General Handy with us, who commands USTRANSCOM and the Air Mobility Command. John, thank you for coming today. Also, Vice Admiral Brewer, who commands the Military Sealift Command—Admiral, thank you—and Major General Dunwoody, who commands the Surface Deployment and Distribution Command, formerly Military Traffic Management Command (MTMC). It is good to have you with us, General. It is hard

for me to keep up with the names, so I keep reminding myself. Thank you for taking time out of your busy schedules to be with us today.

The strategic lift of personnel and material is a crucial enabling ability that allows this country to project deterrent and, when required, striking force to execute the National Security Strategy. The United States Transportation Command is responsible for the strategic lift.

Much has been accomplished in this country's ability to transport large quantities of material around the world since this was determined to be a limiting factor in the buildup for the first Gulf War in 1990–1991. Learning the lessons of this war, the United States has made significant investments, particularly in sealift and in the maritime prepositioned force, that greatly cut down on the time to quickly get the bulk of material to the most likely theaters of operation. It has been estimated that 95 percent of equipment in peacetime is moved on the sea.

The Joint Chiefs of Staff delivered a report to Congress in 2002 known as the Mobility Requirements Study for 2005 (MRS–05). This study determined that the problems with sealift had largely been resolved, but that there was still a significant shortage of strategic airlift. With the approval of a multiyear procurement program for 60 additional C–17 aircraft, which will bring the inventory up to 180 aircraft, and a modernization program for the fleet of C–5 aircraft, much is being done to address this shortage.

This study was done, however, using the two major theater of war National Military Strategy (NMS), which has changed. In its report last year, the Senate Armed Services Committee directed that a report be delivered that would verify the relevance of the numbers established by MRS–05 in light of more recent events, of which we are all aware.

The committee has received this report and the report postulates that the MRS–05 moderate risk strategic airlift requirement of 54.5 million ton-miles per day (MTM/D) is understated. Specifically, the report estimates a more realistic moderate risk requirement for strategic airlift with the current National Military Strategy would likely fall in a range between 57.4 and 60 MTM/D.

The report also highlights the need for an updated Mobility Capability Study (MCS) which would define requirements in light of the new NMS. The report concludes with the recommendation that to meet the increased demand the C–17 production needs to continue to a minimum of 222 aircraft and that an appropriate number of C–5s be modernized.

Section 132 of the National Defense Authorization Act for Fiscal Year 2004 would prevent the Secretary of the Air Force from reducing the inventory of C–5 aircraft below 112 until an evaluation of a C–5A aircraft, which has incorporated the reliability enhancement and reengining program modification, has been operationally evaluated.

In addressing the shortfall in strategic airlift, it is crucial to get the mix of C–17 and C–5 inventories with their unique capabilities correct.

The subcommittee is also aware that the Secretary of Defense has designated the Commander of USTRANSCOM as the distribu-

tion process owner who will be the single point of contact for logistics and who must synchronize the entire supply chain from factory to foxhole. We are going to be very interested in how your command intends to implement this guidance and is in fact implementing this guidance.

Again, we would like to welcome you here today and thank you for your service and the service of all the men and women, military and civilian, in your commands and the sacrifices of their families. We have received your written statements and they will be made a part of the record.

Since Senator Kennedy has not yet arrived, I think we will go right to the statements of the witnesses. Again, I want to welcome all of you. Let's begin with General Handy.

STATEMENT OF GEN. JOHN W. HANDY, USAF, COMMANDER, U.S. TRANSPORTATION COMMAND; ACCOMPANIED BY MAJOR GEN. ANN E. DUNWOODY, USA, COMMANDER, SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND; AND VICE ADM. DAVID L. BREWER, USN, COMMANDER, MILITARY SEALIFT COMMAND

General HANDY. Thank you, Senator Talent. I would first start out by saying how pleased all three of us are to be here—

Senator TALENT. This is a joint statement, I am sorry. Just go right ahead.

General HANDY. That is right, sir.

I am certainly pleased to be here with my two component commanders and, of course, as you pointed out, I am the air component commander as well. We are thrilled to be here. We are very anxious to entertain your questions. As you pointed out, our statements have been submitted for the record and we would like to get right to the questions. So thank you for inviting us here, and we are ready.

[The prepared statement of General Handy follows:]

PREPARED STATEMENT BY GEN. JOHN W. HANDY, USAF

INTRODUCING THE UNITED STATES TRANSPORTATION COMMAND (USTRANSCOM)

As we enter a new year, our Nation remains globally engaged with terrorist entities whose stated aims continue to threaten the freedoms we, as Americans, all know and cherish. United States military forces remain deployed worldwide to combat this menace. Simultaneously, we are engaged in monumental nation-building efforts in southwest Asia, multiple peacekeeping operations in locations worldwide, and on guard against a continued threat on the Korean Peninsula. The heavy demands on American forces highlight the dangerous and unstable world environment existing today.

As a combatant command uniquely structured to execute a global mission, USTRANSCOM provides air, land, and sea transportation for the Department of Defense (DOD), in peace and war. USTRANSCOM provides the synchronized transportation and sustainment which makes possible projecting and maintaining national power where needed, with the greatest speed and agility, the highest efficiency, and the most reliable level of trust and accuracy. To accomplish USTRANSCOM's day-to-day joint mission, we rely upon our component commands: the Air Force's Air Mobility Command (AMC), the Navy's Military Sealift Command (MSC), and the Army's (Military) Surface Deployment and Distribution Command (SDDC) (formerly known as the Military Traffic Management Command). The component commands provide mobility forces and assets in a force structure supporting a seamless transition from peace to war. USTRANSCOM functions as an integrated team, focusing the total synergy of the entire Defense Transportation System (DTS), including both military and commercial transportation assets.

USTRANSCOM's imperative is to provide consummate support to the warfighter. Simply put, we have three wartime mission objectives:

1. Get the warfighter to the fight.
2. Sustain the warfighter during the fight.
3. Bring the warfighter home after the fight.

Today's regional combatant commanders rely more heavily than ever on the strenuously tasked mobility forces as the number of missions and challenges facing them continues to increase. It is important to note that USTRANSCOM is only postured—from a force structure perspective—as a one major war force. Regardless, USTRANSCOM supports not one, but all other combatant commanders simultaneously, placing a premium on our lift assets. Additionally, USTRANSCOM's ability to support multiple competing demands is constrained by access and force flow dynamics. Our limited transportation assets rely on an optimized force flow to meet demands. In a dynamic political-military environment, requirements can quickly exceed capabilities.

USTRANSCOM's approach to posturing and improving itself to meet DOD's demanding distribution mission today and the increasing demands of tomorrow requires flexibility. Three themes guide our course:

- Theme One: Investing in the care and quality of USTRANSCOM's most valuable resource—its people.
- Theme Two: Continued transformation of key processes leveraged by information technology to provide seamless, end-to-end distribution management for defense.
- Theme Three: Maintaining readiness and modernization to perform our global mobility mission.

USTRANSCOM IN 2003 AND 2004

The operational tempo (OPTEMPO) inherent in the build-up and execution of Operation Iraqi Freedom (OIF), the continued prosecution of Operation Enduring Freedom (OEF), and the ongoing support to Operation Noble Eagle (ONE) made 2003 a challenging and truly rewarding period in USTRANSCOM's history. The statistics are mind-boggling: between September 2001 and February 2004, USTRANSCOM moved 3,072,471 short tons of cargo, 1.79 billion gallons of fuel, and 1,189,968 troops in support of OEF/OIF. Here is the big picture—in the largest and most demanding test of our total lift capability since Operation Desert Shield/Desert Storm, USTRANSCOM delivered the necessary combat power to Iraq faster and more efficiently than ever before. The men and women of USTRANSCOM, in concert with our Service partners and commercial teammates, have performed brilliantly.

Our military's freedom to operate overseas is possible only through the continued defense of our homeland, and USTRANSCOM remains an integral part of that defense, as it has been since the terrorist attacks of 11 September 2001. AMC KC-135 and KC-10 air tanker aircraft, representing active duty, Air Force Reserve, and Air National Guard assets, have continuously supported Air Force combat aircraft patrolling the skies of the Continental United States (CONUS) in support of ONE and other routine duties.

AMC tankers flew 1,704 missions refueling 3,684 receivers while supporting combat air patrols over our major cities and sporting events, continuing one of the highest air refueling operational tempos ever experienced within CONUS. Over 75 percent of these were Air Force Reserve and Air National Guard missions flown by volunteer "citizen-airmen." Additionally, while today's actual number is classified, I can tell you that the majority of the airlift on alert to respond to any United States Northern Command (USNORTHCOM) deployment order belongs to the Air National Guard and Air Force Reserve. Since the beginning of fiscal year 2003, USTRANSCOM aircraft have carried 1,618 passengers and 461 short tons of cargo in the course of 29 airlift missions in support of ONE.

While concurrently providing global support to all combatant commands, we focused considerable effort and assets toward ensuring the successful execution of OEF/OIF. OEF/OIF now ranks as the largest passenger airlift in history. Only the Berlin Airlift (1948–1949) exceeds it in terms of number of missions and tonnage flown, with OEF/OIF airlift moving 882,609 short tons of cargo to date.

Airlift played an integral part in expediting critical shipments and facilitating force maneuver. A spectacular example of this capability began on the night of 26 March 2003, when AMC C-17 aircraft successfully airdropped 1,000 paratroopers of the Army's 173rd Airborne Brigade into Northern Iraq to bolster anti-Saddam Kurdish forces after Turkey's refusal to permit the U.S. use of ports and forward bases. This was the largest air insertion since 1989's Operation Just Cause in Panama. Subsequent to the airdrop, C-17s executed a larger movement over five evenings,

flying 62 missions from Italy into airfields in Northern Iraq. They deployed 2,000 additional troops, more than 400 vehicles, and 3,000 short tons of supplies and equipment, solidifying coalition combat power on the northern front.

AMC air tanker crews were instrumental in the initial success of OIF operations, completing 2,000 refueling missions through 1 May 2003 in support of strategic airlift and inter-theater deployments. To date, AMC KC-135 and KC-10 crews had completed 4,768 refueling missions in support of United States Central Command (CENTCOM) operations. Tanker assets under the operational control of CENTCOM amassed over 9,000 sorties with more than 40,000 receiver contacts, offloading over 475 million pounds of fuel through the end of the fiscal year to sustain critical CENTCOM warfighting operations. Additionally, OEF support in the United States Pacific Command's (USPACOM) area of responsibility (AOR) accounted for an additional 163 air refueling missions.

During the build-up for OIF, USTRANSCOM planners focused on maximizing the utilization of sealift whenever possible and avoided the reliance on airlift that characterized the initial phase of OEF in 2001. The total sealift tonnage greatly surpassed the tonnage airlifted to Southwest Asia in support of OIF. With the cooperation of CENTCOM leadership, USTRANSCOM achieved a more effective balance between airlift and sealift in guiding mobility operations. This collaboration, combined with the skills of SDDC port managers and MSC vessel operators, resulted in the deployment of 910,000 short tons on 155 voyages between December 2002 and 1 May 2003. From 1 May 2003 to date, an additional 68 voyages brought over 433,000 short tons to Iraq and the surrounding area for a grand total of over 1.3 million short tons delivered via sealift. Some 76 voyages redeployed more than 556,000 short tons during that same period. By striving to leverage sealift first in deployment operations, CENTCOM and USTRANSCOM took advantage of a sealift fleet greatly expanded and modernized since 1991.

In striking contrast to past practice, we successfully implemented a "force packaging" strategy during OIF that synchronized the movement of combat-ready modules of unit equipment ("force packages"). This strategy allowed units like the Army's 101st Airborne Division to quickly and coherently assemble upon debarkation overseas. SDDC loaded the entire division, nearly 4,000 vehicles and 250 helicopters, on only 5 vessels that offloaded overseas in just a 12-day period, adding striking power to the combatant commander's arsenal in a fraction of the time required during Operation Desert Shield/Desert Storm. It ensured the integrity and rapid availability of a combat-effective fighting force far faster than the prior piecemeal movement of unit equipment.

USTRANSCOM relies on its commercial transportation industry partners and associated labor organizations to provide significant transportation capability during contingencies. OEF and OIF are no exception. Participation by commercial passenger airline and maritime companies gave AMC, MSC, and SDDC a vital extra edge in moving forces and equipment to support operations in Iraq. Chartered aircraft moved 78 percent of deploying troops during the build-up and 85 percent of deploying troops during the major combat operations. On 8 February 2003, 51 passenger aircraft from 11 commercial companies activated under Stage I of the Civil Reserve Air Fleet (CRAF). CRAF aircraft deployed 254,000 troops on 1,625 missions through 18 June 2003 when the aircraft were deactivated. Similarly, the number of ships under MSC's operational control supporting sealift operations jumped from a "normal" of approximately 22 ships to a peak of 127, including 40 government-owned ships from the Maritime Administration's (MARADs) Ready Reserve Force (RRF). This transition from a peacetime environment to a contingency footing enabled USTRANSCOM to deploy the military equipment and supplies needed to support OEF/OIF operations. In fact of the total 1,189,968 passengers moved during OEF/OIF, 75 percent were moved by commercial means, and 25 percent by organic airlift.

The large medium speed roll-on/roll-off (LMSR) vessel emerged as USTRANSCOM's strategic sealift success story. Procured based upon the lessons of Operation Desert Shield/Desert Storm, 18 LMSRs completed 38 total voyages during initial OIF deployment operations, lifting more than 5.3 million square feet of cargo. This was approximately 26 percent of the total requirement. By comparison, one LMSR in OIF carried the equivalent of six commercial charter ships during Operation Desert Shield/Desert Storm. From another perspective, it requires 300 C-17s to deliver the amount of cargo carried by one LMSR. Of the 3.1 million short tons moved during OIF/OEF, 74 percent was moved by surface, 26 percent by air (past 6 months, 85 percent moved by surface, 15 percent by air). Of that 74 percent moved by surface, 37 percent was moved by commercial charter and liner service.

The intensive combat operations experienced during OIF significantly increased the patient movement OPTEMPO in the CENTCOM AOR. USTRANSCOM's Joint

Patient Movement Requirements Center (JPMRC) originally deployed to the theater supporting OEF. There they performed as a patient movement management cell coordinating the movement, aeromedical and otherwise, of sick and wounded personnel from the AOR to higher levels of care in Europe and the United States. The JPMRC maintained 100 percent in-transit visibility (ITV) of patients entering the patient movement system via the USTRANSCOM Regulating and Command and Control Evacuation System (TRAC2ES). Coupled with the ability to utilize aircraft within the theater of operations or in-system to quickly respond to casualty movement requirements, aeromedical evacuation (AE) forces have successfully moved over 17,000 patients from the CENTCOM area of operations to date. The JPMRC ensured the most seriously ill or injured individuals quickly reached higher-level medical care. More than 9,800 of those movements occurred between 19 March and 30 September 2003, with a total of 1,993 patient movements during the 42 days of major OIF combat operations, 19 March through 1 May 2003. Not a single patient died while in the capable hands of USTRANSCOM's AE professionals during that period.

Additionally, TRAC2ES has become the centerpiece of homeland defense patient movement planning. With "lift-bed planning" capability, TRAC2ES is key to managing large numbers of casualties that might occur during natural disasters or terrorist attacks. Further development is planned to integrate TRAC2ES fully within the National Disaster Medical System.

USTRANSCOM continued its contributions to the OEF-related detention of large numbers of al Qaeda, Taliban, and other detainees at Guantanamo Bay, Cuba detention facility in support of the United States Southern Command (USSOUTHCOM). USTRANSCOM airlift missions sustained detention operations through the movement of over 7,000 passengers (U.S. military personnel as well as over 100 detainees) and 133 short tons of supplies throughout the fiscal year. Detainee missions required intense security methods and the support of 45 air refueling missions to move to and from Guantanamo Bay. In a twist from the previous year, these missions included the repatriation of detainees released from the facility once it was determined they no longer posed a threat to U.S. interests. With the significant numbers of detainees remaining at Guantanamo Bay, we continue to transport necessary supplies and equipment via barge from Jacksonville, Florida, averaging 440 short tons per week.

Despite the extraordinary focus required to conduct support operations for ONE/OEF/OIF and other contingencies, USTRANSCOM continued to support the rotation of U.S. forces participating in other contingency and peacekeeping operations around the globe. Prior to the completion of Operations Northern and Southern Watch at the initiation of OIF combat operations, USTRANSCOM delivered over 13,400 passengers and 3,300 short tons of cargo via airlift to locations in Turkey and Kuwait. In Kosovo (KFOR) and Bosnia (SFOR), a combination of commercial and organic airlift transported more than 18,000 passengers and 1,080 short tons of cargo to and from the area. Meanwhile, surface and sealift components loaded and transported another 5,040 short tons in support of these long-standing operations. Additionally, from July to September 2003, USTRANSCOM airlift elements delivered 764 passengers and 798 short tons of cargo to Senegal in support of Liberian peacekeeping operations.

USTRANSCOM continued support to over 130 combatant command and Joint Staff-sponsored exercises during fiscal year 2003. These are some of the more notable ones. From February through April of 2003, USTRANSCOM supported the Reception, Staging, Onward Movement, and Integration (RSOI) exercise in the Republic of Korea via the airlift of 5,805 passengers and 597 short tons of cargo, and the sealift of an additional 715 short tons. From February through July of 2003, USTRANSCOM supported Exercise Cobra Gold in Thailand through the airlift of 11,166 passengers and 784 short tons of cargo, and the sealift of 21,142 short tons of supplies and equipment. From June through September 2003, USTRANSCOM assets once again supported deterrence on the Korean Peninsula, this time delivering 6,922 passengers and 615 short tons of cargo via airlift, and an additional 3,614 short tons of equipment via sealift for Exercise Ulchi-Focus Lens (UFL).

The command also actively participated in the planning and execution of several other key exercises instrumental to improving DOD's ability to deploy and sustain forces. Exercise Turbo Intermodal Surge (TIS) exercised deployment of unit equipment from home station to deployed locations using commercial intermodal container systems and container ships. Exercise Turbo Containerized Ammunition Distribution System (CADS) exercised the movement of containerized munitions from CONUS depots to installations overseas using commercial and DOD intermodal systems. Finally, Exercise Joint Logistics Over-the-Shore (JLOTS) demonstrated the capability to offload/onload vessels off-shore for deployment/sustainment operations

in a port-restricted environment. JLOTS techniques and equipment utilized in Kuwait in support of OIF were key to the successful deployment of munitions and sustainment cargo, providing a ready solution to the restricted port environment encountered there.

Not all operations were contingency or exercise-focused. AMC aircraft flying in support of Operation Deep Freeze, the ongoing National Science Foundation (NSF) research program in Antarctica, delivered a total of 7,802 passengers and 2,310 short tons of cargo. Four MSC-chartered vessels delivered an additional 12,745 short tons of dry cargo and 14 million gallons of fuel for the NSF community. As a side note, USTRANSCOM fully supports the United States Coast Guard's (USCG's) efforts to enhance its ability to maintain the sea ice channel to McMurdo Station through reliability improvement and service life extension projects for its aging Polar Class icebreaker fleet. These two vessels, the United States Coast Guard Cutter (USCGC) Polar Star and USCGC Polar Sea, are critical to keeping the vital sea lines of communication for sustainment open to Antarctica.

Humanitarian relief operations on Guam after Super Typhoon Pongsona in December 2002 required a mixture of 24 military and commercial airlift missions to deliver 108 passengers and 1,165 short tons of humanitarian relief supplies. In February 2003, USTRANSCOM supported recovery efforts after the tragic Space Shuttle Columbia mishap via six total airlift missions. Finally, in October 2003, AMC C-130s configured with the Modular Airborne Fire Fighting System performed 60 drops (over 16,000 gallons of retardant) to help extinguish the California forest fires, preventing further loss of lives and property in the region.

USTRANSCOM also continued high priority and time sensitive airlift support for the President of the United States. AMC aircraft completed a total of 234 airlift missions in support of the President, flying the Commander in Chief to Mexico, the Azores, Northern Ireland, Europe, Southwest Asia, Africa, the Western Pacific, the United Kingdom, and Iraq.

PEOPLE: USTRANSCOM'S GREATEST ASSET

To meet America's transportation challenges, USTRANSCOM must first continue to develop and retain a talented and motivated mobility team. USTRANSCOM's strength, readiness, and warfighting capability depends upon these exceptional people and their extraordinary efforts to execute USTRANSCOM's global mission every day. Throughout DOD, we must remain sensitive to pay and quality of life issues and their associated effects on our service members. Meeting the needs of our people leads to increased readiness and higher retention and is absolutely the right thing to do.

In addition to compensation considerations, OPTEMPO, personnel tempo, and increased home station workload are other factors that negatively impact our retention efforts. Our personnel spend a great deal of time away from home. Those not deployed must work harder to compensate for deployed personnel and training time lost to previous deployments. Our peacetime workload is often as heavy for active duty personnel as wartime, and is even more arduous for our guardsmen and reservists. They must balance high OPTEMPO demands with the stresses of civilian careers. USTRANSCOM and our components have taken steps, such as using Army National Guard security forces to augment base security, to mitigate the effects of the unprecedented peacetime OPTEMPO. We are taking additional measures, such as increasing support manning and aircrew-to-aircraft ratios to the new levels required. Nevertheless, many members are leaving for more stable and predictable civilian careers. Now is the time to correct the people-to-mission mismatch.

Another USTRANSCOM area of concern is the availability of a sufficient number of qualified civilian mariners willing and available to fulfill the additional requirements created by the activation and long-term operation of MSC and MARAD surge sealift vessels. Volunteer commercial mariners crew the surge vessels. The decline in U.S. flagged fleet size, increased training requirements, and more attractive shore-side employment have led to a decrease in the number of fully qualified mariners. Fortunately, mariner availability was sufficient to consistently ensure on-time vessel activation of the 50-plus ships supporting OEF/OIF, to include Fast Sealift Ships (FSS), LMSRs, a hospital ship, and numerous MARAD RRF ships. Since the entire surge fleet was not activated and because no wholesale crew rotations were required for OEF/OIF, there remains uncertainty regarding the ability of the maritime industry and maritime labor unions to produce an adequate number of fully trained and qualified mariners to fulfill the additional requirements created by the full activation of all MSC and MARAD surge vessels for a prolonged period. However, in the future, there are no guarantees that sufficient mariners will be available when needed.

USTRANSCOM, MSC, SDDC, and MARAD support the maintenance of a viable U.S. mariner pool through enforcement of cargo preference requirements, support for the Maritime Security Program (MSP), and vigorous maritime training and education. MSC has initiated a collaborative effort with USTRANSCOM and MARAD, in concert with the maritime industry, to revalidate and compare the peacetime/wartime requirements of mariner qualifications and availability in order to specifically identify potential shortfalls. Initial comparison of requirements against qualified mariners indicated potential shortfalls of certain unlicensed mariners during a worst-case scenario if all surge assets are activated for the long term (i.e., greater than 6 months), requiring a full rotation of all crew billets. Further, MARAD's 2002 Mariner Survey regarding mariner "willingness and availability" to sail when requested also predicts potential shortfalls in both licensed and unlicensed mariners during a worst-case scenario. As a result, we continue to urge the administration and Congress to support programs to promote the expansion of the U.S. merchant mariner pool.

Support for our people is required in other areas as well. The increase in the Basic Allowance for Housing (BAH) in the past few years, brought about through DOD's Housing Requirements and Market Analysis Program and BAH Initiative, has had an extremely positive impact on the quality of life of our military members and their families. With these recent BAH increases, more service members are finding it easier to locate affordable housing within their local areas. Continued congressional support to ensure out-of-pocket expenses are eliminated will help more service members locate affordable and suitable housing within their communities.

The movement of service members' personal property in conjunction with their reassignment is a major quality of life issue. SDDC is currently developing the Families First Program, a comprehensive plan to significantly revamp DOD household goods movements beginning in October 2005. A significant change for service members under Families First is their empowerment to determine which quality carrier will accomplish their particular move. SDDC's method of distributing household goods traffic to carriers will be based 70 percent on customer satisfaction and 30 percent on cost, rightly placing the needs of the service member first. Another advantage under the program is the inclusion of full replacement value (FRV) for loss or damage to personal property transported at Government expense, a significant quality of life enhancement. Section 634 of the fiscal year 2004 Defense Authorization Act provides DOD with the authority to contract with industry for FRV. Currently, agencies do not pay their employees or military members for loss and damage beyond a depreciated amount established by claims service regulations. As a result, personnel who are frequently required to relocate their families suffer from aggregate effects of uncompensated losses to their families' possessions during the period of their government or military service. SDDC will continue partnering with industry and the Services to ensure further progress on this significant issue.

Recent command headquarters restructuring efforts, both at USTRANSCOM and within our component commands, have led to numerous personnel placement actions and other transition requirements. Mindful of the turmoil such events can have on individuals' lives, both military and civilian, USTRANSCOM is working to ensure all affected employees receive the level of transition assistance, training, and placement options they require to continue their government careers successfully or transition to the private sector. We must be particularly mindful of the value of our civilian employees. Increasingly, we rely on civilian employees to make informed decisions and take decisive actions in regard to evolving missions in the war on terror (WOT). Motivated and talented people are key to our success, and thus we must attract and retain the best civilian personnel, whether they ultimately remain within the USTRANSCOM family, or contribute elsewhere within the government at large.

Together, Congress and DOD have made great strides in our people programs. This year's legislation must continue to reaffirm a commitment to take care of our civilian employees, service members, and their families as they, in like manner, commit to a career of service to our country. As leaders, we must remain mindful of how important it is that we win the battle for the hearts and minds of these talented men and women and their families.

TRANSFORMATION AND PROCESS IMPROVEMENT

Information Technology: Our Key Enabler

USTRANSCOM is an information-intensive command. Despite technology advances, planes, trucks, trains, and ships only move so fast. Similarly, geographic hurdles remain relatively fixed for our physical assets. Hence, Information Technology (IT) is the enabler for collaborative, dynamic decisionmaking and global command and control to deliver the speed, effectiveness, and efficiency of

USTRANSCOM's operations; and, it is not IT alone, but the combination of IT with supportive processes and organizational facilitators, that gives us a real advantage.

USTRANSCOM is committed to information dominance. Actionable, decision-quality information superhighways are the way ahead. Already, the command uses its IT to direct execution, track delivery, pay providers, and make the most effective use of transportation assets, while routinely operating in austere environments half a world away. Simply put, USTRANSCOM cannot execute its mission without robust IT.

One of USTRANSCOM's key responsibilities to the warfighter is to ensure ITV of personnel, supplies, and equipment. USTRANSCOM uses the Global Transportation Network (GTN) as the IT tool to provide ITV. GTN provides the near-real time worldwide visibility of passengers and material moving from origin to destination through the DTS, regardless of the mode of transportation used. GTN uses information provided by 23 DOD source systems and more than 125 commercial carrier IT systems. During OEF and OIF, the command extended that capability in support of two major combat operations to include movement of passengers and cargo within both theaters of operations. At the peak of OIF, GTN processed over 5 million transactions per day, with over 14,000 daily customer requests for information on strategic and tactical lift. Development of the next generation of GTN, called GTN 21, is well underway towards an early fiscal year 2005 initial operating capability. GTN 21 will integrate transportation information that supports our command and control mission requirement to direct, control, and execute operations of assigned forces pursuant to global transportation management.

We will advance the current USTRANSCOM collaborative capability through Agile Transportation for the 21st Century (AT21) initiatives designed to introduce collaborative analysis and decisionmaking capabilities in distributed, information-intensive environments. Those environments will enable interactive visualizations to exchange information; evaluate courses of action; and make more informed, effective, and timely modal decisions.

In addition to implementing major improvements to our transportation and command and control (C2) data systems, USTRANSCOM recognizes and maintains a significant reliance on global communications networks. Indeed, our success in developing world-class information technology systems creates a need for more robust bandwidth resources and end-to-end connectivity with transportation elements and supported forces deployed throughout the world. Accordingly, USTRANSCOM and its component commands continue to invest in major upgrades to servicing communications and network infrastructures. These modernization and transformation efforts address a range of fixed terrestrial and space-based networks to include the "last tactical mile." We continue to implement radio-frequency automatic identification technologies to support our goal of providing combatant commanders detailed tracking information on the movement of cargo throughout the transportation system. Further, we are making major strides in expanding the bandwidth capabilities of our terrestrial campus networks and achieving a level of redundancy to ensure full continuity of operations.

On the contingency operations side, the command is also making significant progress in addressing "last tactical mile" requirements using innovative deployable satellite communications techniques and systems. Our progress is clearly demonstrated as we enjoy unprecedented success rates in capturing and disseminating cargo and passenger movement information from our unimproved tactical air and seaports supporting OEF and OIF. However, these successes do not come without challenges and costs. Towards that end, USTRANSCOM fully supports ongoing DOD programmatic efforts to expand terrestrial Global Information Grid enterprise bandwidth and launch robust communications and blue-force asset tracking satellite constellations.

In accordance with current mandates, USTRANSCOM developed and implemented an enforceable enterprise-level architecture (EA) for the DTS. The DTS EA is the principal tool for managing the command's current operational processes, capabilities, and technology investments as well as the required operational and technological initiatives for the future. The latter is especially important as USTRANSCOM works hard to move the DTS forward as the premier global distribution organization in the world. We have had tremendous success, garnering several prestigious IT awards in 2003 to include the Computerworld Honors Program Laureates Medal for Outstanding Achievement in IT by a Government Organization, E-Gov Digest/Federal Computer Week magazine's Enterprise Architecture Excellence Award, and a nomination for the DOD Chief Information Officer (CIO) Award. It is no longer solely a matter of who has the best or most people and equipment, but rather who can best gather, understand, and manage information. Because National interests rely so heavily on force projection, timely and free-flowing

transportation information is vital. Thus, it is important that USTRANSCOM continuously evolve and manage an integrated, forward-looking, interoperable information systems capability for the entire DTS and those who depend upon or interact within it.

Distribution Process Owner (DPO)

On September 16, 2003, the Secretary of Defense designated Commander, USTRANSCOM, as DOD's Distribution Process Owner, charged with improving the overall efficiency and interoperability of distribution-related activities: deployment, sustainment, and redeployment support during peace and war. In addition, the DPO serves as the single entity to direct and supervise execution of the strategic distribution system.

Prior to this designation, end-to-end distribution support to the warfighter was marked by a multitude of process and information technology challenges. Essentially, DOD distribution was a series of stove-piped processes and information systems managed by many discrete owners. Such segmentation caused inefficiencies and drove DPO designation to promote enterprise solutions.

As a Department, we will bring our collective talents and ongoing initiatives together to forecast requirements, synchronize the movement of cargo and personnel from a source of supply to a designated customer, and expeditiously respond to warfighter requirements. The intention is to provide a "factory to foxhole" distribution system, linking the entire global DOD supply chain.

The DPO's focus area extends from a point of sale to the first retail activity in theater, as designated by the theater commander. In addition, we plan to designate one IT backbone, establishing business rules to link sustainment and distribution systems into a data warehouse, where supply requisitions and movement requirements are visible to distribution system customers.

In conjunction with our partners, we have already started the process of transforming the distribution system. We have solicited the ideas and active support of OSD, the Joint Staff, Combatant Commanders, Services, and DLA in determining the road ahead. With those partners, we have collaboratively determined the key issues, identified appropriate lead, and have begun work through a series of joint service teams to drive distribution process improvements.

For instance, we are effectively shattering the barrier between strategic and theater distribution as one of our first "quick wins." We deployed a first-ever CENTCOM Deployment and Distribution Operations Center (C-DDOC) to the CENTCOM AOR within 90 days of determining there was a need. We will use the lessons learned from this pilot to form the basis for an enterprise approach to manage strategic and theater distribution requirements and assets.

To drive consistent change, we have established a supporting organizational structure to transform DOD distribution. The Distribution Transformation Task Force, as the name implies, crosses Service, combatant command, and agency borders, and extends from flag officer to action officer level. Ultimately, this organization will develop process and technology solutions that will transform DOD's end-to-end distribution system.

We have a unique opportunity to use the capabilities and peer influence that a combatant commander brings to the table to transform our strategic distribution system into a single-faced, reliable, visible, and simplified strategic distribution system. The warfighters deserve no less.

Organizational Change

In 2003, USTRANSCOM optimized its headquarters organization to better serve its customers while conserving precious time and resources. Originally initiated as part of a DOD-mandated 15 percent headquarters reduction effort, the command made the most of the opportunity through prudent elimination of redundancy, divesting of functions better accomplished elsewhere, and realigning functionally within the headquarters along core business processes. USTRANSCOM created a light, lean, execution-focused Operations Directorate (J3) by redistributing non-execution related functions, processes, and personnel to other command directorates and centers of gravity. This reshaped organization allows us to better support the ongoing WOT while posturing ourselves to accept transformational responsibilities. The restructured J3 includes a Surface Cell leveraging subject matter experts from SDDC, MSC, and USTRANSCOM in order to improve the timeliness and effectiveness of surface modal decisions made by the command. Our exceptional responsiveness in the recent build-up to and prosecution of OIF is solid testimony to the success of our reorganization efforts.

Over the past several years, USTRANSCOM's components have actively transformed their own structures as well. SDDC's recent name change reflects its new

emphasis on joint distribution. The SDDC Operations Center, with its enhanced ability to focus on directing terminal operations at its 24 military ports around the globe, has made end-to-end distributions a priority, thus supporting USTRANSCOM's overarching task of improving the DOD distribution system.

Reorganization within AMC in 2003 returned the command to its historical roots of executing global mobility operations and eliminated functions redundant to the AMC staff. Highlighting the importance of forward operations, AMC's two numbered air forces were redesignated as Expeditionary Mobility Task Forces, providing direct, forward leadership of critical mobility assets. Simultaneously, AMC reactivated the 18th Air Force at Scott AFB to create a single commander charged with the tasking and execution of all air mobility missions. The 18th Air Force Commander maintains operational control of AMC's Tanker Airlift Control Center and all AMC airlift wings and groups within CONUS, Europe, and the Pacific, freeing the AMC Headquarters staff to focus on training, organizing, and equipping the air mobility force. Similar to the USTRANSCOM and SDDC changes, AMC's restructuring optimizes the organization to support worldwide deployment and distribution operations.

Financial Transformation

USTRANSCOM, in partnership with the Air Force and Defense Finance and Accounting Service, is committed to transforming its business and financial processes and systems enabling improved support to the warfighter. As a part of DOD's Business Management Modernization Program, USTRANSCOM submitted and the Under Secretary of Defense (Comptroller) approved an initiative to improve outdated and unreliable processes and systems for working capital and general fund financial transactions. The objective is to provide a single financial system for USTRANSCOM that is integrated, reliable, accurate, and timely. In addition, Air Force general funds processes will be reengineered allowing USTRANSCOM and AMC to effectively manage general and working capital funds within the same system, further reducing redundancy and promoting efficiency within the financial management system.

READINESS AND MODERNIZATION: BUILDING FOR THE PRESENT AND FUTURE

Readiness: One Team—One Fight

USTRANSCOM readiness relies heavily on our mobility team partners in the National Guard and Reserve. More than any other combatant command, USTRANSCOM relies on its Reserve components (RCs) for peacetime responsiveness and wartime capability. In every operational arena—air, land, and sea—USTRANSCOM RCs provide most of the Command's military wartime capability. Since USTRANSCOM cannot meet requirements without RC support, it is imperative that the Command and its components maintain RC mobilization ability and flexibility.

The Guard and Reserve provide approximately 56 percent of USTRANSCOM's personnel. They also comprise 61 percent of CONUS land and 57 percent of airlift transportation capacity. In fact, the Air Reserve Component (ARC) owns 53 percent of outsize/oversize airlift capability (C-5s, C-141s, and C-17s), more than 62 percent of the KC-135 force, and over 77 percent of the C-130 fleet.

RC support has been key to USTRANSCOM's peacetime responsiveness and the Command's ability to meet its mission in the WOT. The President's Executive Order authorizing partial mobilization (up to one million reservists for up to 2 years) has proven crucial during OEF, ONE, and OIF. Although thousands of our Guard and Reserve Forces volunteered to support these contingencies, USTRANSCOM and its components were required to mobilize thousands more, most of whom deployed in support of air refueling, airlift, and force protection missions.

To put this in perspective, in a typical year, AMC utilizes the services of approximately 1,400 ARC volunteers over the course of approximately 450,000 man-days to conduct normal operations. In fiscal year 2003, AMC mobilized 27,532 ARC personnel to support contingency operations, providing a total of 1,158,034 man-days over and above its contingency volunteers. The importance of RC personnel is just as pronounced in MSC and SDDC. MSC mobilized 111 RC personnel, a total of 16,498 man-days, in support of sealift operations in fiscal year 2003. SDDC relies on its Reserve Forces for approximately 26,500 man-days in a normal year, but used 326,310 man-days for 894 mobilized personnel throughout fiscal year 2003 in response to contingencies. Even USTRANSCOM Headquarters, in the midst of unprecedented OPTEMPO, benefited from expertise provided by 144 reservists and guardsmen, contributing 40,725 man-days of experience in the effort.

Antiterrorism and Force Protection (AT/FP) Readiness

USTRANSCOM aggressively advanced DOD's efforts in combating terrorism and supporting homeland security. The command and its components implemented key programs and collaborated on interagency initiatives contributing to success in the WOT.

USTRANSCOM led the first-ever development of embarked security teams on MSC common-user sealift vessels deploying in support of OIF titled Operation Guardian Mariner (OGM). Supported heavily by Army and Marine Corps forces and expertise, OGM ultimately mobilized 110 twelve-man teams plus a command and control element to secure vessels transiting chokepoints and ports within the CENTCOM AOR deemed at risk for terrorist activities. USTRANSCOM subsequently expanded the scope of OGM to provide security to common-user MSC ships globally. Recognizing the success of OGM, the Secretary of Defense acted to further institutionalize and perpetuate the program by designating the Navy as Executive Agent for military sealift force protection beginning in June 2004, and USTRANSCOM is currently coordinating program transition details with that service.

Man Portable Air Defense Systems (MANPADS), or shoulder-fired surface-to-air missiles, remain the most serious threat to our air mobility aircraft. In cooperation with the National Geospatial-Intelligence Agency, we have developed computer-generated MANPADS footprint graphics that display risks to airlift as they cycle through airfields in high-risk locations. USTRANSCOM and AMC also have partnered with outside agencies to mature and expand cargo-screening technologies and develop powerful new tools that will ultimately detect small amounts of explosives in packed cargo pallets without the use of labor-intensive individual inspections.

Homeland seaport security continues to be one of the Nation's most challenging force protection issues. In order to strengthen security within our seaports and ensure our ability to deploy and sustain forces, we have engaged on several fronts with MARAD and other National Port Readiness Network (NPRN) partners. The result is an NPRN Memorandum of Understanding which lays out specific procedures for USTRANSCOM, MSC, SDDC, and U.S. Coast Guard (USCG) in coordinating and executing port and waterside protection of strategic sealift out-load operations. The addition this past year of USNORTHCOM and the Transportation Security Agency to the NPRN lends significant expertise in this critical area. Additionally, our bilateral work with the USCG was, in part, the impetus for their creation of new and extremely valuable Mobile Safety and Security Teams (MSST) that provide increased capability to protect the Nation's strategic ports from seaward threats. Furthermore, these teams provide waterside security for MSC vessels.

USTRANSCOM has launched information and intelligence-sharing initiatives with all four commercial transportation sectors, air, road, rail, and sealift, as well as with the Transportation Security Administration, to leverage the unique capabilities within both the commercial and defense sectors of the DTS and to collectively close seams within the transportation system's security posture nationwide. Antiterrorism legislation is a step in the right direction, but coordination of the many users of our commercial ports is an enormous undertaking.

Concerning our military ports, USTRANSCOM and SDDC worked to secure emergency funding to further improve security at Military Ocean Terminal Sunny Point (MOTSU), North Carolina and Military Ocean Terminal Concord (MOTCO), California. These funds will build innovative waterside protective barriers to help prevent a seaborne terrorist attack against these valuable facilities. Contracts were awarded in August 2003, and construction began in November 2003 for these important security enhancements.

The Command's Critical Infrastructure Protection (CIP) program made excellent progress during the past year. USTRANSCOM conducted vulnerability assessments of 19 identified critical nodes in fiscal year 2003, partially paid for through WOT funding. With continued funding, now managed by the CIP Director in the Office of the Assistant Secretary of Defense for Homeland Security, we can continue this vital work throughout fiscal year 2004.

The potential threat of Chemical, Biological, Radiological, Nuclear, and High Yield Explosive (CBRNE) attack at home and abroad further exacerbates USTRANSCOM's mission planning and execution. USTRANSCOM is diligently working to enhance its capability to protect personnel and facilities from CBRNE attack and, should such an attack occur, to detect contamination and decontaminate facilities, equipment, and personnel in order to facilitate mission success. AMC recently participated in a Large Frame Aircraft Decontamination Demonstration at Eglin AFB, Florida, the results of which are due for release later this year. SDDC and MSC coordinated the procurement, distribution, and training of the necessary

CBRNE equipment to protect merchant mariners on both government-owned and commercial cargo vessels transiting ports within the CENTCOM AOR during OIF major combat operations. Both organizations continue to train and exercise CBRNE protection and response at port facilities via their units stationed worldwide. With the global proliferation of such weapons, CBRNE defense planning will continue to require our attention and requisite funding for the foreseeable future.

Mobility Capability Study (MCS)

Our current transportation force structure was programmed to meet the requirements established by the Mobility Requirements Study 2005 (MRS-05), based on the 1997 National Military Strategy (NMS). This study was completed in 2000. As a result of the events of September 11, the national military objectives have changed. Objectives delineated in the draft NMS increase our overall air refueling, airlift, and sealift requirements considerably. A proposed plan is for the MCS and OA-05 to begin in June 2004, after the completion of OA-04, and conclude not later than March 2005. The goal to complete this full end-to-end mobility analysis within 10 months presents an ambitious challenge. The scenarios proposed to support the MCS are centered in different regions of the world that will highlight our global mission. Both the “win decisively” and “swiftly defeat” scenarios will be developed in the multi-service force deployment process and vetted in the OA process.

Readiness and Modernization Air Mobility

USTRANSCOM's number one shortfall is its aging and numerically inadequate strategic airlift fleet. We have a significant gap in our ability to meet the needs of DOD agencies, specifically the needs of the regional combatant commanders. Our current strategic airlift shortfall of 9.8 million ton-miles per day (MTM/D) from the MRS-05 goal of 54.5 MTM/D is due to a shortage in the number of aircraft available and significant maintenance challenges specifically associated with our fleet of C-5 aircraft. Consequently, a key USTRANSCOM modernization goal is to retire the oldest and poorest performing C-5s, modernize the remainder, and evaluate the continued procurement of C-17s.

The C-5 continues to be a critical component of AMC's airlift fleet and is integral to meeting airlift mandates. However, the aircraft's enormous capacity is hampered by unacceptably low reliability and maintainability. Current Mission Capable (MC) rates for C-5A and C-5B aircraft are 63.5 percent and 73.8 percent, respectively. In fact, during the last 4 years, because of low C-5 MC rates, AMC has had to assign two C-5s against many higher-priority missions to better ensure reliability and/or on-time mission accomplishment. The net result is fewer aircraft available for tasking and less operational flexibility.

AMC is addressing this critical capability shortfall with two major C-5 modernization efforts: the Avionics Modernization Program (AMP), and the Reliability Enhancement and Re-engining Program (RERP). AMP replaces all high-failure and unsupportable avionics and flight instrument systems on the C-5 fleet. This replacement makes the C-5 compatible with international standards required for flight today, as well as in tomorrow's increasingly restrictive Global Air Traffic Management (GATM) airspace. AMP installs an all-weather flight control system and Secretary of Defense mandated navigational safety equipment, including a Terrain Avoidance Warning System (TAWS). RERP will replace engines and pylons and upgrade the aircraft's landing gear, environmental control system, and auxiliary power units—the C-5's most unreliable systems. A number of independent studies have projected that C-5 modernization efforts could increase the C-5 MC rate as much as 13.5 percent, while simultaneously reducing our cost of ownership.

Several studies have recommended an operationally effective mix of RERPed C-5s and purchase of additional C-17 aircraft. America cannot afford to lose the niche filled by the C-5 fleet's organic capability or allow it to continue to atrophy.

USTRANSCOM's documented inability to meet the warfighter's military-unique airlift cargo requirements led to the acquisition of C-17s. To date, the C-17 program has delivered 113 of 180 authorized aircraft. While the approved 180 C-17 multi-year procurement plan is a big step in the right direction toward achieving needed capability, a more capable, versatile, and reliable strategic airlift mix should include C-17s and a correct number of fully modernized C-5s. This combination of aircraft provides a much-reduced average fleet age at the earliest date, while affording the needed flexibility to move outsize and oversize cargo over long distances and into short, unimproved runways. The C-17 has already proven exceptionally capable and reliable in airlifting our forces to the fight, no matter where that fight may be. It is the only aircraft capable of performing all missions: strategic airlift, tactical airlift, airdrop (key to strategic brigade airdrop), aeromedical evacuation, austere airfield operations, denied access, and special operations. In a “come as you are”

world, we must continue C-17 investment. This versatile and reliable platform is the “sure bet” for our future force.

AMC’s venerable air refueling force is performing superbly in ONE, OEF, and OIF. Operations today are increasingly air-refueling dependent, and the force is delivering, but the strain is evident. Our concerns grow daily. The Tanker Requirements Study 2005 (TRS-05) supported our long-held position that AMC has a significant KC-135 crew-to-aircraft ratio shortfall. The current active duty and Reserve component crew ratios of 1.36:1 and 1.27:1, respectively—inherited from the KC-135’s Cold War days—are simply inadequate to meet our current contingency requirements. TRS-05 indicated a need for a 1.66:1 crew ratio averaged across all scenarios, with 1.92:1 needed to meet the most demanding scenario. USTRANSCOM and the Air Force are working in concert to resolve this issue through funding and force structure initiatives. One proposal is to retire 68 of the oldest and most unreliable KC-135E-model aircraft from the ARC and replace them with 48 of the more reliable KC-135R models from the active force, while retaining the current crews. The resulting offset would be reinvested in the remaining KC-135 fleet for improved crew ratios and maintenance.

A review of TRS-05, as well as the KC-135 Economic Service Life Study (ESLS), further quantifies the future requirements on our 44-year-old KC-135 force. TRS-05 reinforced the importance of our tanker fleet and the ESLS identified the steady (1 percent per year) cost growth and changing availability expected as we continue to operate our 1950s vintage KC-135s into the future.

To keep the KC-135 viable until a replacement tanker is brought into service, AMC is modernizing the aircraft with the GATM program. GATM, programmed for fielding between 2003 and 2016, adds increased communications, navigation, and surveillance capability, ensuring that our air refueling tanker aircraft have global access to ever-increasing restricted airspace. Without GATM, tanker aircraft may be faced with longer routes in non-optimum airspace resulting in longer flying times and less fuel available for offload.

Additionally, 40 KC-135 aircraft will be modified to carry the Roll-On Beyond-Line-of-Sight Enhancement (ROBE) package. This small, removable payload, when installed, enables the KC-135 aircraft to act as an airborne data link between battle directors and the warfighters in theater or en route. This link gives all participants the ability to deliver the required information to the right location, at the precise time, and in an actionable format. The KC-135 ROBE-equipped tanker is the first in a family of scalable, multifunction, automated relay terminals (SMART) aircraft, a capability to be further developed and integrated into the proposed KC-767 tanker.

There are several challenges facing the C-130 fleet. It consists of approximately 700 aircraft composed of 20 different models. USTRANSCOM operates 410 of 514 basic combat delivery C-130s through AMC. The average active duty aircraft is 28 years old, the number of C-130s is declining as individual aircraft reach the end of their service life, and older onboard equipment across the remainder of the fleet is rapidly becoming obsolete and cost prohibitive to maintain. To remedy these problems, AMC proposes acquiring 150 new combat delivery C-130Js, retiring an equivalent number of the least maintainable C-130s, and modifying those with the longest remaining service lives to a common C-130 AMP configuration. The core of the new common configuration is a total cockpit avionics modernization incorporating GATM-required upgrades to communications, navigation, and surveillance systems.

OEF originally highlighted the reengineered AE system, and lessons learned have driven further refinements and improvements that paid exceptional dividends during OIF’s significantly higher patient movement tempo. Small but highly capable AE teams deployed forward and provided rapid casualty evacuation shortly after initial treatment. More than 17,000 patients have been evacuated during OEF/OIF to date. Within the CENTCOM AOR, over 95 percent of AE missions were flown using C-130s and C-17s, while C-141s performed the majority of the inter-theater AE missions.

Ongoing AE initiatives are integrating AE into operations, including stage management, airlift control elements, Air Mobility Control Centers, and theater Air Mobility Operations Control Centers. AMC has initiated an AE concept of operations (CONOPs), fully incorporating the AE mission into the mobility system to meet peacetime and wartime AE mission requirements. This CONOPs creates efficiencies through the use of multimission mobility aircraft with interchangeable patient care modules, integral litters, and patient support pallets. Use of multimission aircraft for the AE mission eliminates the added time and expense of procuring, operating, and maintaining purpose-built AE aircraft, and are needed as the last C-9 Nightingale AE aircraft will retire from service in fiscal year 2005.

To help counter the worldwide proliferation of MANPADS, AMC has already begun fielding the large aircraft infrared countermeasures (LAIRCM) system on its C-17s and C-130s. The plan is to equip enough airlift and tanker aircraft with this laser-based system to support at least two small scale contingencies, while examining possibilities for protection of CRAF commercial aircraft. We also continue to partner with industry and other government agencies to develop systems that will enhance situational awareness for aircrews as well as provide improved protection from infrared and radar-guided threats in the future.

Sealift Readiness and Modernization

Thanks to \$6 billion in congressional funding for LMSRs, as well as increased funding for RRF readiness and significant enhancements to prepositioned ships during the past decade, our sealift force is vastly more capable than ever before. Strategic sealift is critical to our Nation's power projection strategy.

The 20th LMSR was delivered last year, completing one of the largest strategic sealift acquisition programs in history, a program clearly validated by superb LMSR performance in the OIF deployment/redeployment process. Additionally, the increased readiness standards and maintenance of our RRF have made it more efficient and better able to meet lift requirements than ever before. The RRF today is a well-maintained, ready force of 31 surge roll-on roll-off ships and 37 special-purpose sealift ships. MSC's surge sealift fleet, comprised of 8 FSS and 11 LMSRs, regularly supports joint exercises, while its prepositioning ships provide forward-deployed combat equipment and sustainment supplies to the regional combatant commanders. Although our sealift force is more capable and ready today, we must address the challenge of rapid force closure.

The latest assessment of mobility requirements as defined in MRS-05 indicates that the total sealift cargo requirement is 9.62 million square feet, which has been the target capability for our organic sealift program. Recent operations, however, have shown that our current surge capability is only 6.81 million square feet. Lessons learned from OIF have confirmed two major changes that contribute to this reduced capability: (1) the actual mean stow factor on surge ships is closer to 65 percent when deploying force packages rather than the standard planning factor of 75 percent (reducing the lift capacity by 1.31 million square feet), and (2) the entire lift capacity of the RRF was not used to transport surge unit equipment because of the cumbersome and lengthy loading/unloading process for some of the ships (further reducing capacity by 1.16 million square feet). Furthermore, OIF confirmed that the capability to load, sail, and unload our military's "surge" unit equipment in time for it to be effective for the combatant commander is critical. Fast roll-on roll-off ships (ROROs) are the most effective means of meeting this surge requirement.

The importance that the evolving NMS places on the requirement for rapid force closure presents a new challenge to strategic sealift mobility. With this in mind, the speed of half the fleet (by capacity) is not capable of providing the global response from CONUS in the timeframes that are being projected for 2010 requirements. To meet future obligations, we must fund the fleet at appropriate levels commensurate with the requirement, maintain program vigilance, and establish a futuristic vision to sustain and recapitalize the required levels of sealift readiness and capability for the long term. The capability of today's surge fleet is well understood, and we look to the MCS to establish the correct vision for required future sealift mobility capabilities. Additionally, fiscal commitments toward the research and development of high-speed strategic sealift are required to help meet future sealift needs.

Infrastructure Readiness and Modernization

Another vital component of USTRANSCOM readiness is the ability to project and sustain forward presence. Each transportation component command has forward-based units and deployed forces around the globe. SDDC operates at seaports worldwide, interacting with allied governments, militaries, and local authorities. These forward-based activities enable instant access to seaports, as well as to the lines of communication radiating from them. The MSC forward deployed staffs serve as focal points for MSC customers in their respective operating areas and provide direct links to MSC ships for maintenance, logistics, and other services. AMC maintains en route infrastructure worldwide to facilitate establishment of vital air bridges for the airlift of critical personnel and cargo in times of crisis. Modern infrastructure, in CONUS and overseas, is critical to effective and efficient strategic deployment.

As a predominantly CONUS-based force, infrastructure means more to us today than ever before. Yet, we have fewer overseas bases through which we can operate, and access to those bases is never guaranteed, as experienced in Turkey's refusal last year to permit U.S. use of bases to facilitate the OIF deployment. Similarly, the

increasing OPTEMPO is stressing this diminished base structure more than ever. Along with the Services and regional combatant commanders, USTRANSCOM must continue to monitor our global mobility infrastructure, keep up with needed repairs and improvements, and remain prepared to operate in new or bare base environments when required.

In CONUS, the Army has made substantial investments in its combat equipment loading facilities at power projection platforms and its containerization facilities at ammunition depots. These improvements have significantly streamlined the loading of 41,404 railcars and export of 7,447 ammunition containers throughout fiscal year 2003.

Overseas, the United States European Command (USEUCOM), CENTCOM, USTRANSCOM, and the Joint Staff, through the European En Route Infrastructure Steering Committee (EERISC), oversee infrastructure requirements for the primary en route air mobility bases in USEUCOM to support CENTCOM operations in Southwest Asia and staging operations for Africa. Partnering with the Defense Logistics Agency (DLA), the EERISC has developed a comprehensive plan to improve the infrastructure at those bases. The EERISC has identified, validated, and collaboratively championed the need for more than \$700 million in fuel hydrant, ramp, and runway projects throughout the European theater to support mobility requirements. Likewise, we are working with USPACOM and DLA to identify and fix en route base shortfalls in the Pacific region in support of Northeast Asia contingencies and staging for operations in Southeast Asia. The USPACOM En Route Infrastructure Steering Committee (PERISC) has identified and validated the need for over \$500 million in improvements throughout the region. DLA and Air Force budgets now support all identified en route fuels projects. Significant construction began several years ago and continues in fiscal year 2004, but the infrastructure will not get well (i.e., fully meet the requirements laid out in our war plans) until the end of fiscal year 2007, and then only if all funding and construction remains on track.

These European and Pacific en route projects are being implemented primarily to support the MRS-05 established passenger and cargo throughput requirements. However, additional infrastructure to support the WOT is required and being studied by both the EERISC and PERISC. Moreover, today's current operations, combined with existing studies, further demonstrate the need for expanded hazardous cargo capabilities at en route and theater airfields around the globe. To this end, USTRANSCOM is working with combatant commanders, Joint Staff, and DLA to implement a truly global en route infrastructure system.

Efficient cargo movement through aerial ports requires appropriate materiel handling equipment (MHE). The Air Force's current fleet of 40K loaders, wide body elevator loaders (WBELs), and 25K loaders is old, deteriorating, and suffering from poor reliability and maintainability. Fortunately, we are fielding 318 new Turner 60K loaders to replace all 376 40K loaders and 147 of the 206 WBELs. To date, AMC has fielded 264 of these capable new loaders. They have a much-improved mean time between maintenance, are compatible with all military and commercial cargo aircraft, and can load six standard Air Force 463L pallets at a time. The new Halvorsen (25K) loader is smaller in size and weight than the old 25K loader, is transportable on C-130s, C-17s, and C-5s, and is more reliable than its predecessor. USTRANSCOM has a requirement for 618 Halvorsen loaders, which supports unfilled authorizations, and replaces the 1960s vintage 25K loaders and remaining 59 WBELs. Currently 312 Halvorsen loaders are funded, leaving 306 unfunded for subsequent Program Objective Memorandum (POM) submission. Halverson deliveries began in fiscal year 2001 with 236 delivered to date.

Readiness: Commercial Industry and Labor Teammates

Our readiness also depends on timely access to militarily useful commercial transportation. USTRANSCOM's superb relationship with the U.S. commercial transportation industry and supporting labor organizations allows DOD to leverage significant capacity in wartime without the added peacetime cost of sustaining comparable levels of organic capability. For example, under full activation, CRAF provides 93 percent of our international passenger capacity, 98 percent of our AE capability to CONUS, and 41 percent of our international long-range air cargo capacity. The CRAF program affords peacetime business to participating airlines in exchange for their pledge to provide specified capacities in wartime. CRAF's ability to dramatically influence operations literally overnight was never more apparent than immediately following the terrorist attacks of September 11. On 10 September 2001, USTRANSCOM had 27 organic military aircraft in service on key express and channel movements. On 13 September 2001, after the historic shutdown of the airways, we again had 27 aircraft in service on those same routes. But this time, there were only 3 military aircraft augmented by 24 commercial aircraft. Having unencumbered

24 military aircraft via the voluntary commitment and patriotism of our CRAF partners, USTRANSCOM could immediately answer the call for ONE.

Our CRAF partners, both voluntarily and under activation, continue to support critical wartime requirements and, in exchange, deserve as predictable a safeguard of their capital investments as possible. In this respect, the Federal Aviation Administration's Aviation War Risk Insurance is vital to assure our CRAF carriers that they can recover from significant loss or damage incurred in support of DOD. The CRAF program demonstrates that all U.S. air carriers, large and small, are key to a robust civil air industry. Therefore, we support the Fly America statute (49 USC 40118) and what we refer to as the Fly CRAF statute (49 USC 41106) as they serve to support and sustain this critical national asset.

Because of the increasing requirements related to the deployment of forces in preparation for OIF, USTRANSCOM activated the CRAF Stage I passenger segment on 8 February 2003. Stage I remained activated through 18 June 2003, when major combat operations had ceased and initial force redeployments had occurred. Under CRAF activation, each aircraft comes with four crews comprised of (non-reservist) U.S. citizens, and the aircraft are dedicated to DOD. This combination allows for greater security, scheduling flexibility, and responsiveness to changing requirements. Additionally, activation removes all questions about war risk insurance coverage as the non-premium war risk insurance and DOD indemnification programs cover hulls, liability, and crew insurance coverage for all DOD missions. For this activation, a total of 51 aircraft and associated crews were activated. Their associated carriers made the aircraft and crews available for their first missions within 24 hours of the tasking, and these forces significantly contributed to USTRANSCOM's ability to rapidly flow manpower to the region.

The Voluntary Intermodal Sealift Agreement (VISA) is the maritime equivalent of the CRAF program. Under VISA, DOD has access to commercial U.S.-flagged sealift capacity and intermodal infrastructure in return for peacetime business preferences. Because pre-negotiated contracts with the carriers permit early access to additional lift capacity, the time required to close forces for the counterattack phase of war operations can be significantly shortened. VISA participants move over 80 percent of wartime sustainment cargo.

Force deployment requirements in support of OEF/OIF were met with organic shipping assets and commercial shipping acquired through MSC contracting initiatives. Therefore, activation of VISA was not required. However, VISA could conceivably be called upon to meet emerging sustainment requirements.

MSP, another critical element of our commercial sealift program, provides assured access to sealift/intermodal capacity and a readily available, highly trained and qualified work force of merchant mariners employed in U.S.-flagged shipping. The recent authorization of the Maritime Security Act of 2003 expands the current MSP fleet from 47 to 60 vessels. This increase allows the opportunity to better assure access to U.S.-flagged "low density-high demand" assets (e.g., RO/RO and heavy lift ships). MSP provides an underpinning for VISA by helping to guarantee the continued presence of a minimal U.S.-flagged commercial fleet operating in international commerce and that fleet's availability to provide sustainment sealift capability in time of war or national emergency. This guarantee is particularly critical should the U.S. find itself in a position where it must act alone. Additionally, this increase in fleet size should play a critical role in expanding the U.S. mariner base. Currently, the MSP fleet accounts for more than 900 crew billets that provide jobs to roughly 1,800 trained and qualified mariners. Finally, MSP provides financial assistance to offset the increased costs associated with operating a U.S.-flagged vessel. In return, participating carriers commit vessel capacity and their intermodal transportation resources for DOD use in the event of contingencies.

In concert with their commercial aviation and maritime counterparts, our Nation's commercial longshoremen continue to play an integral role in the DTS, facilitating SDDC marine terminal operations at strategic seaports both in CONUS and overseas. Throughout the massive deployment operations in preparation for OIF, between 400 and 500 longshoremen supported 24-hour operations at U.S. strategic ports alone. Their herculean efforts made a tremendous difference in our ability to load and deliver combat capability quickly and safely to Southwest Asia.

Along the lines of the CRAF and VISA programs, USTRANSCOM is currently investigating commercial assured access to surface transportation assets, specifically, commercial chain tie-down rail flatcars. Chain tie-down rail flatcars are the preferred and primary method used to support large movements of military vehicles and equipment from "fort to port" and vice versa within CONUS. Currently, there is a shortfall of approximately 2,000 rail flatcars (commercial and DOD-owned) to support MRS-05 surge requirements. The long-term issue is that, even with a recent 10-year life extension, we will see large-scale mandatory retirement of the

chain tie-down rail flatcars in the commercial fleet (slightly over 5,000 cars) beginning in 2014. There is no current industry plan to recapitalize, based on the fact that such flatcars are primarily used to move military equipment only. USTRANSCOM and SDDC are working with the railroad industry to ensure that sufficient rail transport capability exists, both now and in the future, to handle the CONUS movement of equipment, ammunition, and supplies as part of force deployment and redeployment operations.

TRANSPORTATION SYSTEMS OF TOMORROW

The need for more responsive and flexible lift, getting it where it needs to be, when it needs to be there, cannot be overemphasized. New mobility platforms as well as enhanced infrastructure technologies and process/organizational improvements are essential to meet the challenge.

In conjunction with the Joint Staff, Services, and other combatant commands, USTRANSCOM participated in a Defense Planning Guidance (DPG)-directed study of future (2020) mobility platforms known as the Advanced Mobility Concept Study. This study provided the initial identification and prioritization of the future mobility assets required to support DOD's transforming forces and operational concepts for 2015–2020. The study recommended:

- (1) OSD include appropriate direction in POM SPG–06 to initiate research, development, testing, and evaluation on a Shallow Draft High-Speed Vessel, Theater Support Vessel, Super Short Take-off and Landing Aircraft, Global Range Transport, and Joint Rapid Airfield Construction. OSD and the Services will continue to address technical readiness, cost, port analysis, and impacts on the current programming cycle.
- (2) Conduct an excursion to the next Mobility Capabilities Study that considers transformed forces and mixes of advanced and current lift in the 2020 timeframe.
- (3) Ultra-Large Airlifter (ULA) continue as a platform for further related studies involving advanced lift platforms since Defense Advanced Research Projects Agency (DARPA) is currently funding its research as a multi-mission platform.

USTRANSCOM, working with industry, is actively exploring a wide variety of future technologies and concepts for military and commercial use. In terms of sealift, we are studying militarily useful high-speed vessels (HSVs) that provide the potential to enhance intra-theater lift capability. These shallow draft high-speed platforms allow access to a greater variety of unimproved ports, providing enhanced anti-access mitigation. Currently, HSVs are capable of transporting over 1,000 passengers and more than 500 tons of cargo at speeds in excess of 40 knots.

From an air mobility perspective, our interest lies in high-speed, low-observable multimission strategic mobility aircraft with short take-off and landing as well as autonomous approach capabilities. In the future, it makes sense to look at a family of transport category aircraft that could satisfy multiple needs. Variants of a common airframe could be built to serve as a tanker, an airlifter, a penetrating aircraft for the Special Operations Forces infiltration mission, a gunship, or an intelligence, surveillance, and reconnaissance platform. This approach would have standardized cockpits, engines, and systems to minimize overall development expenses and reduce life-cycle costs.

We need a collaborative effort between the Joint Staff, Services, and other combatant commanders to shape our planning, policy, and procedures as technology moves from test and evaluation into acquisition. All of the types of systems that I just mentioned would be costly to develop, procure and operate. Much work remains to be done to determine how much they would add to our overall military capabilities, determine how costly it would be to pursue these individual systems, and decide on the right mix of systems and capabilities in which to invest. We must make decisions concerning future employment of this technology that are consistent with the best interests of our overall transportation system and our warfighters.

FINAL THOUGHTS FROM GENERAL HANDY

All that matters, and what each of us in USTRANSCOM is pledged to do, is to provide absolute, complete, and total support to the warfighter.

On any given day, the USTRANSCOM team of professionals provides critical strategic transportation to a host of U.S. and international agencies. Today, USTRANSCOM is simultaneously supporting every single combatant commander performing real-world operations. No matter what the mission assigned, the men and women who operate USTRANSCOM's air, land, and sea components are first out the door. There are not many headlines for what they do, but these dedicated

professionals execute their global military mission every day in defense of our country.

I am extremely proud of today's USTRANSCOM and honored to lead the superb men and women who comprise our national defense transportation team. USTRANSCOM will continue to provide the most effective and responsive mobility capability the world has ever seen and, in light of recent developments, will endeavor to create that same level of efficiency and interoperability through a transformed DOD distribution process.

You can rest assured that USTRANSCOM's crystal clear vision of the way ahead will provide constantly improving, seamless, and responsive support to the warfighters. America's military might moves with us, and we are stepping out smartly.

Senator TALENT. Well, I always appreciate brevity in statements by witnesses—[Laughter.]

But I am not so sure you are not going a little bit overboard. I am happy to do that, and your statement is available for the record.

Let us then get to the questions I have. Again, when Senator Kennedy comes, I can defer to him for his opening statement.

In the report on the relevancy of the MRS-05 to the current NMS that was just delivered to the committee, the report states that there is a requirement to continue the production of C-17 beyond the current multiyear procurement. That procurement, of course, will take us to 180 aircraft, and there is a minimum requirement for 222 C-17s.

The report also states that the moderate risk strategic airlift requirement of 54.5 MTM is understated and that the range will more than likely fall between 57.4 and 60 MTM.

First of all, my gut sense is that that revised requirement may itself be rather conservative. Do you want to give me a gut sense of how you feel about that?

General HANDY. Yes, sir. My view is until we can do a very thorough MCS which would look at air, land, and sea, we truly will not know the exact accuracy of any of those figures. I am on the record as saying that, even with regards to MRS-05, done in 2000, reported out in early 2001, it became immediately an historical document because it could not predict September 11, 2001, it could not predict the global war on terrorism, and it could not possibly predict the creation of U.S. Northern Command and a litany of other things that have happened since then.

All of those things have contributed to the challenge that we face as logisticians to move the Nation's military, supplies, and sustainment around the world. The thing that we are most concerned with is accuracy of that analysis. Directly to your question, I am very anxious to see what the analysts can come up with in the year that the Office of the Secretary of Defense for Program Analysis and Evaluation (OSD PA&E) and the Joint Staff J-4 (logistics), with our help, are able to look at air, land, and sea, to determine what is the requirement. I say that based upon our experiences for 2002 and 2003 in Afghanistan and Iraq specifically.

Senator TALENT. Given the changed assumptions, the new NMS, and what we have learned from Operation Iraqi Freedom (OIF), an increase of only three to six MTM in the estimated requirement just seems to me to be just extremely conservative, particularly if we are trying to err on the safe side, because one thing everybody

agrees is that this military strategy is not going to work without adequate lift.

General HANDY. Well, and it certainly is air, land, and sea, as all three of us and our staff know, and literally the 152,000 people that support USTRANSCOM in this business of ours. One of the things that pains us all is the fact that when it comes to our crunch, as we saw when General Tommy Franks was trying to come up with his plan for a what-if Iraq, invariably on our side of the table we were negotiating times, dates, and force flow because we do not have the assets to do them in a timely fashion.

When you look at the delta between this look at MRS-05 and our experiences in 2002 and 2003, it has to be more than two to three MTM/D. So from the combatant commander's perspective, I remain very concerned about what is the real requirement and the fact that we are in a Nation that cannot wait for things to get delivered; we have to do it very quickly, very surgically and safely.

Right now we are operating with a fleet that is incredibly safe, but inadequate for the challenges that the Nation faces.

Senator TALENT. Yes, I would have thought that the requirement of 3 to 6 MTM/D additional would be justified just by what we have learned from OIF, not even counting the change in the NMS, which clearly puts a greater emphasis on lift than the two theater war strategy did.

General HANDY. The 1-4-2-1 strategy that we have right now is more challenging for the transportation side of the house—in fact, truthfully, the whole logistics side of the house—than the two MTWs that we used to look at and upon which the 54.5 MTM/D is based.

Senator TALENT. Is a new study under way, by the way, addressing that, too?

General HANDY. I am sorry, sir?

Senator TALENT. Has the Department ordered the new study? Is that under way?

General HANDY. It is due to start this spring and will take approximately a year. Our hope is that it can be done in that amount of time. If we look at how long it took MRS-05, I fear that it may take even longer than that. But our hope is a year.

Senator TALENT. If indeed we are going, as I hope we do, to implement, for example, another multiyear for C-17, we really need to get going on planning for that before a year and a half from now. Because, given the base issues and the production line issues and the rest of it, we need to start sending that signal sooner than that. Would you not agree?

General HANDY. Senator, absolutely. The long lead moneys for a second multiyear, if we can get that approval, they need to be inserted in the fiscal year 2006 budget. So it is clear that we will have the debates of the fiscal year 2006 budget before we are able to look at the data from a completed MCS.

Our plea from a USTRANSCOM perspective throughout the Department is to urge the MCS take place, that we also proceed parallel with an endeavor to get the multiyear procurement for the next block, which would at least get us to the MRS-05 number of 222 plus. That time allows us to keep the line open, keep C-17s that we know we need headed our way. By the way, they are com-

ing at 15 a year, so this is not happening fast. Getting up to 222 will take some time.

In the mean time, then we will know what the study says and we can determine what the final number of C-17s is likely to be.

Senator TALENT. Because even under the current revised study, they state a minimum requirement of 222.

General HANDY. Yes, sir.

Senator TALENT. Even though it is minimum. Clearly we need to get going. I am glad you agree with that.

Do you think there is an increasing need for C-17 intra-theater airlift as well as inter-theater airlift?

General HANDY. Yes, I do. In fact, we have used them successfully in both Afghanistan and Iraq. At any time we have felt that we had the need to insert them in the theater in their intra-theater role or the Combined Force Air Component (CFAC) commander had that same requirement, we would dedicate them to the theater and they would exercise that intra-theater capability quite successfully, or direct delivery from the strategic lift directly into a place in either Afghanistan or Iraq, so that it constitutes a combination of inter-theater and intra-theater capability.

Senator TALENT. I doubt that the intra-theater use was—I should check on this—figured in the original air mobility study. There is another use on top of what was originally figured, which suggests that we need more.

By the way—and this is a cheap applause line for me because I know what the answer is going to be—how well is the C-17 performing? If you do not say it is performing excellently, I am going to be the most shocked and dismayed person in the Capitol.

General HANDY. Certainly, as the combatant commander, in all sincerity, we have some tremendous capabilities in this command, there is no question about that. All the weapons systems have performed magnificently for air refueling and airlift, and I cannot forget my two partners on either side—the whole team.

But on the air side, the C-17 has been the absolute diamond. There is no question about it that this aircraft has done the things that many people in my career said, “You know, General, you will never do this with the C-17, you will never put it in the fight, you will never subject it to threats, and you will never put it in a dirt runway in a combat zone in a high-threat area.” All those naysayers have disappeared.

I do not have those kinds of phone calls any more, because this is an aircraft that we have done that with. We have put it in the dirt at Rhino LZ in support of the Marines, in the dark of the night in a combat zone, with a high threat environment. We have continued to do things with this aircraft. The 173rd Airborne Division drop into Bashur was a clear example of its capabilities.

We continue to be very proud of what it does for the warfighter in that theater of operations, and we will continue to run it up front because it has those capabilities.

Senator TALENT. Yes, it is a great aircraft.

I will pursue one other line of questioning, then recognize Senator Kennedy. I will let him get settled. I may come back to this, but let me just open this. I am very interested in the new role as distribution process owner (DPO) that has been given to

USTRANSCOM. It puts you in charge of a process that crosses other agencies and commanders' areas of responsibility, including the Defense Logistics Agency and the combatant commander.

Expound a little bit on the command relationships that you think are necessary for you to be responsible for that process? What are you doing to develop and enhance those relationships in the course of the transition? What kind of time line are you anticipating? Discuss for me, if you would, how the whole process is going and how the relationships are being built?

I think it is a great idea if it is done smoothly and if everybody is committed to it. Discuss that, if you would.

General HANDY. Yes, sir. As you well know, September 16 of last year the Secretary of Defense made that declaration in a memo to the staff and to me personally out at USTRANSCOM, giving us those distribution authorities. Obviously we did not just wake up on the morning of the 16th of September and realize those authorities. We had worked that with the Secretary for almost 24 months prior, suggesting that the traditional role of USTRANSCOM from port to port needed to be improved because the management of the defense supply chain was much more a challenging problem than anybody ever recognized.

Senator TALENT. I am going to put in the record, I guess, the graph from the briefing on this. You cannot see it, of course, but you have seen it.

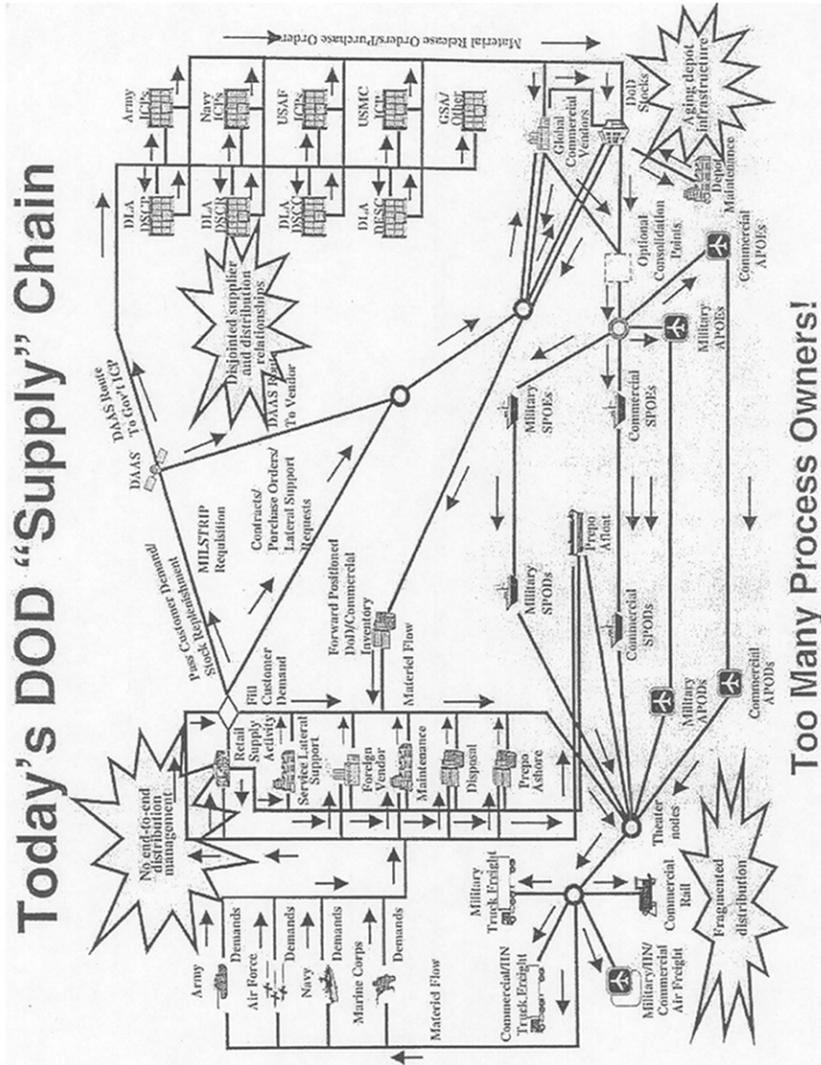
General HANDY. Yes, sir.

Senator TALENT. The Department of Defense supply chain as it existed before you began implementing this.

General HANDY. Yes, sir.

Senator TALENT. Which you only have to take one look at to realize that something needed to be done. It looks roughly like the organization of the committees of the Senate, except that somehow we make it work. Right, Senator? So I am going to put this in the record, but please go ahead.

[The information referred to follows:]



Too Many Process Owners!

General HANDY. So with those authorities, which gave us the process ownership—and that is a key part of that memo, we are responsible for the distribution process, and that gets at the heart of your question. Immediately if in this endeavor we did not assume that logistics is a team sport, and in order to fulfill that role as the process owner, we needed to rally the entire team of logisticians.

In the buildup to that declaration, we have worked very hard to get all of the partners—the Defense Logistics Agency, the Service logisticians, and each of the major commands of the Services—well informed about what we together believed we could do, with the leadership of a combatant commander, which, as that chart points out, no one is really in charge. So now someone has been given that authority. When it comes to command relationships, logistics flows horizontally and vertically throughout all command relationships, and it is one thing that all logisticians realized.

As we have pulled together and as we have teamed, we have realized that by having a single point of authority we could knock down a lot of the challenges, brick walls, and roadblocks that traditionally had stymied each one of us individually. Now there was a team captain to rally around, and that is essentially the role we have played.

Then if you look at the theater, one of the first things we suggested to General John Abizaid, I sent him a letter early in December saying I would like to put a USTRANSCOM-like team in U.S. Central Command (CENTCOM) with logisticians who had, in my terms, a Ph.D. in logistics, and I support them with all of the information technology (IT) they could possibly need, everything that exists at USTRANSCOM we want to put down in your theater. You decide where, and, in fact, your J-4, your logistician, can command and control it.

Senator TALENT. That is what I was going to ask. They are under the authority of the combatant commander, is that correct?

General HANDY. Yes, sir.

Senator TALENT. Okay.

General HANDY. What we are able to do is connect both ends of that supply chain. It represents that umbilical from USTRANSCOM right out to our customer, CENTCOM—not just the combatant commander, but his staff and his subordinate commanders.

The clarity with which they see the logistics challenge within the theater gave us better than 20–20 visibility and it highlighted for the theater commander the incredible visibility that he had lacked up until that point. I tell folks that it would, frankly, take us quite a bit of the day to talk about them all, but it was not just low-hanging fruit, in the military term. This was fruit that was laying on the ground almost going rotten; it was just easy to pick up.

We saw within 24 hours of this team arriving in Central Command's area of responsibility that they were already reporting back successes, and it continued on a day-to-day basis as we constantly talked with them, worked with them, to create successes for the warfighter through the better management of not only the distribution, but of the deployment and redeployment management processes.

So I do not want to overstate it. Obviously I am passionate about it. We and the team that we support and that support us are absolutely dedicated to this endeavor, and it is so full of goodness that you cannot help but get wrapped up in the success. So we are very pleased, and we have not become afoul of command relationships, which is the heart of your question. It has bonded us dramatically. The other combatant commanders have all voiced the opinion: "You know, John, I do not know what it is, this Deployment Distribution Operations Center (DDOC) that you have, but I want one."

I just came back from Korea and General Leon LaPorte begged me to, as soon as we can turn our heads from CENTCOM, could we please come to Korea and give them the same kind of capability, and we intend to do that.

Senator TALENT. We ought to ask the combatant commanders (CINCs) just for the record just to put in their view of it to this point. Maybe we will go ahead and submit that so we can get it in the record and make it complete.

[The information referred to follows:]

USTRANSCOM conducted a quick survey of CENTCOM and United States Forces Korea (USFK). The responses from both CENTCOM and USFK provide overwhelming support for the regional DDOC. Feedback indicated that the DDOC, which has been tested in both CENTCOM and USFK, is absolutely the way we need to do business. The DDOC will make the combatant commander even more effective and efficient in the functional areas of deployment/redeployment, intra-theater distribution, and sustainment.

Senator TALENT. Well, we may go a little bit more into that in a little while.

General HANDY. Okay.

Senator TALENT. Senator Kennedy is here and I want to recognize him. Why do you not do an opening statement and then go into your questions?

STATEMENT OF SENATOR EDWARD M. KENNEDY

Senator KENNEDY. Thank you, Mr. Chairman. I want to welcome all of our witnesses and thank you for calling the hearing.

The subject of the strategic lift is not a new one for our subcommittee. We have taken significant actions over the years in dealing with the strategic lift issues on a bipartisan basis. The subcommittee played a significant role in establishing the USTRANSCOM. We encouraged the DOD to focus on strategic sea-lift issues and urged the Department to conduct the MCS.

It seems unlikely, however, to undertake the original MRS. We authorized the needed resources for strategic sealift shipping. We not only helped restructure the C-17 at the point when many were ready to cancel the program, but we helped resolve the controversy surrounding it. We supported the maritime prepositioning force enhancement (MPF(E)) program to provide an additional ship for each MPF squadron.

Today's hearing continues the subcommittee's strong bipartisan interest in the broader strategic lift policy issues facing the Nation today. We understand the Department has launched a new review of strategic lift needs, a study called the MCS. It seems unlikely, however, that this review will lead to major reductions in strategic lift requirements since our recent experience would indicate the current strategic lift capability needs to be enhanced. In fact, in re-

sponse to our committee's report on the National Defense Authorization Act of Fiscal Year 2004, General Handy had submitted a report indicating the conclusions of the MRS-05, regarding strategic airlift needs understate the real requirements.

We look forward to hearing from General Handy about the quick-look report. I also look forward to hearing from our witnesses about how our strategic mobility force performed in Operations Enduring and Iraqi Freedom.

Now, General Handy, the committee report last year required you to submit a report, your assessment of whether the requirements—and I know our chairman got into some of this, but we might go over some of the ground, but I have some particular areas that I am interested in and want elaborated—for strategic lift included in the MRS-05 remain valid or whether they were too low or too high.

You submitted the requested report. If I may paraphrase, that report concludes that MRS-05 requirements for airlift understate the real need, C-17 production needs to continue beyond the plan of 180 aircraft, and we need to upgrade an appropriate number of C-5s. While the MRS-05 analysis indicated a requirement of having 54.5 MTM/D in airlift, your report indicates that the new requirements are likely to be 57.4 to 60 MTM/D.

Now, we have increased the planned buy of C-17 aircraft from 120 to 180 aircraft, and your report indicates that we need to buy at least 42 C-17s beyond that. If we kept all our current C-5 fleet and buy the full 222 C-17s your report cites, what would be our capability in terms of ton-miles per day?

General HANDY. Senator, I would respond by saying that is a number I believe is greater than the 60 MTM/D, if you add all that up. But I am still more concerned about the requirement that we have to move. What is the real requirement? What would the MCS that the Department is about to launch, what is that real number?

So our position until that number is determined is to ramp up as many C-17s as we can and begin the Avionics Modernization Program (AMP) and Reliability Enhancement and Reengineering Program (RERP) on as many C-5s as we possibly can, not knowing what the target is.

Senator KENNEDY. Let me come back to that because you are going to have to have advance lead funds for the C-17, I would imagine, before that report is completed. Your report talks about "an appropriate number of C-5s." Why do you use—I know it is in part classified, but the declassified, to meet the current, C-17 production rates must continue uninterrupted and an appropriate number—what are we talking—should be modernized, that will meet the merge.

What are you hedging on in that?

General HANDY. From my perspective, it is how many can we get modified, how many C-5s can we ultimately run through? We have currently funded all of the AMP and we are putting as many dollars as we can against the RERP program. If you look at the time it takes to run both those programs, the C-5A model portion of the fleet may, in fact, age out from under me. I remain concerned about how many can we ultimately get modified, and that is the basis for that some "appropriate number."

We have to certainly take into account the time it is taking to get to that endgame.

Senator KENNEDY. Well, in the previous years the Air Force had intended to modernize the avionics in all C-5s, C-5As, and C-5Bs. This year the budget documentation indicates the Air Force is going to stop the avionics after modernizing 55, and the picture is even less clear with the RERP program.

General HANDY. From a USTRANSCOM perspective, I have to get all 112 remaining C-5s AMP'ed. So our pressure—and I appreciate what the Air Force is doing, but it will always be to get the AMP on every single existing C-5.

Senator KENNEDY. What about the re-engining program?

General HANDY. As many re-engined as we possibly can, depending upon when the engineers come back with the test of the tear-down bird at Robins right now, how well the test goes on the two Bs and the A in the RERP, and whether or not that modification is really going to do the things that the operational requirements document says it must do. That will determine how quickly we can get and how many we can get of the C-5 fleet under the RERP.

Senator KENNEDY. Okay. Where are we on that timeframe? We gave you dates and times, but I cannot recall. Give us a sort of a progress line on that, can you?

General HANDY. It looks right now by engineering data the tear-down at Warner Robins is going to take about 24 months. Now, we have some preliminary data already, but it is way too early to draw a conclusion. We continue to press the Air Force as best we can for that analysis.

Senator KENNEDY. Twenty-four months?

General HANDY. Yes, sir.

Senator KENNEDY. It takes 24 months?

General HANDY. It is a very detailed analysis of the tear-down of the aircraft. They literally are taking it apart and examining features of the aircraft that will give us that insight into how well that will last into the future. I am very hopeful that it will be positive. That is one challenge to us.

Then the RERP modification starts at the end of the AMP modification. There is some overlap, but as soon as the AMP is complete then we will start that test of the two Bs and the A to determine if they are capable of being modified. The contractor is convinced that they are. I am certainly hopeful. We need them to be. But to get the mission capable (MC) rate up to 75 percent across the fleet will be a significant challenge. That endeavor will be somewhere in the 2010–2012 timeframe.

There is a lot of time that is going on between now and then.

Senator KENNEDY. Well, it is a lot of time, that is true, because it is going to take a lot of time to get to the delivery of these additional C-17s as well.

General HANDY. Yes, sir.

Senator KENNEDY. I raise this because at the hearing in 2001, before the Department released the MRS-05, General Robertson was asked about buying more C-17s and re-engining the C-5 aircraft as a way of meeting the lift. He said: “The re-engining of the C-5 is the most cost-effective solution to closing the gap on a MTM per daily basis. Basically, we project it will cost about \$48 million

a copy to re-engine the C-5. A new C-17 costs you somewhere in the vicinity of \$150 to \$175 million, depending on the terms of the new multiyear contract, which is why we recommend both solutions. We have to re-engine the C-5 and we have to continue to buy C-17s.”

That was pretty specific, pretty definite, and it also demonstrated a hard view in terms of the economics. We are looking at scarce resources. We want to do what needs to be done, but we are also looking at the scarce resources. We are looking at a budget that is hurting and we have some time lapse here before we are going to get the delivery of these additional kinds of planes. We have a very important need.

I am mindful of what you said about the new mobility study. We discussed the quick-look report regarding likely changes in the airlift needs based on later information than was available to the Department in developing the MRS. I understand the Joint Chief's plan to conduct, as you mentioned, a comprehensive review of lift requirements, which is being called, as you mentioned, the MCS.

This review will be the basis of assessing future strategic lift modernizations, including how many C-17s. The Department will need to make a decision whether to buy more than the current planned 180 in the fiscal year 2006 budget. The Department intends to begin the study this summer and complete the work some time next spring. That is March 2005.

First of all, should we believe that the Department will be able to complete the comprehensive mobility study within 8 to 10 months when the original MRS, the bottom-up review, and MRS-05 all took substantially longer?

General HANDY. Senator, I would say I share the concerns and tone of that question. I have said for sometime now as the combatant commander that we really and truly need to nail down the real mobility capabilities requirement as soon as possible. I would love to have had it before the fiscal year 2006 budget discussions because I have to have long lead time in there. I am concerned—I do not want to rush a study, but we absolutely need to have it done, and I am hopeful that they can, with our help, get the study done in that year that they have allocated. But that, I have to confess to you, is a concern I have.

Senator KENNEDY. Well, to the extent the MCS supports the quick-look report and confirms we need more airlift, will the study identify the best way to achieve the added capability?

General HANDY. I do not know what the exact target of the study will be in terms of the questions and answers they give. What we have asked for is that the study not just look at air, but air, land, and sea, because in our view it is quite possible that sealift in some cases might be able to offset some of the airlift requirements of the future. So it is how many ships do we need, what is that capability; and then, of course, within the air side, how many of the types of aircraft do you need, C-17s, C-5s, or even improved C-130s.

All of those questions are ones that we hope to drive into that study so that we have some good analysis to go forward on.

Senator KENNEDY. Well, I think your answer is very responsive. I did not know whether that was actually intended to be included in that study or not. I see heads nodding behind you, so I gather

that is the case—that you will get the balance in terms of air and sea in the study, but also you are going to identify the best way to achieve it even within the airlift capability?

General HANDY. Yes, sir.

Senator KENNEDY. What is going to be the basis on which the Air Force decides on whether to include the advance procurement funds in fiscal year 2006 if you are not going to have the benefit of the study?

General HANDY. From the combatant commander's perspective, the line closes in fiscal year 2008. If there is no long lead, then we run the potential of incredibly increased costs. If the study comes out, you find you need more than 180, if you did not have the long lead in the fiscal year 2006 budget, now the line is closed or closing and you have to infuse that many more dollars to open it up or try to put it on life support. I think that will be the key linchpin for the Air Force in the decision of the C-17, at least to put the long lead in.

From USTRANSCOM's perspective, we are urging them to press with long lead and at least have those dollars in the budget.

Senator KENNEDY. General Dunwoody, the Army has been planning to buy a Theater Support Vessel (TSV) to fill a mission of providing intra-theater logistics. I understand the Army has been participating in leasing a catamaran vessel that the Army has been using to test operational concepts, including using the leased vessel in the Persian Gulf.

Can you give us an update? Do you have any pictures on that, or can you describe it perhaps? Oh, I have one right here.

General Dunwoody: Senator, that has primarily been an intra sealift asset, moving stuff around inside the theater. The Army currently does have two leased. They plan and are committed to funding the start of a new one, a research, development, test, and evaluation (RDT&E) vessel, in fiscal year 2005, and they are planning to develop a program objective memorandum (POM) for five of them in fiscal year 2006 to 2009.

Their objective is to get 12 of these vessels on hand through fiscal year 2011.

Senator KENNEDY. I guess it says it is currently on a scheduled 6- to 12-month deployment in support of operations. You have been testing these different types of hulls, have you?

General DUNWOODY. This is not a USTRANSCOM asset, Senator. This is an Army asset.

Senator KENNEDY. What is their range?

General DUNWOODY. I would have to take that question for the record, sir. That is not one of ours.

[The information referred to follows:]

TSV block I traveling at 36 knots will have a range of 1,250 nautical miles with a payload of 754 short tons (ST) and 354 passengers.

TSV block II traveling at 40 knots will have a range of 2,500 nautical miles with a payload of 1,050 ST and 354 passengers.

TSV block III traveling at 45 knots will have a range of 2,500 nautical miles with a payload of 1,250 ST and 354 passengers.

Blocks I, II, and III vessels traveling at 40 knots have an unrefueled range requirement of 4,700 nautical miles unloaded with no passengers.

General HANDY. Senator, it might be helpful to know one of the main ships they have leased is the *Westpac Express*. It is a ferry,

typically used in the Australian trade. They are aluminum-hulled. They can hold about a battalion's worth of equipment. They are intra-theater, as Ann said, generally small sea states. They are aluminum-hulled; so their defensive capabilities are somewhat limited. They are an idea that the Army has to move intra-coastal and small size movements of equipment and perhaps people.

Admiral BREWER. Let me jump in there, Senator.

General HANDY. Our sealift side of it can tell you some of the other graceful things about it.

Senator KENNEDY. Yes, I was wondering why, when I was preparing for this, it was the Army that was in charge of this.

Senator TALENT. It is taking jointness maybe a little bit too far.

Senator KENNEDY. Then it was all explained to me and it sounded very good.

Admiral BREWER. That has engendered a lot of conversation, needless to say, between the Army and the Navy. Senator, the high-speed vessel is new technology, runs at about 35 to 40 knots, carries—the *Westpac Express*, by the way, is leased by the Marine Corps for the western Pacific—900 marines and 350 short tons, and routinely makes voyages of 1,000 miles or more. In fact, they just went from Okinawa down to the Philippines.

Very good up to a certain point. They can be somewhat economical as compared to airlift up to a certain point. I think from the standpoint of experimentation, the Army is looking at it from the standpoint of intra-theater. The Navy has looked at it from the standpoint of certain warfighting capabilities as well, maybe as a bridge towards the Littoral Combat Ship (LCS), in terms of experimenting with that type of hull form.

We just leased the *Swift*, which is a mine warfare countermeasures ship, after the *Inchon* had her fire, and that particular vessel right now is doing mine warfare things as well as experiments for the Marine Corps.

It is really kind of leading-edge prototype technology.

Senator KENNEDY. As I see, it has been leasing an Australian hull, too?

Admiral BREWER. There are some ship builders in the United States that are basically partnering with the ship builders in Australia, so that perhaps in the future they will be U.S.-built.

Senator KENNEDY. Can you use it in the Atlantic as well?

Admiral BREWER. Yes, sir. The *Swift* went from Australia to the Indian Ocean in record time. She has to carry a lot of gas. She went all the way from the Indian Ocean, around the Horn of Africa, around the Cape, into the Mediterranean Sea, and then from the Mediterranean over to the Atlantic. She stopped a lot for gas. I keep emphasizing that.

Senator KENNEDY. Okay. Just a couple more, Mr. Chairman.

Senator TALENT. Take your time.

Senator KENNEDY. Admiral Brewer, what are your current plans for recapitalizing on the Ready Reserve Force (RRF)? That has been one of the great successes—the Ready Reserve. We followed that very closely in this subcommittee. Those ships have done an extraordinary job. At some time in the somewhat near future we have to be thinking about those again. I would be interested in what you might be able to tell us about it.

Admiral BREWER. Right now the RRF, of course, is managed by the Maritime Administration (MARAD). What we are looking at is capabilities within it. Clearly, we do not want any more break-bulk ships because it takes so long to load those. We have some ships that are getting up into age 50 years, and clearly we will retire them.

But as General Handy said, the shape of the RRF will be determined mainly by the MCS. MARAD clearly has some plans on the table, but clearly we need to know what the new requirements will be for the WD versus to swiftly defeat the effort. We need to know what the war plans will require.

But we clearly know what we do not need. We do not need any more break-bulk ships. During the war it would take up to 2 weeks to upload a break-bulk ship and another 2 weeks in theater, as compared to a large, medium speed roll-on/roll-off (LMSR), which is almost three times the size of a lot of these ships, where we could actually upload a LMSR in 3 to 4 days and download a LMSR in 2 or fewer days.

So therein from a requirements perspective shows you what we do not need. We know those things we do not need. Now, what we will need in the future we are going to have to determine.

Senator KENNEDY. Anything that you want to say with regards to the Gulf War that helped you figure that out, or any conclusions you have reached?

General DUNWOODY. Well, first of all, we literally moved an Operation Desert Storm-sized force in almost half the time. That is the first thing. Speed is clearly going to be something that we will be looking at in terms of future capability. For example, during the Gulf War the average speed of our vessels—because we had to charter so many off the market—was 13 knots, versus 17 knots during this particular war. That means we closed in 5 days less, with a heck of a lot more capacity.

The RRF ships were in much better condition because Congress gave us the money to help basically maintain them better. We had a 98 percent availability rate within the RRF, and of course the RRF was that big force that sat off the coast of Turkey and delivered the 4th Infantry Division in such an expeditious manner.

From that perspective, the LMSR was the Cadillac, if you will, of this particular war. From that perspective, we are very happy with what we had. But clearly, we do not know what the future will hold. As warfighters, we already know you do not fight the last war. So the MCS is going to be critical.

Senator KENNEDY. It is enormously important for many reasons, the last of which you certainly emphasized. We are going to be looking at the base realignment and closure (BRAC), too. They are going to have criteria, and they are going to look at what they need and looking about in terms of making judgments about many of these items, too. This is going to be an important time in the next couple of years, making decisions on these items.

Thank you, Mr. Chairman.

Senator TALENT. I thank Senator Kennedy for his questions and just encourage him, if he has any more, to feel free to ask. This is our foray into reviewing lift, and it is one of the important responsibilities of this subcommittee.

I really should have begun, not just by welcoming you all, but by congratulating your command on the tremendous achievements in OIF. Anybody who looked at what happened in Operation Desert Storm and assumed that the United States would not learn from that lesson and be able to deliver more and faster in the next engagement made a big mistake. I am grateful to you, and also for the jointness that you do represent.

I was going to ask Admiral Brewer about the Maritime Prepositioning Force—Future (MPF(F)) and the MPF—Aviation (MPF(A)). According to the shipbuilding plan submitted with the budget request, the first MPF(F) ship is to be started with research and development funds in fiscal year 2006, with two follow-on ships funded in the National Defense Sealift Fund in fiscal year 2009. Fiscal year 2009 also includes funding for the first MPF(A) ship.

There has been a lot of discussion that these ships will contribute greatly to the sea basing concept that is part of the Sea Power 21 vision. Indeed, I do not know how we can do the seabasing concept without these vessels. Is your command as the end item user participating in the requirements process for these ships?

Admiral BREWER. Yes, sir. We have been intimately involved from the Center of Naval Analysis, the initial studies, to the analysis of alternatives. We have been intimately involved in it. We already operate the Maritime Prepositioning Ships (MPS), which basically once they offload the marines, 11 of which during OIF went over to common user, to General Handy, we could use those ships as well.

MPF(F) is clearly still in the developmental stage. But what we have done is we have introduced through prototyping technology we feel would be beneficial to that particular ship, such as selective discharge systems. If you go to Wal-Mart, you see stuff scanned as it goes through the register. Why not have that same kind of technology when you are moving containers on a ship?

In other words, a battalion commander can send a digital signal from the beach saying: "I want X container delivered to me yesterday." Well, if he says that then this automatic system goes down, scans, finds that container, pulls it out, and puts it up on deck, and an aircraft picks it off of an MPF(F)-type ship and moves it to the objective.

If he says, "I want it maybe in a day or so," then it goes over the side into a high-speed connector or some kind of vessel and then goes into some port area. That is the kind of technology that we are encouraging be inserted into MPF(F) from our perspective.

Of course, more importantly, the Chief of Naval Operations (CNO) will have to depend on civilian mariners to man these ships. We are the force, the Military Sealift Command, that will hire the mariners to man this particular ship, because we really need sailors and marines shooting in the combat role, wherein the mariners can fulfil the support role on these vessels.

Senator TALENT. With this new technology, the benefit sounds like you will be able to keep track of your inventory just like Wal-Mart does as well?

Admiral BREWER. Yes, sir, and that feeds into what General Handy needs to have in terms of in-transit visibility (ITV), as well as watching the consumption of this. Now, I do not want to get too

far into Ann Dunwoody's business, but when that container hits the beach and the foxhole consumes it, that order automatically comes back through the DPO process and gets ordered either from the continental United States (CONUS) or from some theater asset that can deliver the goods to that particular warfighter.

Senator TALENT. Do we have a network architecture adequate to support that kind of keeping track of inventory real-time?

General HANDY. We are far closer to that vision today than we have ever been. Just to give you an example, on the air side we have been running in Afghanistan and Iraq at the 95 to 98 percent visibility of things moving by air, and that is not just knowing that a pallet is moving; it is everything on the pallet right down to what is in the pallet.

We also have the same percent of visibility when we move things by air intra-theater. When General Dunwoody moves them, with Admiral Brewer's help, by sealift, our IT systems give us that kind of clarity of containers and items in the container all the way from the time we stow a ship until we unload a ship.

The challenge for us as the DPO becomes from the airport into the ground system and from the seaport into the ground system to that forward point of consumption is creating the IT systems, expanding and extending the IT systems so that we do what Dave is talking about: When items are consumed at that point of consumption, like a Wal-Mart or some other store, we know that and the system automatically will report back the consumption and the supply chain supports it.

Senator TALENT. So you know right away, yes.

General HANDY. That last tactical mile is the challenge that we are undertaking with the Deployment Distribution Operations Center (DDOC) in-theater today.

Senator TALENT. It would relieve pressure on how much you have to preposition if you had that kind of intelligence and can resupply quicker.

Admiral, MPF(A). It is my understanding that MPF(F) is going to preposition material for ground forces. Should I just think of MPF(A) as doing the same thing for supporting aviation assets? It is not as well defined in my mind. Could you elaborate?

Admiral BREWER. No, sir, it is not. I really have not had that much visibility in it. We have not really been that much involved on the A side, but we have been involved on the F side.

Senator TALENT. Okay. Three years ago, General Robertson testified that the Maritime Security Program should be reauthorized and that annual payment for participating vessels should be raised. This was done in the defense bill last year, beginning effective in fiscal year 2006. The program will also expand from 47 to 60 participating ships.

Now, I know the program comes under the Maritime Administration in the Department of Transportation, but, Admiral, I would be interested in your views on it. How important is that program to you in augmenting sealift capability?

Admiral BREWER. Oh, it is extremely important. We cannot exist without it. As I said before, the RRF was extremely critical to everything that we did. The activation of these particular ships has been extremely critical in terms of readiness. But more impor-

tantly—and I want to divert here for a minute—ships do not run themselves; mariners run them. The Maritime Security Program is providing us with a U.S. flag fleet that will provide us with the mariners to man these particular ships.

I have to commend some of the people sitting behind me who represent the maritime trades, departments, and unions, because without them we could not have fought this war. That is extremely important.

Senator TALENT. It is an amazing civilian-military synergy.

Admiral BREWER. Yes, sir. Without them it does not happen, period.

Senator TALENT. I do not know if there is a parallel for it in the history of warfare. It is a tremendous synergy. I am glad you said that for the record.

Admiral BREWER. Yes, sir.

Senator TALENT. General Dunwoody, let me ask you about railcars for a second. One of the findings of the MRS-05 was that rail flatcars need to be augmented by commercial means. Your written statement identifies a shortage of 2,000 tiedown flatcars if you are going to be able to meet the ship loading schedules.

What is your assessment of the adequacy of our rail delivery system as applies to the present NMS? How big on a scale of 1 to 10 is this as a concern for you, and what are we doing about it?

General DUNWOODY. Mr. Chairman, I think, like the other commodities, this needs to be revalidated in the MCS, both railcars, ammo cars, sealift, and airlift capability. What we found using the MRS-05 study was that we took measures to mitigate this projected shortfall for railcars. What we found was by controlling and consolidating the requirements for railcars in our operations center, we were able to prioritize and meet the demands of the customer. We experienced no shortfalls during OIF and Operation Enduring Freedom (OEF) for railcars.

I think again it goes back to revalidating that requirement. Prior to us consolidating, all the installations put demands on the system and they were not synchronized. With everyone deploying at one time it was not a matter of availability; it was a matter of prioritizing what we had.

Senator TALENT. Would you say the same thing about containerization, that we need to revalidate those needs as well, because MRS-05 concluded that that capacity was inadequate. So should we conclude, in view of our suspicion that that study has understated our requirements, that maybe that need is even greater?

General DUNWOODY. Absolutely, Mr. Chairman, and I would say that again to mitigate that we let a contract with one of the largest container leasing companies to provide assured access to ammo containers and we were able to lease over 5,000 ammo containers and again experienced no shortfall during OIF and OEF.

Senator TALENT. A couple more questions. This is for all of you. Your written statement mentioned several exercises conducted to improve our ability to deploy and sustain forces, including Exercise Turbo, Intermodal Surge, Turbo Containerized Ammunition Distribution System, and Joint Logistics Over the Shore (JLOTS). Expound for us and for the record, if you will, a little bit about the

lessons learned from the conduct of these exercises and the initiatives your commands are taking as a result?

General Handy, you want to start, but I would ask all of you to comment on that.

General HANDY. Certainly, sir. Certainly from a USTRANSCOM perspective these exercises prove a lot of facets of our ability to be very flexible, dynamic, and highly capable in supporting the warfighter. There are perhaps in my mind two singular thrusts that are very important, and my teammates here can expound, as you point out: greater containerization. In other words break-bulk, as Dave said, makes no sense at all. So greater containerization, and to the extent we containerize cargo and move it from ship to shore in the case of sealift is clearly a major part of these exercises.

JLOTS for its contribution proves that, in the case where you do not have an adequate port facility, you can go from ship over the shore in to support the warfighter. We need to continue to improve and demonstrate that rather significant capability.

Sort of a subordinate piece of that is ammo containerization, getting ammo out of break-bulk modes and ammunition and ammunition stocks into containers, which is another aspect of these exercises and one that we have made tremendous progress. If you, having said that, look back at Operation Desert Shield/Desert Storm as perhaps our last benchmark and then how we operate today, there is a dramatic change, as David pointed out, in just process and procedure and containerization and how we do things, just simply stated.

These exercises in the interim have helped us prove process and procedures so that the warfighter knows and that our components, our executive agents, come forth with the moneys to support us when we need things.

Having said that from my perspective, I will turn it over to these two to add their perspectives.

Admiral BREWER. One of the things that happens is it gives you the opportunity to make the next technological leap or the next tactical or strategic leap. For example, JLOTS: one of the things we learned is the offshore petroleum distribution system is clearly dated, it is ineffective, it is too close to the shore, and it is too vulnerable. These are the ships that tilt, if you will, and try to push gas ashore.

Fuel is extremely important. We have delivered over one billion gallons of fuel so far during the global war on terrorism to support Afghanistan and Iraq. So fuel is extremely important. If you get into a situation where you cannot push gas ashore, either through the ports or offshore, you are in trouble.

What we have done as a result of these exercises is come up with a different concept for doing that where we actually have a ship that comes in that is a pumping station, where any commercial tanker can pull up to it, hook up, and pump gas into it and through it in to the shore from a much greater distance and it less vulnerable. By the way, we can pick up and move in case that area becomes vulnerable.

That is a classic example of the kind of lessons learned, if you will, and things that we learn during these particular exercises.

Senator TALENT. It would seem to be an obvious target for some kind of asymmetrical threat—

Admiral BREWER. Absolutely.

Senator TALENT. If you have a huge platform and it is your only means of transferring and getting fuel ashore, it would be an obvious target.

Admiral BREWER. Yes, sir. It takes hours and sometimes days to even set it up. I have watched it happen. You sit there and you push the “this is nuts” button and say we need something different. That is what these exercises do for us.

Senator TALENT. How did you put that, Admiral? You push the “this is nuts” button.

Admiral BREWER. Do not put that in the record, sir. [Laughter.]

Senator TALENT. We can leave it out of the record, but we will remember it. You described something I do three or four times a day, push the “this is nuts” button. That is great.

Go ahead.

Admiral BREWER. Those are the kinds of things. Then, in the turbo activations and things of that sort, of course, we exercise our ships and find out how fast we can get them ready. For example, we determined that, even though our ships are in a reduced operating status of what we call 4 days, they actually activated within 3.8, 3.5 days. So why? Because we exercised them. We did these turbo activations. Our crews were ready. We brought the unions in very early in the war. They knew exactly what the requirements were, and the people showed up and we were ready to go.

Senator TALENT. Thank you. That was very instructive. It seems to me what you are doing would bear on requirements in what we do with the new LCS, because the more of your logistics that you have to have close to that shore and the more vulnerable it is, the more we are going to have to task that new vessel. By moving that further out and making it less vulnerable, you have made the job easier for that ship as well.

Admiral BREWER. Yes, sir.

Senator TALENT. It is again the whole jointness and connectivity of these exercises, which you all see in logistics minute by minute. It is fascinating and a little frightening also.

Yes, General, do you have a comment?

General DUNWOODY. Mr. Chairman, I just would like to add a couple things. Using Operation Desert Storm as the benchmark, as General Handy mentioned, some of the huge success stories were in process changes and this time around delivering force packages and capabilities to the warfighter versus stuff, which we did in Operation Desert Storm.

For an example, one combat arms battalion during Operation Desert Storm normally flowed on seven vessels and closed in a period from the first vessel hitting Southwest Asia (SWA) to the last 26 days. That is one battalion. A combat service support (CSS) battalion took 26 vessels normally and flowed and closed in a period of 36 days. If you can imagine the warfighter receiving this stuff on that side, if you recall from Operation Desert Storm, large tactical assembly areas, a large footprint, and a long time to reception, staging, onward movement, and integration (RSO&I), link up capability.

This time, the entire 101st Airborne Division—and I will use them as an example of an investment that we put in our LMSRs—was loaded by force packages, brigade combat teams, rolling off the vessels, flowed in five vessels and closed in a period of 12 days. As Admiral Brewer said, now you are delivering capability, reducing that RSO&I, reducing the footprint for the warfighter, keeping that on this side of the ocean, and flowing equipment.

Right on top of that would be the container ITV piece. As you recall from Operation Desert Storm, again a large footprint in the area of responsibility, 40,000 containers there stacked, 20,000 we sent back because we did not know what was in them. Now, with ITV only 3,500 containers at one time stacked up in the port. We have been able to track those containers. Again, keeping the footprint down or keeping it on this side, because we have instituted new business rules, frustrating cargo on this side of the ocean without knowing the content data or using the systems General Handy has talked about that we developed for ITV.

Again, giving confidence to the warfighter. Two huge changes that we had since Operation Desert Storm are the ability to save money by identifying containers and sustainment on vessels versus having to fly it over there which is much more costly.

Senator TALENT. Any challenges that these exercises revealed for you, General? The number one challenge that you emerged thinking you want to tackle?

General DUNWOODY. Well, I think, Mr. Chairman, the huge success story is the designation of USTRANSCOM as the distribution process owner. In each one of these exercises, we have got to take advantage of how do we now implement the new rules, regulations, rules of engagement, as a combatant commander that takes on this new role.

You have to leverage each one of these exercises. Otherwise it is real easy to do the exercise just like we did last year and not try to make a difference and implement new rules of engagement for improving our processes.

Senator TALENT. I think I just have a couple more. In fact, let us get to vulnerability a little bit. First of all, following up on something Senator Kennedy asked, he was inquiring about C-5 with you, General Handy. Certainly I agree that we need to as expeditiously as we can figure out what that mix needs to be.

Now, he made the point to you, which I think in a general sense is very valid, that how do we know how many C-17s we are going to need until we know what we are going to do with the C-5s, and, therefore, it makes it difficult because we do have to make decisions in terms of advanced procurement for a new multiyear.

But we are all pretty much in agreement that whatever the end number is with C-17, whether it is only the 222 or whether it is 250 or whether it is above that, we need more than we have now. That is not something that we expect any further analysis to change. I have not talked to anybody who believes that.

So we are looking at at least another 42, perhaps more. But whatever we do with C-5, we are going to need to raise the requirement at least to 222; would that be your opinion?

General HANDY. It certainly is, Senator. I would be remiss in this line of questioning, even to include that of Senator Kennedy, as we

focus on the cost differences between the two programs, not to point out, it is the capabilities issue and, as we addressed, what is the requirement that you have to move? In that requirement there is outsize, oversize, bulk, and even small packages and people.

If you look at that requirement, the issue we face is which aircraft has the capability to do the things you want done, and that becomes the critical part of the decision when you say, "How many do we ultimately need?" The position we are in right now is we need every C-17 and C-5 that we can get our hands on because the requirement far outweighs our ability to get the job done.

As we refine the MCS and we look at that requirement, then with more clarity we can determine not only what the number of C-17s would be, but what would be the number of modified C-5s, because, as the combatant commander, each of these weapons systems brings unique capabilities. The C-5 has extraordinary capability to lift huge volumes of cargo to major hubs forward in a theater of operations, but the C-17, while it cannot haul as much, is a capability that gets large volumes of cargo directly into the fight in a high-threat environment, in the dirt, and in the areas with small strips and less improved runways.

Each of those are capabilities that we need and they are not as many people outside those of us who are involved in this debate realize competing capabilities; they are capabilities that each in their own measure you need.

Senator TALENT. I wanted to establish that because, although obviously there are some missions where you could use either aircraft, it depends in part on certain assumptions you make: how likely is it that we are going to have long runways, strong ramps, and places where a C-5 can go? It would be good, I think, to get this mix and to make whatever assumptions we are going to make and to look at them and then to figure out how effective the C-5A platform with the engine modifications is going to be and how much maintenance it is going to take.

We ought to try to pin this down. I take it you agree with that? You are not disagreeing with that, is that correct?

General HANDY. No, sir. I totally agree.

Senator TALENT. Let me ask you a little bit also about a threat to C-17 and, in fact potentially even to other kinds of airliners from manportable air defense systems (MANPADS), the new laser system to counter that threat. What is the status of that? What are we doing to protect our air mobility assets? Are these programs being executed as quickly as you think they can be? Because it strikes me that this is a threat that we need to deal with. These MANPADS are all over the place.

As I understand it, this laser system is pretty effective in countering them. Tell me where we are.

General HANDY. I am certain you must be referring to our Large Aircraft Infrared Countermeasures (LAIRCM) system. It indeed is a laser capability. Right now we have it on what we call a lite version; that is one laser mounted in the tail of our C-17 aircraft. That is the only aircraft we have them on now.

It is designed to take care of a rear-aspect shot for the most part. That tends to be the area that we see the attacks taking place.

Both the C-5 and the C-17 and, in fact, the DHL airliner that have been hit by MANPADS out of Baghdad were both reported to be from a rear-aspect, meaning shot from the ground as the aircraft passed over. So the missile approaches the aircraft from behind.

Senator TALENT. That would make sense. By the time they could get ready and shoot, you would be going away. But you need more than just one, do you not?

General HANDY. Absolutely.

Senator TALENT. To be able to fully protect the aircraft?

General HANDY. That is where I am headed; the full LAIRCM is in fact the tail and one on each side, roughly where the crew door is on a C-17 or the crew door on a C-5. It takes three systems to give you that full aspect capability. Even then, technically there could be some blind spots, depending upon the angle of bank of an aircraft or climb or descent.

Having said that, at least getting the LAIRCM Lite on our C-17s gives us the capability with a system that has proven in tests to be incredibly accurate. What the system does is essentially send a laser beam out to the detected missile coming at you, confuse it, and send it off.

Senator TALENT. A jammer, in essence?

General HANDY. Exactly, essentially that is what it does, without getting into the technical aspects.

Senator TALENT. Are you telling me that the intention would be to try and equip as many as possible with the one site and then go on and add because you feel that gives you pretty good protection?

General HANDY. Based upon our experiences and the lessons in Iraq, we broke from an original program of a few lite and then going to a full-up LAIRCM modification on the C-17s and C-130s to a lite modification, which will give us that one-ball, one-laser capability on the tail of C-17s, as quickly as we possibly can to protect us from the—it is no longer an emerging threat.

Senator TALENT. It is a real threat.

General HANDY. It is a current, alive and well threat, I am afraid.

Senator TALENT. The partial success may just encourage more of it in the future.

General HANDY. Yes, sir.

Senator TALENT. Well, that is all I have. I do want to thank you all again for giving us so much of your time. The hearing went on a little bit longer than I wanted, but I thought we covered all the ground. We may have some—in fact will have—at least a few more questions for the record.

But thank you all again for your service. Thanks to those who serve with you and under you, and thanks for your time today. We appreciate it.

The subcommittee is adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR EDWARD M. KENNEDY

STRATEGIC AIRLIFT CAPABILITY

1. Senator KENNEDY. General Handy, during the hearing we discussed the potential for achieving a strategic airlift goal of 57.4 to 60 MTM/D. This is the goal that your quick-look assessment of the MRS-05 indicated would probably be the new moderate risk goal. I asked you about what effect on meeting this MTM/D goal would be if we were to buy 222 C-17 aircraft (as your report suggested) and retaining 112 of the C-5 aircraft in inventory. You indicated that you thought this force structure would exceed the MTM/D goal.

Please provide a more precise estimate of the capability of the strategic airlift fleet under the following conditions:

- A. buying 222 C-17 aircraft and retaining 112 C-5 aircraft, with all C-5 aircraft upgraded under the C-5 RERP;
- B. buying 222 C-17 aircraft and retaining 112 C-5 aircraft, with none of the C-5 aircraft upgraded under the RERP;
- C. buying 222 C-17 aircraft and retaining 112 C-5 aircraft, with only the C-5B aircraft upgraded under the RERP; and
- D. buying 222 C-17 aircraft and retaining only the C-5B aircraft, with those C-5B aircraft upgraded under the RERP.

General HANDY.

A. The organic airlift capacity of a C-17 fleet of 222 and a C-5 fleet of 112, with all the C-5s upgraded would be 37.2 MTM/D equating to a total MTM/D capacity (including Civil Reserve Air Fleet (CRAF) contribution of 20.5 MTM/D) of 57.7 MTM/D.

B. The organic airlift capacity of a C-17 fleet of 222 and a C-5 fleet of 112, with none of the C-5s upgraded would be 34.4 MTM/D equating to a total MTM/D capacity (including CRAF contribution of 20.5 MTM/D) of 54.9 MTM/D.

C. The organic airlift capacity of a C-17 fleet of 222 and a C-5 fleet of 112, with only the C-5Bs upgraded would be 35.2 MTM/D equating to a total MTM/D capacity (including CRAF contribution of 20.5 MTM/D) of 55.7 MTM/D. The preceding numbers assume a fleet of 52 RERPed C-5s and 60 un-RERPed C-5s. The 2 extra C-5s (there are only 50 B model aircraft) are due to the assumption that the 2 C-5C models would be kept and modified due to the unique and important capability they provide.

D. The organic airlift capacity of a C-17 fleet of 222 and a C-5 fleet of 52, with all the C-5s upgraded would be 29.7 MTM/D equating to a total MTM/D capacity (including CRAF contribution of 20.5 MTM/D) of 50.2 MTM/D. The preceding numbers assume a fleet of 52 RERPed C-5s. The 2 extra C-5s (there are only 50 B model aircraft) are due to the assumption that the 2 C-5C models would be kept and modified due to the unique and important capability they provide.

C-5 RETIREMENTS

2. Senator KENNEDY. General Handy, the Air Force plans to retire 14 of the current fleet of 76 C-5A aircraft. The Air Force announced this intention when announcing the master airlift re-stationing program that was required when the C-17 program was expanded. Can you specify what criteria the Air Mobility Command is using to decide which C-5A aircraft will be retired?

General HANDY. The Air Force, along with the C-5 System Program Office (SP) and Air Mobility Command (AMC), analyzed structural repair data, maintenance records, crash damage information and readiness data to determine which 14 C-5As to retire from the inventory. Final determination of specific aircraft was based upon age and average maintenance man-hours expended. The first 11 C-5SAs selected were the first production aircraft. These aircraft were manufactured using different processes than the remaining C-5As, resulting in unique structural differs, requiring separate spares, and increased days in depot. The remaining three aircraft selected had accrued the most maintenance man-hours per year from 1997-2001.

INTRA-THEATER AIRLIFT

3. Senator KENNEDY. General Handy, the Army has announced an intention to buy C-27 aircraft as part of the Comanche helicopter cancellation. While this aircraft would not provide as much intra-theater lift capability as the C-130 aircraft,

it would provide some capability. How would your plans for providing intra-theater support to combatant commanders include the contribution of any potential force of Army C-27 aircraft?

General HANDY. The Army has not announced a decision on a specific aircraft purchase at this time; although, USTRANSCOM understands the Army is looking to replace its 44 C-23 aircraft with a similar capability. The C-23 aircraft are used by the Army as a service organic mobility resource and are not presently tasked by USTRANSCOM. Should the Army acquire a replacement aircraft similar to the C-23, USTRANSCOM has no current plans to treat this new aircraft in a different manner.

FORCE STRUCTURE PROJECTIONS

4. Senator KENNEDY. General Handy, your MCS will be important for determining USTRANSCOM's future. The DOD is currently establishing its best estimate of force structure requirements for the next 25 years as part of the analysis supporting a possible BRAC process for fiscal year 2005. Will the Department have the benefits of any results from your MCS analysis as it establishes the assumed force structure that will drive the BRAC process?

General HANDY. The MCS is scheduled for completion in March 2005. Analysis from that study will be available to inform the BRAC process.

[Whereupon, at 3:18 p.m., the subcommittee adjourned.]

